



HEADWATERS
ECONOMICS

A Profile of Socioeconomic Measures

Selected Geographies:
Yellowstone County, MT

Benchmark Geographies:
U.S.

Produced by
Headwaters Economics'
Economic Profile System (EPS)
<https://headwaterseconomics.org/eps>

June 6, 2018

Socioeconomic Measures

Yellowstone County, MT

About the Economic Profile System (EPS)

EPS is a free web tool created by Headwaters Economics to build customized socioeconomic reports of U.S. counties, states, and regions. Reports can be easily created to compare or aggregate different areas. EPS uses published statistics from federal data sources, including the U.S. Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics.

The Bureau of Land Management and Forest Service have made significant financial and intellectual contributions to the operation and content of EPS.

See <https://headwaterseconomics.org/eps> for more information about the capabilities of EPS. For technical questions, contact Patty Gude at eps@headwaterseconomics.org or telephone 406-599-7425.



headwaterseconomics.org

Headwaters Economics is an independent, nonprofit research group. Our mission is to improve community development and land management decisions.



www.blm.gov

The Bureau of Land Management, an agency within the U.S. Department of Interior, administers 249.8 million acres of America's public lands, located primarily in western states. It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.



www.fs.fed.us

The Forest Service, an agency of the U.S. Department of Agriculture, administers national forests and grasslands encompassing 193 million acres. The Forest Service's mission is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.

Socioeconomic Measures

Yellowstone County, MT

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Note to Users:

This is one of 14 reports that can be created and downloaded from EPS. Topics include land use, demographics, specific industry sectors, the role of non-labor income, the wildland-urban interface, the role of amenities in economic development, and payments to county governments from federal lands. The EPS reports are downloadable as Excel or PDF documents. See <https://headwaterseconomics.org/eps>.

Socioeconomic Measures

Yellowstone County, MT

Overview of Historical Trends

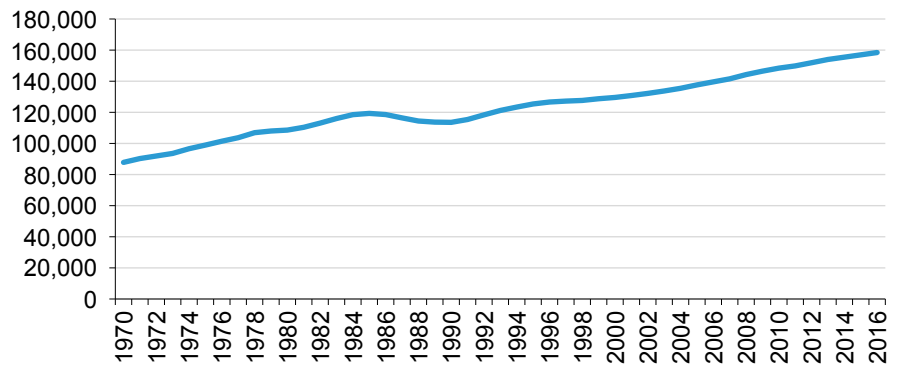
According to the U.S. Census Bureau, Yellowstone County, MT is designated as a Metropolitan Statistical Area.

	1970	2000	2016	Change 2000-2016
Population	87,824	129,570	158,437	28,867
Employment (full & part-time jobs)	40,149	88,147	109,252	21,105
Personal Income (thousands of 2017 \$s)	2,185,916	4,865,780	7,678,541	2,812,761

Population and personal income are reported by place of residence, and employment by place of work on this page.

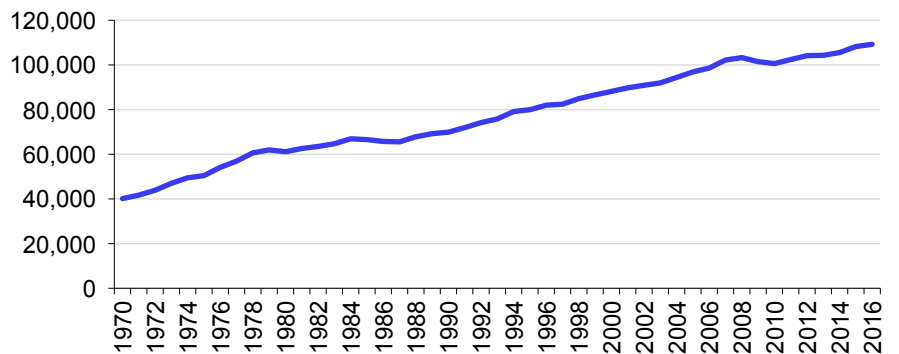
- From 1970 to 2016, population grew from 87,824 to 158,437 people, a 80% increase.

Population Trends, Yellowstone County, MT



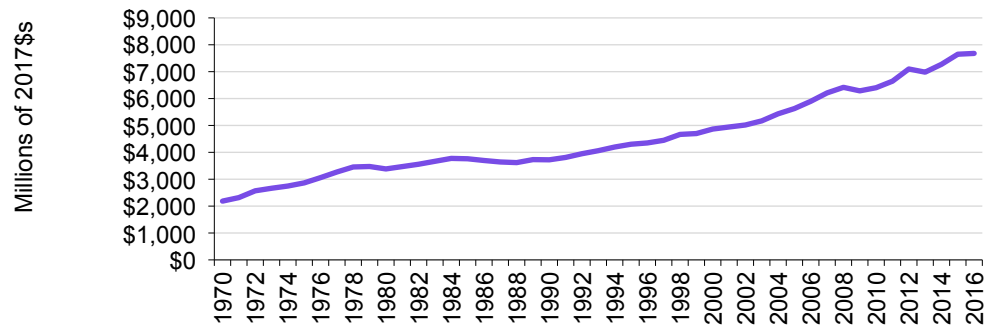
- From 1970 to 2016, employment grew from 40,149 to 109,252, a 172% increase.

Employment Trends, Yellowstone County, MT



- From 1970 to 2016, personal income grew from \$2,185.9 million to \$7,678.5 million, (in real terms), a 251% increase.

Personal Income Trends, Yellowstone County, MT



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Overview of Historical Trends

What do we measure on this page?

This page describes trends in population, employment, and real personal income. If this report is for an individual county, it also shows the county classification (metropolitan, micropolitan, or rural).¹

Population: The total number of people by place of residence.

Employment: All full- and part-time workers, wage and salary jobs (employees), and proprietors (the self-employed) reported by place of work.

Personal Income: Income from wage and salary employment and proprietors' income (labor earnings), as well as non-labor income (dividends, interest, rent, and transfer payments) reported by place of residence. All income figures in this report are shown in real terms (i.e., adjusted for inflation). Subsequent sections of this report define labor earnings and non-labor income in more detail.

Metropolitan Statistical Areas: Counties that have at least one urbanized area of 50,000 or more people, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties. Metropolitan Statistical Areas are classified as either Central or Outlying.

Micropolitan Statistical Areas: Counties that have at least one urbanized area of 10,000 to 50,000 people, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties. Micropolitan Statistical Areas are classified as either Central or Outlying.

Rural: Counties that are not designated as either Metropolitan or Micropolitan.

Why is it important?

Long-term, steady growth of population, employment, and real personal income is generally an indication of a healthy, prosperous economy. Erratic growth, no-growth, or long-term decline in these indicators are generally an indication of a struggling economy.

Growth can benefit the general population of a place, especially by providing economic opportunities, but it can also stress communities and lead to income stratification. When considering the benefits of growth, it is important to distinguish between standard of living (such as earnings per job and per capita income) and quality of life (such as leisure time, crime rate, and sense of well-being).

A related indicator of economic performance is whether the local economy is negatively affected by periods of national recession. This issue is explored in depth in the section "Employment During National Recessions" later in this report.

The size of a population and economy (metropolitan, micropolitan, or rural) can have an important bearing on economic activities as well as opportunities and challenges for area businesses.

Socioeconomic Measures

Yellowstone County, MT

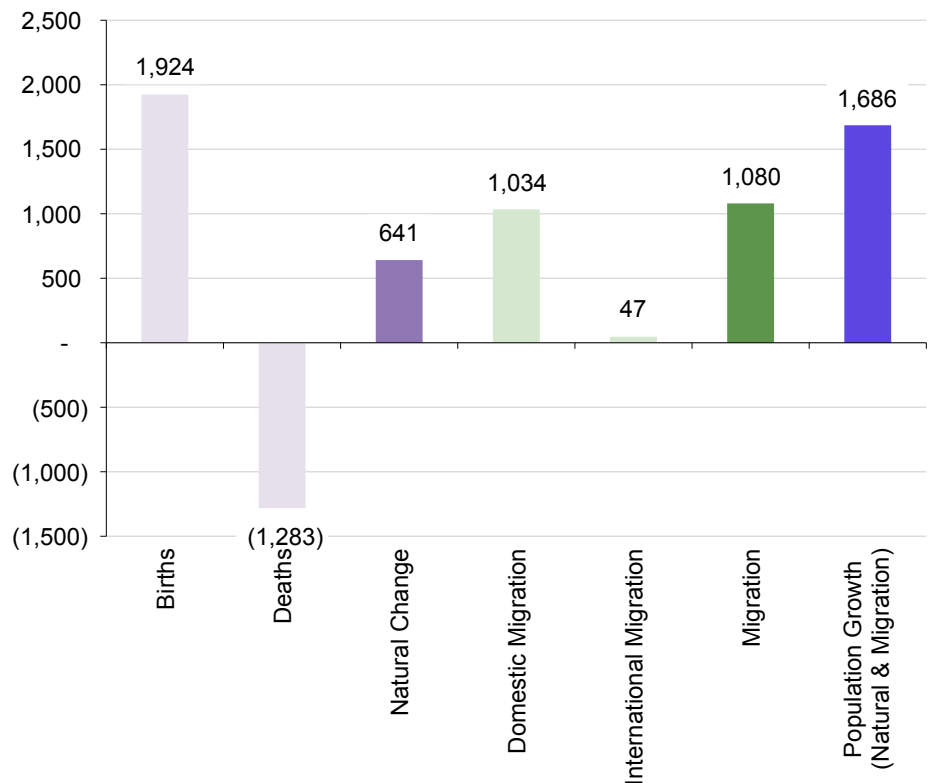
Population

	Change 2000-2017
Population Growth, 2000-2017	29,453
Average Annual Population Change	1,686
From Natural Change	641
Births	1,924
Deaths	1,283
From Net Migration	1,080
International Migration	47
Domestic Migration	1,034
From Residual	-35

Percent of Average Annual Population Growth, 2000-2017

Natural Change	36.5%
Net Migration	61.5%
Residual	2.0%

Average Annual Components of Population Change, Yellowstone County, MT, 2000-2017



- From 2000 to 2017, population grew by 29,453 people, a 23% increase.
- From 2000 to 2017, natural change contributed to 36% of population growth.
- From 2000 to 2017, migration contributed to 61% of population growth.

* The Census Bureau makes a minor statistical correction, called a "residual" which is shown in the table above, but omitted from the figure. Because of this correction, natural change plus net migration may not add to total population change in the figure.

Data Sources: U.S. Department of Commerce. 2018. Census Bureau, Population Division, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Population

What do we measure on this page?

This page describes components of population change and total population growth or decline. Total population growth (or decline) is the sum of natural change (births and deaths) and migration (international and domestic). Data are from the U.S. Census Bureau.^{2,3}

The U.S. Census Bureau makes a minor statistical correction called a "residual." This is defined by the U.S. Census Bureau as resulting from two parts of the estimates process: 1) the application of national population controls to state and county population estimates; and 2) "the incorporation of accepted challenges and special censuses into the population estimates." The residual represents change in the population that cannot be attributed to any specific demographic component of population change.

For more detailed information about demographics for a given area, create an EPS Demographics report at <https://headwaterseconomics.org/eps>.

Why is it important?

The components of population change offer insight into the causes of population growth or decline and they help highlight important areas of inquiry. For example, if a large portion of population growth is attributable to in-migration, it would be helpful to understand what is driving this trend, such as whether people are moving to the area for jobs, quality of life, or both. Similarly, if a large portion of population decline is attributable to out-migration, it would be important to understand the reasons, such as the loss of employment in specific industries, youth leaving for education or new opportunities, or elderly people leaving for better medical facilities.

Socioeconomic Measures

Yellowstone County, MT

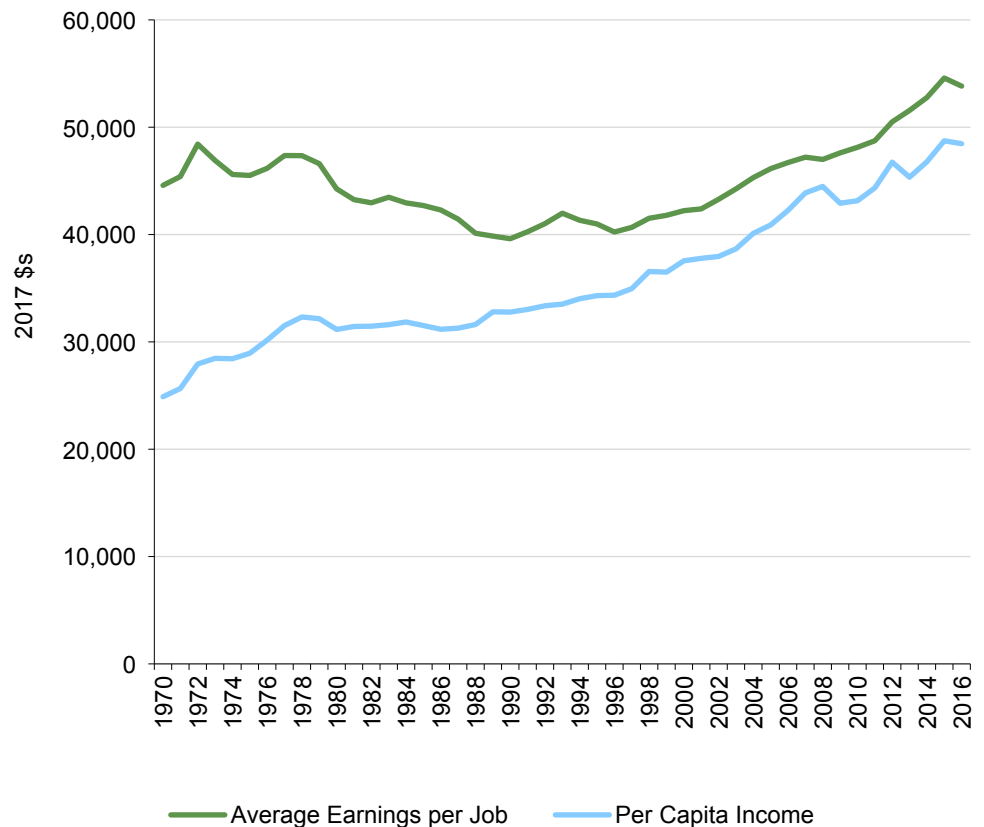
Earnings Per Job and Per Capita Income

	1970	2000	2016	Change 2000-2016
Average Earnings per Job (2017 \$s)	\$44,581	\$42,225	\$53,829	\$11,604
Per Capita Income (2017 \$s)	\$24,890	\$37,553	\$48,464	\$10,911
Percent Change				Percent Change 2000-2016
Average Earnings per Job				27.5%
Per Capita Income				29.1%

Average Earnings per Job & Per Capita Income, Yellowstone County, MT

- From 1970 to 2016, average earnings per job grew from \$44,581 to \$53,829 (in real terms), a 21% increase.

- From 1970 to 2016, per capita income grew from \$24,890 to \$48,464 (in real terms), a 95% increase.



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Earnings Per Job and Per Capita Income

What do we measure on this page?

This page describes how average earnings per job and per capita income (in real terms) have changed over time.

Average Earnings per Job: The compensation of the average job. It is total earnings divided by total employment. Full-time and part-time jobs are counted at equal weight. Employees, sole proprietors, and active partners are included.

Per Capita Income: Income per person. It is total personal income (from labor and non-labor sources) divided by total population.

Why is it important?

Average earnings per job is an indicator of the quality of local employment. A higher average earnings per job indicates that there are relatively more high-wage occupations. It can be useful to consider earnings against local cost of living indicators.⁴

Average earnings per job may decline for a number of reasons:^{5, 6}

1. more part-time and/or seasonal workers entering the workforce;
2. a rise in low-wage industries, such as tourism-related sectors;
3. a decline of high-wage industries, such as manufacturing;
4. more lower-paid workers entering the workforce;
5. the presence of a university that is increasing its enrollment of relatively low-wage students;
6. the in-migration of semi-retired workers who work part-time and/or seasonally; and
7. an influx of people who move to an area for quality of life rather than profit-maximizing reasons.

Per capita income is one of the most important measures of economic well-being. However, this measure can be misleading. Per capita income is total personal income divided by population. Because total personal income includes non-labor income sources (dividends, interest, rent and transfer payments), it is possible for per capita income to be relatively high due to the presence of retirees and people with investment income.⁷ And because per capita income is calculated using total population and not the labor force (as in average earnings per job), it is possible for per capita income to be relatively low in a population with a disproportionate number of children and/or elderly people.

Socioeconomic Measures

Yellowstone County, MT

Labor Earnings and Non-Labor Income

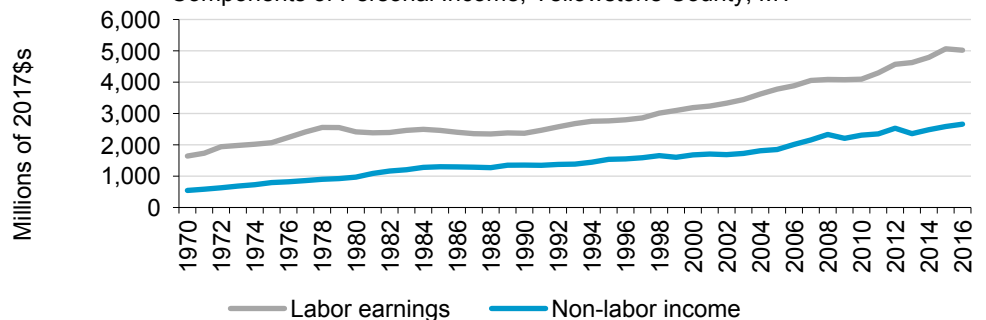
	1970	2000	2016	Change 2000-2016
Personal Income (thous' of 2017 \$s)	2,185,916	4,865,780	7,678,541	2,812,761
Labor Earnings	1,641,870	3,187,131	5,019,377	1,832,246
Non-Labor Income	544,046	1,678,648	2,659,164	980,516
Dividends, Interest, and Rent	371,932	1,006,462	1,396,752	390,290
Age-Related Transfer Payments	89,042	398,777	732,100	333,323
Hardship-Related Payments	32,142	160,807	331,399	170,592
Other Transfer Payments	50,930	112,603	198,913	86,310

	Percent Change 2000-2016			
Personal Income	57.8%			
Labor Earnings	75.1%	65.5%	65.4%	57.5%
Non-Labor Income	24.9%	34.5%	34.6%	58.4%
Dividends, Interest, and Rent	17.0%	20.7%	18.2%	38.8%
Age-Related Transfer Payments	4.1%	8.2%	9.5%	83.6%
Hardship-Related Payments	1.5%	3.3%	4.3%	106.1%
Other Transfer Payments	2.3%	2.3%	2.6%	76.6%

All income data in the table above are reported by place of residence and are displayed in thousands of 2017 dollars. Labor earnings and non-labor income may not add to total personal income due to adjustments made by the Bureau of Economic Analysis.

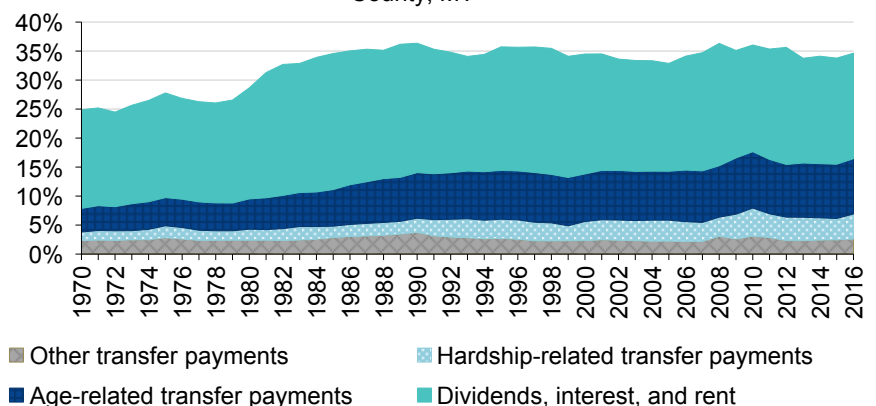
- From 1970 to 2016, labor earnings grew from \$1,641.9 million to \$5,019.4 million (in real terms), a 206% increase.
- From 1970 to 2016, non-labor income grew from \$544.0 million to \$2,659.2 million (in real terms), a 389% increase.

Components of Personal Income, Yellowstone County, MT



- From 1970 to 2016, labor earnings accounted for 61% of growth and non-labor income for 39%.
- In 1970, non-labor income represented 25% of total personal income. By 2016 non-labor income represented 35% of total personal income.

Non-Labor Income Share of Total Personal Income, Yellowstone County, MT



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Labor Earnings and Non-Labor Income

What do we measure on this page?

This page describes changes in labor earnings and non-labor sources of income.

Labor Earnings: Net earnings by place of residence, which is earnings by place of work (the sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income) less contributions for government social insurance, plus an adjustment to convert earnings by place of work to a place of residence basis.

Non-Labor Income: Dividends, interest, rent, and transfer payments (includes government retirement and disability insurance benefits, medical payments such as mainly Medicare and Medicaid, income maintenance benefits, unemployment insurance benefits, etc.). Non-labor income is reported by place of residence.

Labor earnings and non-labor income may not add to total personal income because of adjustments made by the Bureau of Economic Analysis to account for contributions for Social Security, cross-county commuting, and other factors.

Dividends, Interest, and Rent: Personal dividend income, personal interest income, and rental income of persons with capital consumption adjustments. Dividends, interest, and rent are sometimes referred to as "investment income" or "property income."

Age-Related Transfer Payments: Payments, including Social Security and Medicare, associated with older populations.

Hardship-Related Transfer Payments: Payments associated with poverty and welfare, including Medicaid and income maintenance.

Other Transfer Payments: Payments from veteran's benefits, education and training, Workers Compensation insurance, railroad retirement and disability, other government retirement and disability, and other receipts of individuals and nonprofits.

The EPS Non-Labor report provides a more detailed analysis of non-labor income and its components. The EPS Demographics report provides more information about the aging of the population and poverty. See <https://headwaterseconomics.org/eps>.

Why is it important?

In many locations, non-labor income is the largest source of personal income and also the fastest growing.⁸ This is particularly the case in some rural areas and small cities. An aging population, growth in the stock market and investments, and a highly mobile population are some of the reasons behind the rapid growth in non-labor income.

Growth in non-labor income can indicate an attractive place to live and retire. The in-migration of people who bring investment and retirement income with them (verify from previous pages that in-migration is increasing) is associated with a high quality of life (for example, local recreation opportunities), good health care facilities, and affordable housing (important for those on a fixed income). Non-labor income can also be important to places with struggling economies, either as a source of income maintenance for the poor or as a more stable form of income in areas with declining industries and labor markets.

Socioeconomic Measures

Yellowstone County, MT

Employment by Industry (1970-2000)

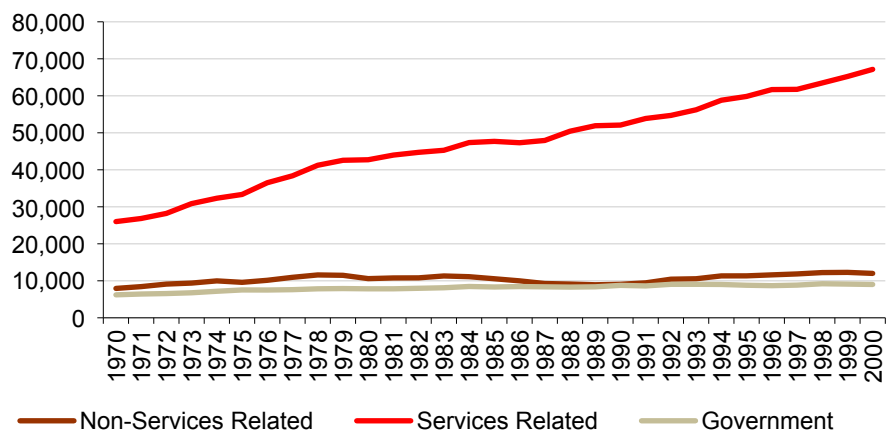
	1970	1990	2000	Change 1990-2000
Total Employment (number of jobs)	40,149	69,909	88,147	18,238
Non-Services Related	7,941	9,061	11,997	2,936
Farm	1,393	1,288	1,474	186
Agricultural services, forestry, fishing & oth	233	549	937	388
Mining (including fossil fuels)	596	882	686	-196
Construction	2,194	2,803	5,147	2,344
Manufacturing (incl. forest products)	3,525	3,539	3,753	214
Services Related	26,000	52,088	67,144	15,056
Transportation & public utilities	3,213	4,564	5,711	1,147
Wholesale trade	3,369	5,781	6,663	882
Retail trade	7,406	13,867	17,858	3,991
Finance, insurance & real estate	3,531	5,941	6,217	276
Services	8,481	21,935	30,695	8,760
Government	6,208	8,760	9,006	246

				Percent Change 1990-2000
Total Employment				26.1%
Non-Services Related	19.8%	13.0%	13.6%	32.4%
Farm	3.5%	1.8%	1.7%	14.4%
Agricultural services, forestry, fishing & oth	0.6%	0.8%	1.1%	70.7%
Mining (including fossil fuels)	1.5%	1.3%	0.8%	-22.2%
Construction	5.5%	4.0%	5.8%	83.6%
Manufacturing (incl. forest products)	8.8%	5.1%	4.3%	6.0%
Services Related	64.8%	74.5%	76.2%	28.9%
Transportation & public utilities	8.0%	6.5%	6.5%	25.1%
Wholesale trade	8.4%	8.3%	7.6%	15.3%
Retail trade	18.4%	19.8%	20.3%	28.8%
Finance, insurance & real estate	8.8%	8.5%	7.1%	4.6%
Services	21.1%	31.4%	34.8%	39.9%
Government	15.5%	12.5%	10.2%	2.8%

All employment data are reported by *place of work*. Estimates for data that were not disclosed are indicated with tildes (~).

- From 1970 to 2000, jobs in non-services related industries grew from 7,941 to 11,997, a 51% increase.
- From 1970 to 2000, jobs in services related industries grew from 26,000 to 67,144, a 158% increase.
- From 1970 to 2000, jobs in government grew from 6,208 to 9,006, a 45% increase.

Employment by Major Industry Category, Yellowstone County, MT



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Employment by Industry (1970-2000)

What do we measure on this page?

This page describes historical employment change by industry. Industries are organized according to three major categories: non-services related, services related, and government. Employment includes wage and salary jobs and proprietors. The employment data are organized according to the Standard Industrial Classification (SIC) system and reported by place of work.

Non-Services Related: Employment in industries such as farming, mining, and manufacturing.

Services Related: Employment in industries such as retail trade, finance, insurance and real estate, and services.

The terms “non-services related” and “services related” are not terms used by the U.S. Department of Commerce. They are used in these pages to help organize the information into easy-to-understand categories.

Government: Federal, military, state, and local government employment, and government enterprise.

The SIC data end in 2000 because in 2001 the Bureau of Economic Analysis switched to organizing industry-level information according to the newer North American Industrial Classification System (NAICS). More recent employment trends, organized by NAICS, are shown in subsequent pages of this report.

It is not normally appropriate to put SIC and NAICS data in the same tables and graphs because of the difference in methods used to organize industry data. The SIC coding system organizes industries by the primary activity of the establishment. In NAICS, industries are organized according to the production process.⁹ See the Data Sources and Methods section of this report for more information on the shift from SIC to NAICS.

Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses supplemental data from the U.S. Department of Commerce to estimate these data gaps.¹⁰ These values are indicated with tildes (~).

Why is it important?

Understanding which industries are responsible for most jobs and which sectors are growing or declining is key to grasping the type of economy that exists, how it has changed over time, and evolving competitive strengths.^{11,12} Most new jobs created in the U.S. economy in the last 30 years have been in services-related sectors, a category that includes a wide variety of high- and low-wage occupations ranging from jobs in hotels and amusement parks to legal, health, business, and educational services. The section in this report titled “Wages by Industry” shows the difference in wages among various services related industries and compared to non-services related sectors.

In many small rural communities, government employment (e.g., the Forest Service and Bureau of Land Management) represents an important component of the economy. In others there have been important changes in employment in mining and fossil fuel energy development, manufacturing (which includes lumber and wood products), and construction.^{13,14}

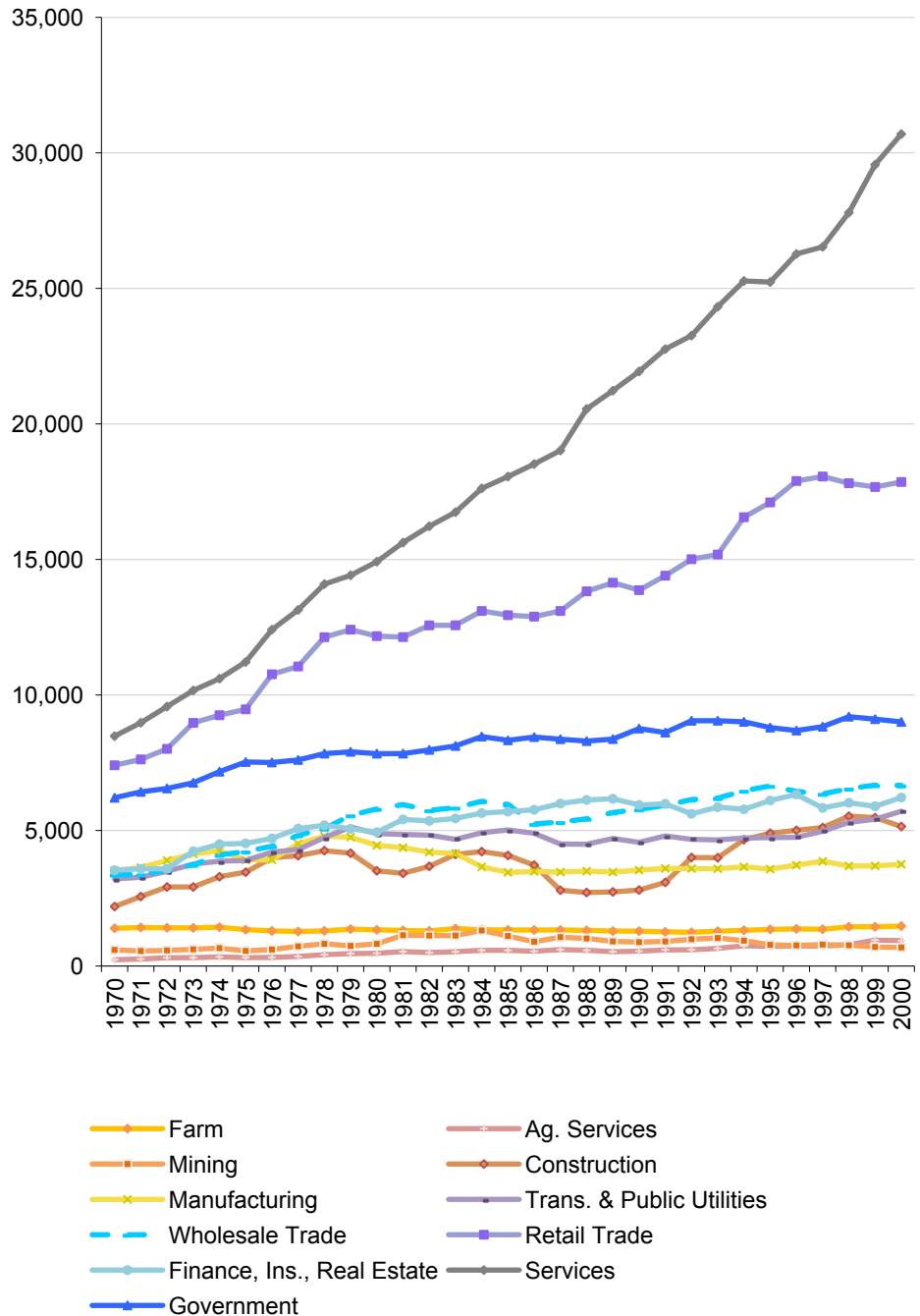
Socioeconomic Measures

Yellowstone County, MT

Employment by Industry (1970-2000)

Employment by Industry, Yellowstone County, MT

- In 2000 the three industry sectors with the largest number of jobs were services (30,695 jobs), retail trade (17,858 jobs), and government (9,006 jobs).
- From 1970 to 2000, the three industry sectors that added the most new jobs were services (22,214 new jobs), retail trade (10,452 new jobs), and wholesale trade (3,294 new jobs).



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

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Socioeconomic Measures

Yellowstone County, MT

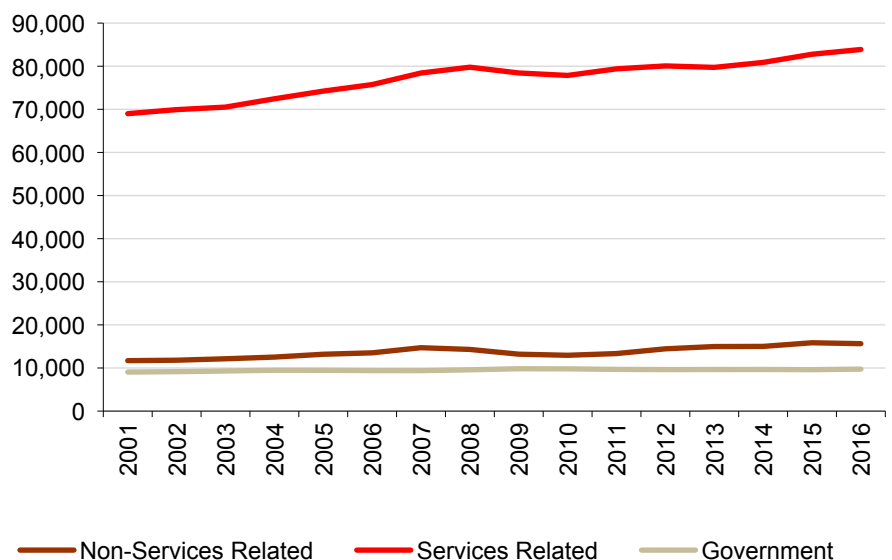
Employment by Industry (since 2000)

	2001	2010	2016	Change 2010-2016
Total Employment (number of jobs)	89,752	100,603	109,252	8,649
Non-services related	11,705	12,947	15,636	2,689
Farm	1,459	1,364	1,375	11
Forestry, fishing, & ag. services	291	330	401	71
Mining (including fossil fuels)	755	1,499	2,060	561
Construction	5,602	6,429	7,847	1,418
Manufacturing	3,598	3,325	3,953	628
Services related	68,993	77,861	83,878	6,017
Utilities	330	330	278	-52
Wholesale trade	5,912	5,702	6,264	562
Retail trade	12,141	12,912	13,700	788
Transportation and warehousing	3,808	3,912	4,543	631
Information	1,444	1,580	1,426	-154
Finance and insurance	3,915	4,563	4,511	-52
Real estate and rental and leasing	3,118	4,783	5,887	1,104
Professional and technical services	5,348	6,112	7,130	1,018
Management of companies	414	428	674	246
Administrative and waste services	6,286	6,216	4,673	-1,543
Educational services	815	1,276	1,478	202
Health care and social assistance	10,704	13,733	14,596	863
Arts, entertainment, and recreation	1,959	2,762	3,020	258
Accommodation and food services	7,393	8,255	9,646	1,391
Other services, except public admin.	5,406	5,297	6,052	755
Government	9,054	9,795	9,738	-57

All employment data are reported by *place of work*. Estimates for data that were not disclosed are indicated with tildes (~).

Employment by Major Industry Category, Yellowstone County, MT

- From 2001 to 2016, jobs in non-services related industries grew from 11,705 to 15,636, a 34% increase.
- From 2001 to 2016, jobs in services related industries grew from 68,993 to 83,878, a 22% increase.
- From 2001 to 2016, jobs in government grew from 9,054 to 9,738, a 8% increase.



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Employment by Industry (since 2000)

What do we measure on this page?

This page describes recent employment change by industry. Industries are organized according to three major categories: non-services related, services related, and government. Employment includes wage and salary jobs and proprietors. The employment data are organized according to the North American Industrial Classification System (NAICS) and reported by place of work.

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Why is it important?

Recent employment trends organized by NAICS offer more detail than the previous SIC system, particularly with regard to services-related industries. This is especially useful since in many places the majority of new job growth in recent years has been in services-related industries.

The services-related sector encompasses a wide variety of high- and low-wage occupations ranging from jobs in accommodation and food services to professional and technical services. The section in this report titled “Wages by Industry” shows the difference in wages among various services related industries and compared to non-services related sectors.

Socioeconomic Measures

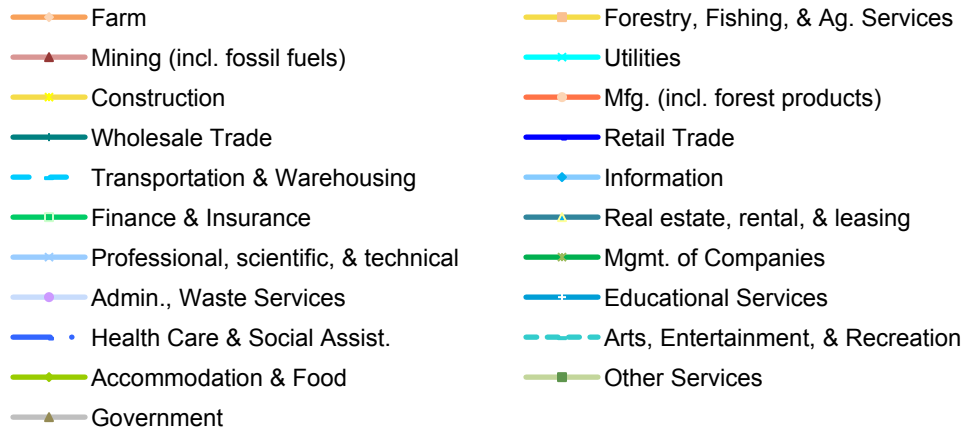
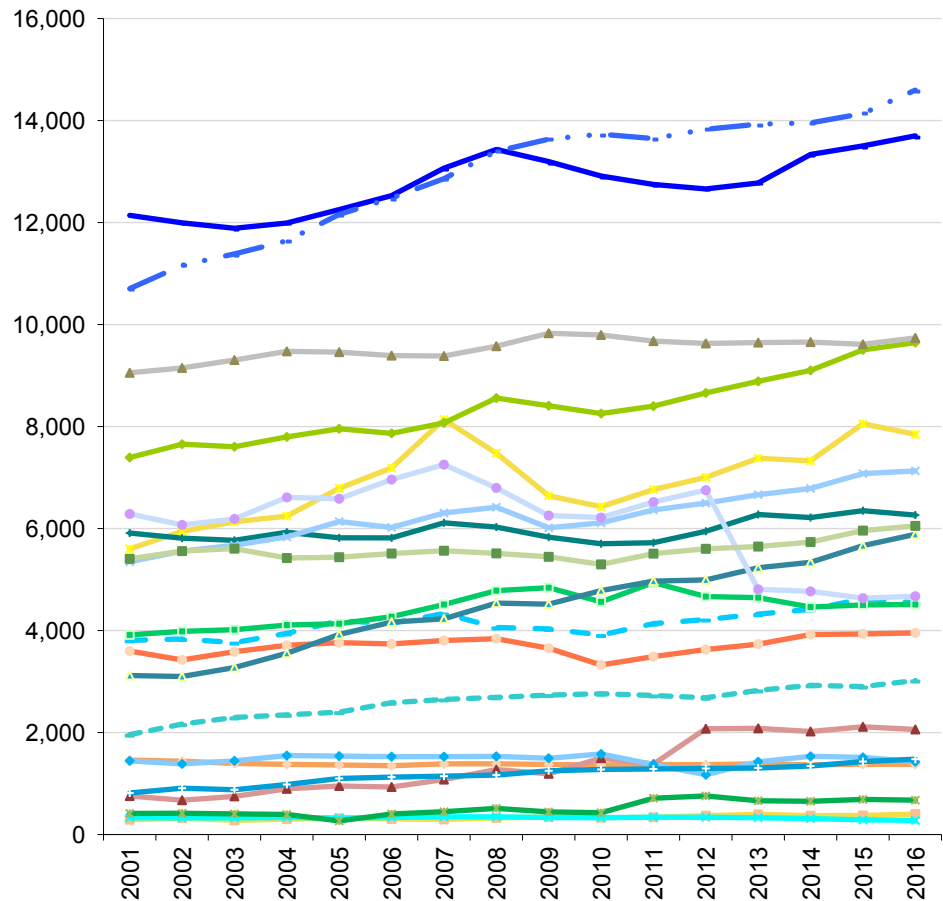
Yellowstone County, MT

Employment by Industry (since 2000)

Employment by Industry, Yellowstone County, MT

- In 2016 the three industry sectors with the largest number of jobs were health care and social assistance (14,596 jobs), retail trade (13,700 jobs), and government (9,738 jobs).

- From 2001 to 2016, the three industry sectors that added the most new jobs were health care and social assistance (3,892 new jobs), real estate and rental and leasing (2,769 new jobs), and accommodation and food services (2,253 new jobs).



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Socioeconomic Measures

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Socioeconomic Measures

Yellowstone County, MT

Earnings by Industry (1970-2000)

Labor earnings in thousands of 2017 \$s

	1970	1990	2000	Change 1990-2000
Labor Earnings	\$1,789,888	\$2,769,257	\$3,722,030	\$952,773
Non-Services Related	\$468,630	\$415,026	\$604,057	\$189,031
Farm	\$87,231	\$24,878	\$14,298	-\$10,580
Agricultural services, forestry, fishing	\$8,690	\$30,078	\$42,237	\$12,159
Mining (including fossil fuels)	\$27,428	\$33,160	\$54,538	\$21,378
Construction	\$130,114	\$128,388	\$254,493	\$126,105
Manufacturing (incl. forest products)	\$215,167	\$198,522	\$238,490	\$39,968
Services Related	\$1,037,320	\$1,933,235	\$2,604,600	\$671,365
Transportation & public utilities	\$203,618	\$283,874	\$293,878	\$10,004
Wholesale trade	\$188,743	\$321,376	\$386,331	\$64,955
Retail trade	\$255,185	\$351,508	\$473,265	\$121,757
Finance, insurance & real estate	\$84,631	\$156,231	\$288,095	\$131,864
Services	\$305,143	\$820,245	\$1,163,031	\$342,786
Government	\$283,938	\$420,997	\$513,373	\$92,376

Percent of Total*

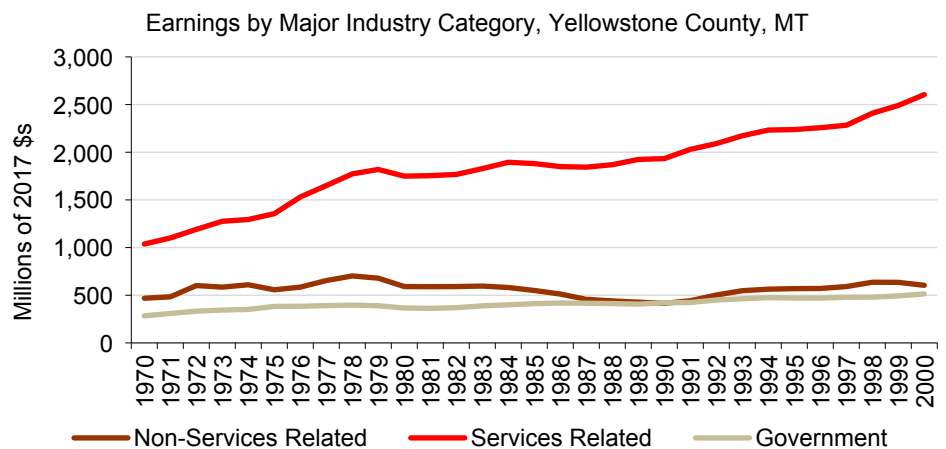
Percent Change
1990-2000

	1970	1990	2000	Percent Change 1990-2000
Labor Earnings				34.4%
Non-Services Related	26.2%	15.0%	16.2%	45.5%
Farm	4.9%	0.9%	0.4%	-42.5%
Agricultural services, forestry, fishing	0.5%	1.1%	1.1%	40.4%
Mining (including fossil fuels)	1.5%	1.2%	1.5%	64.5%
Construction	7.3%	4.6%	6.8%	98.2%
Manufacturing (incl. forest products)	12.0%	7.2%	6.4%	20.1%
Services Related	58.0%	69.8%	70.0%	34.7%
Transportation & public utilities	11.4%	10.3%	7.9%	3.5%
Wholesale trade	10.5%	11.6%	10.4%	20.2%
Retail trade	14.3%	12.7%	12.7%	34.6%
Finance, insurance & real estate	4.7%	5.6%	7.7%	84.4%
Services	17.0%	29.6%	31.2%	41.8%
Government	15.9%	15.2%	13.8%	21.9%

All earnings data are reported by *place of work*. Estimates for data that were not disclosed are indicated with tildes (~).

* Total is considered to be the sum of all reported or estimated income with positive values from the earnings by industry table.

- From 1970 to 2000, earnings from non-services grew from \$468.6M to \$604.1M (in real terms), a 29% increase.
- From 1970 to 2000, earnings from services grew from \$1,037.3M to \$2,604.6M (in real terms), a 151% increase.
- From 1970 to 2000, earnings from government grew from \$283.9M to \$513.4M (in real terms), a 81% increase.



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Employment by Industry (1970-2000)

What do we measure on this page?

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Why is it important?

Historical changes in labor earnings by industry show how the structure of the local economy has changed over time. Some of the trends are caused by national and international circumstances while other trends may reflect local conditions. The shifting sources of labor earnings can point to evolving weaknesses and strengths in the local or regional economy.

Most new jobs created in the U.S. economy in the last several decades have been in services-related sectors, a category that includes a wide variety of high- and low-wage occupations ranging from jobs in hotels and amusement parks to legal, health, business, and educational services. The section in this report titled “Wages by Industry” shows the difference in wages among various services related industries and compared to non-services related sectors.

In many communities there have been important changes in employment in non-services, particularly mining and fossil fuel energy development, manufacturing (which includes lumber and wood products), and construction.¹³

In rural communities, government employment (e.g., the Forest Service and Bureau of Land Management) often represents an important component of the economy.

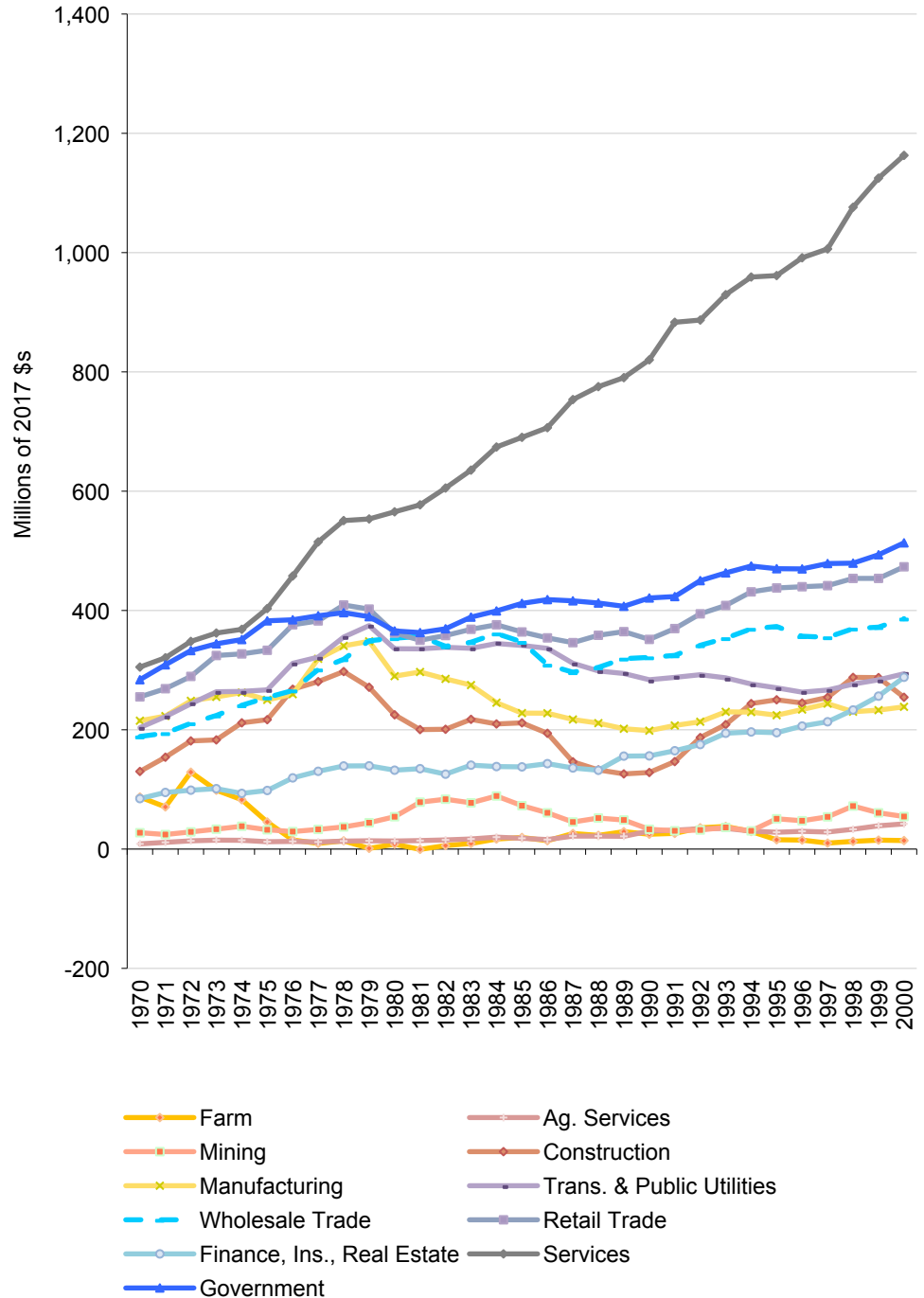
Socioeconomic Measures

Yellowstone County, MT

Earnings by Industry (1970-2000)

Earnings by Industry, Yellowstone County, MT

- In 2000 the three industry sectors with the largest earnings were services (\$1,163.0 million), government (\$473.3 million), and retail trade (\$473.3 million).
- From 1970 to 2000, the three industry sectors that added the most earnings were services (\$857.9 million), government (\$229.4 million), and retail trade (\$218.1 million).



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

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Socioeconomic Measures

Yellowstone County, MT

Earnings by Industry (since 2000)

Labor earnings in thousands of 2017 \$s

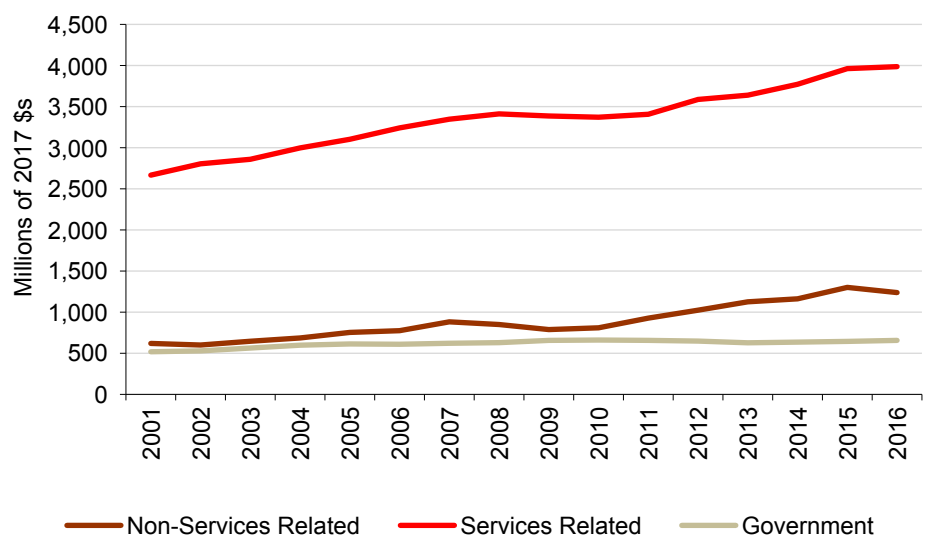
	2001	2010	2016	Change 2010-2016
Labor Earnings	\$3,804,660	\$4,841,719	\$5,880,884	\$1,039,165
Non-services related	\$619,757	\$809,692	\$1,238,140	\$428,448
Farm	\$21,348	\$10,946	\$15,679	\$4,733
Forestry, fishing, & ag. services	\$3,954	\$5,340	\$14,689	\$9,349
Mining (including fossil fuels)	\$25,195	\$125,423	\$344,566	\$219,143
Construction	\$309,707	\$386,967	\$515,379	\$128,412
Manufacturing	\$259,553	\$281,017	\$347,826	\$66,809
Services related	\$2,666,509	\$3,371,065	\$3,986,088	\$615,023
Utilities	\$33,678	\$38,820	\$32,778	-\$6,042
Wholesale trade	\$334,349	\$355,710	\$412,378	\$56,668
Retail trade	\$350,373	\$395,693	\$451,803	\$56,110
Transportation and warehousing	\$189,850	\$222,346	\$292,670	\$70,324
Information	\$66,427	\$90,610	\$83,699	-\$6,911
Finance and insurance	\$212,566	\$257,000	\$269,733	\$12,733
Real estate and rental and leasing	\$48,644	\$124,609	\$203,589	\$78,980
Professional and technical services	\$284,612	\$366,257	\$480,608	\$114,351
Management of companies	\$25,949	\$32,307	\$52,214	\$19,907
Administrative and waste services	\$164,645	\$189,170	\$170,014	-\$19,156
Educational services	\$19,155	\$28,590	\$35,295	\$6,705
Health care and social assistance	\$586,068	\$874,006	\$973,270	\$99,264
Arts, entertainment, and recreation	\$36,255	\$47,128	\$61,834	\$14,706
Accommodation and food services	\$142,759	\$172,775	\$236,236	\$63,461
Other services, except public admin.	\$171,179	\$176,044	\$229,968	\$53,924
Government	\$518,394	\$660,961	\$656,655	-\$4,306

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* Total is considered to be the sum of all reported or estimated income with positive values from the earnings by industry table.

- From 2001 to 2016, earnings in non-services related industries grew from \$619.8 million to \$1,238.1 million, a 100% increase.
- From 2001 to 2016, earnings in services related industries grew from \$2,666.5 million to \$3,986.1 million, a 49% increase.
- From 2001 to 2016, earnings in government grew from \$518.4 million to \$656.7 million, a 27% increase.

Earnings by Major Industry Category, Yellowstone County, MT



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Earnings by Industry (since 2000)

What do we measure on this page?

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In many places the majority of growth in earnings in recent years has been in services-related industries, which include a wide variety of high- and low-wage occupations ranging from jobs in hotels and amusement parks to legal, health, business, and educational services. The section in this report titled "Wages by Industry" shows the difference in wages among various services related industries and compared to non-services related sectors.

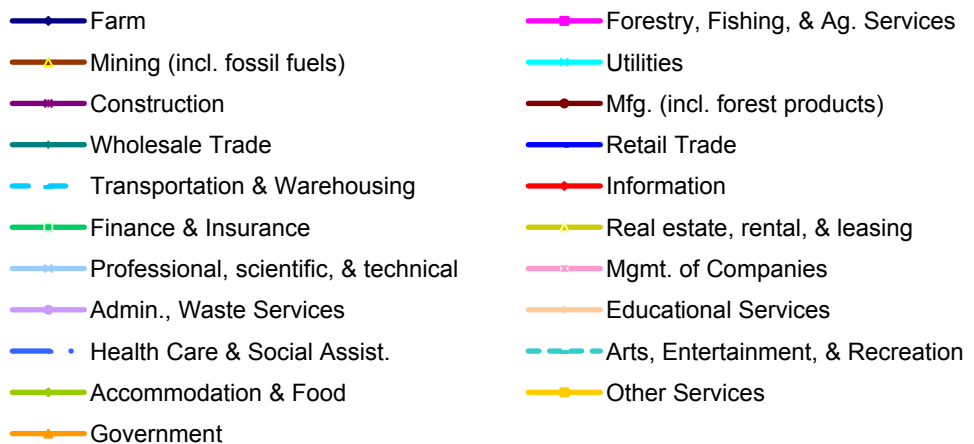
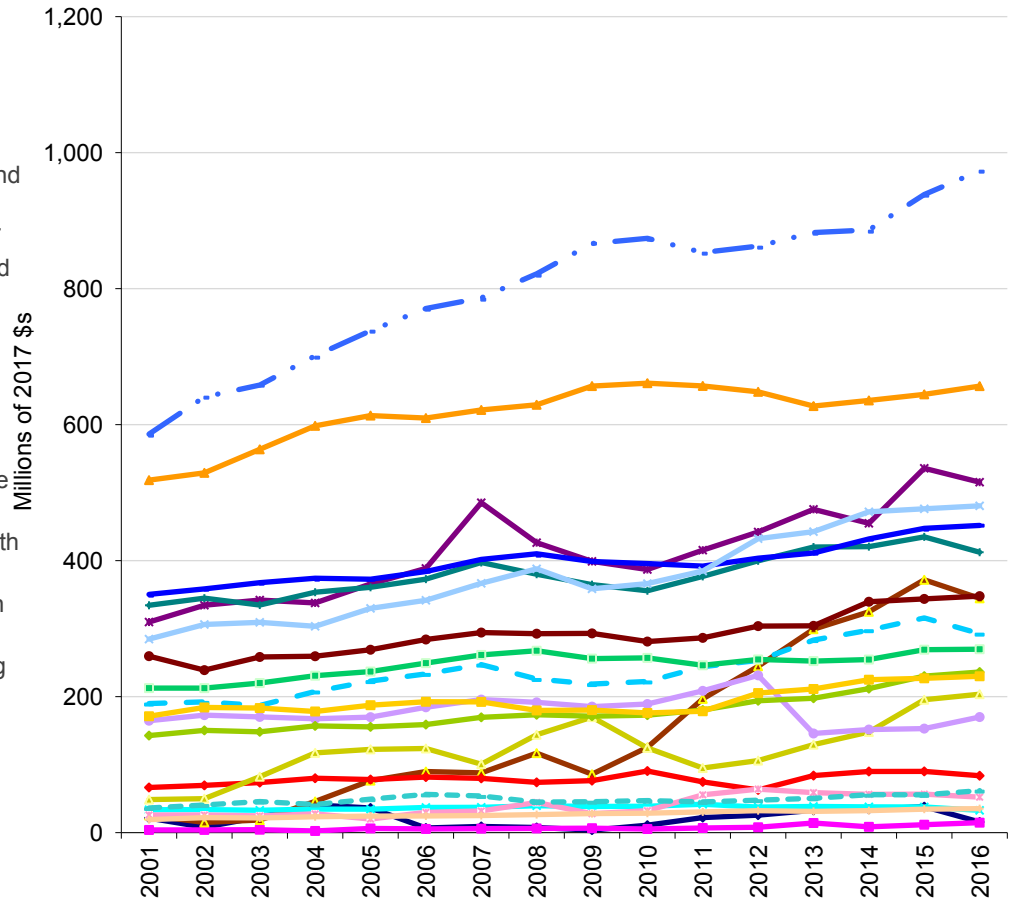
Socioeconomic Measures

Yellowstone County, MT

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Earnings by Industry, Yellowstone County, MT

- In 2016 the three industry sectors with the largest earnings were health care and social assistance (\$973.3 million), government (\$656.7 million), and professional and technical services (\$480.6 million).
- From 2001 to 2016, the three industry sectors that added the most earnings were health care and social assistance (\$387.2 million), construction (\$205.7 million), and real estate and rental and leasing (\$154.9 million).



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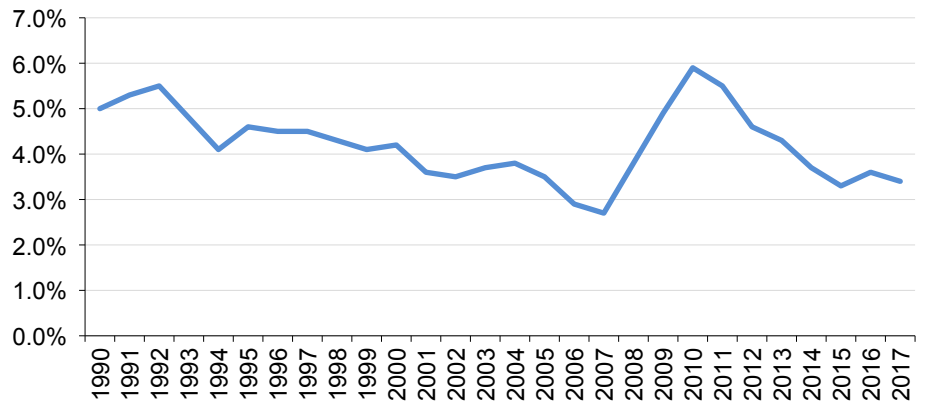
Yellowstone County, MT

Unemployment

	1990	2000	2010	2017	Change 2010-2017
Average Annual Unemployment Rate	5.0%	4.2%	5.9%	3.4%	-2.5%

Average Annual Unemployment Rate, Yellowstone County, MT

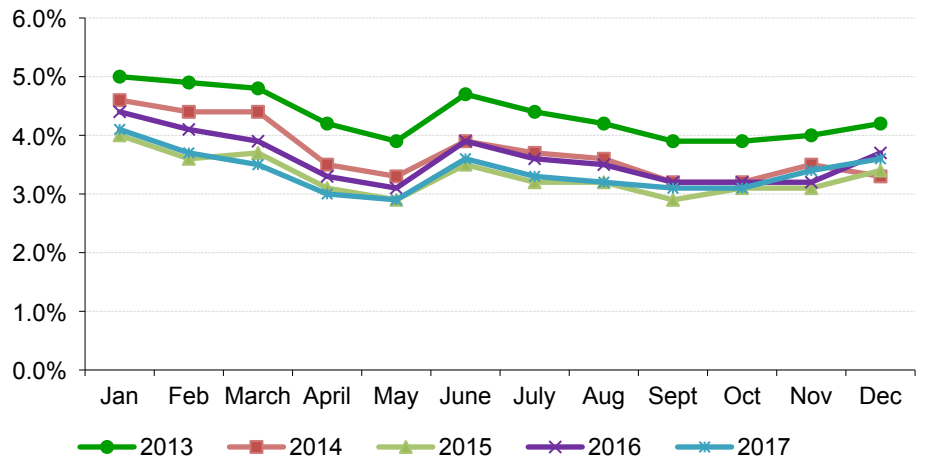
• Since 1990, the annual unemployment rate ranged from a low of 2.7% in 2007 to a high of 7.9% in 1983.



Monthly Unemployment Rate	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
2013	5.0%	4.9%	4.8%	4.2%	3.9%	4.7%	4.4%	4.2%	3.9%	3.9%	4.0%	4.2%
2014	4.6%	4.4%	4.4%	3.5%	3.3%	3.9%	3.7%	3.6%	3.2%	3.2%	3.5%	3.3%
2015	4.0%	3.6%	3.7%	3.1%	2.9%	3.5%	3.2%	3.2%	2.9%	3.1%	3.1%	3.4%
2016	4.4%	4.1%	3.9%	3.3%	3.1%	3.9%	3.6%	3.5%	3.2%	3.2%	3.2%	3.7%
2017	4.1%	3.7%	3.5%	3.0%	2.9%	3.6%	3.3%	3.2%	3.1%	3.1%	3.4%	3.6%

Monthly Unemployment Rate, Yellowstone County, MT

• The lowest monthly unemployment rate was May of 2015. The highest monthly unemployment rate was Jan of 2013.



Data Sources: U.S. Department of Labor. 2018. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Unemployment

What do we measure on this page?

This page describes the average annual unemployment rate and the seasonality of the unemployment rate over time.

The Average Annual Unemployment Rate graph shows the rate of unemployment since 1990. The Monthly Unemployment Rate graph shows the rate of unemployment for each month over the last five years. Note that unemployment figures most often reported are seasonally adjusted.¹⁵ However, the monthly unemployment data shown on this page are not seasonally adjusted so that fluctuations in employment throughout the year can be displayed.

Unemployment Rate: The number of people who are jobless, looking for jobs, and available for work, divided by the labor force.¹⁶

Data begin in 1990 because prior to 1990 the Bureau of Labor Statistics used a different method to calculate the unemployment rate.

Why is it important?

The rate of unemployment is an important indicator of economic well-being. This figure can go up during national recessions and/or more localized downturns. Unemployment may vary significantly by season.

It is important to know how the unemployment rate has changed over time, whether the rate is higher or lower during certain periods of the year, and whether this seasonality of unemployment has changed over time. Places that are heavily dependent on the tourism industry, for example, may show higher rates of unemployment during spring and fall "shoulder seasons." Places that rely heavily on the construction industry, for example, may have lower unemployment rates during the non-winter months.¹⁷

Communities with diverse economies tend to have more stable unemployment rates. This is particularly true of places that are able to attract new residents, retain manufacturing, and support a high-tech economy.¹⁸

Public land agencies sometimes provide seasonal employment and may have an effect on the local rate of unemployment.

Socioeconomic Measures

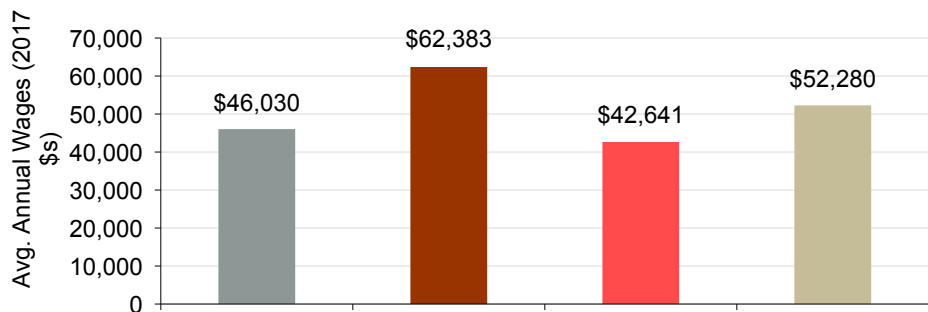
Yellowstone County, MT

Wages by Industry

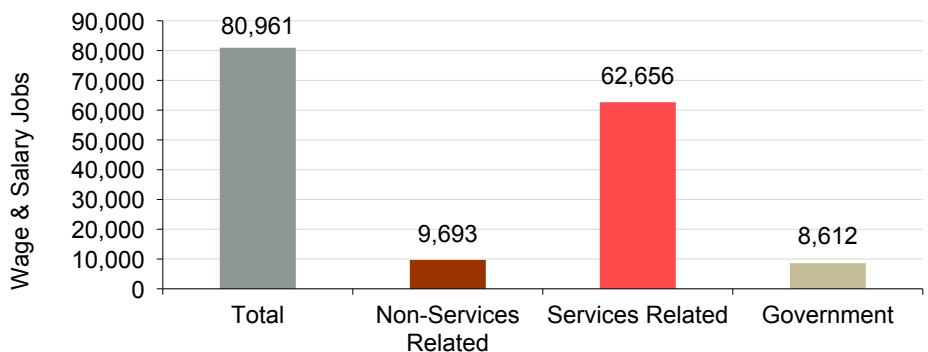
Employment and Wages in 2016	Wage & Salary Employment	% of Total Employment	Avg. Annual Wages (2017 \$s)	% Above or Below Avg.
Total	80,961		\$46,030	
Private	72,350	89.4%	\$45,285	-1.6%
Non-Services Related	9,693	12.0%	\$62,383	35.5%
Natural Resources and Mining	801	1.0%	\$88,029	91.2%
Agriculture, forestry, fishing & hunting	347	0.4%	\$45,371	-1.4%
Mining (incl. fossil fuels)	454	0.6%	\$120,633	162.1%
Construction	5,346	6.6%	\$54,735	18.9%
Manufacturing (Incl. forest products)	3,547	4.4%	\$68,101	47.9%
Services Related	62,656	77.4%	\$42,641	-7.4%
Trade, Transportation, and Utilities	20,046	24.8%	\$41,641	-9.5%
Information	1,218	1.5%	\$51,115	11.0%
Financial Activities	3,970	4.9%	\$62,278	35.3%
Professional and Business Services	8,766	10.8%	\$52,714	14.5%
Education and Health Services	13,985	17.3%	\$54,068	17.5%
Leisure and Hospitality	11,207	13.8%	\$18,541	-59.7%
Other Services	3,459	4.3%	\$29,249	-36.5%
Unclassified	5	0.0%	\$50,978	10.7%
Government	8,612	10.6%	\$52,280	13.6%
Federal Government	1,749	2.2%	\$73,734	60.2%
State Government	1,589	2.0%	\$45,772	-0.6%
Local Government	5,274	6.5%	\$47,126	2.4%

Wages & Employment by Industry, Yellowstone County, MT, 2016

- In 2016 non-services related jobs paid the highest wages (\$62,383) and services related jobs paid the lowest (\$42,641).



- In 2016 trade, transportation, and utilities jobs employed the largest number of people (62,656), and federal government employed the smallest (8,612 jobs).



Data Sources: U.S. Department of Labor. 2017. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Wages by Industry

What do we measure on this page?

This page describes employment and average annual wages by industry. It is sometimes the case that industries that pay well employ few people. Use the table on this page to understand how wages relate to the share of employment contributed by each industry.

Average Annual Wages: Total annual pay divided by total employment.

The data on this page are from the Bureau of Labor Statistics (BLS), which is the most reliable source of national data on average annual wages.^{19, 20, 21} However, unlike the Bureau of Economic Analysis data used in other sections of this report, these data do not include proprietors or the value of benefits and are summarized into slightly different industry categories. As reported by BLS, wages include gross wages and salaries, bonuses, stock options, tips and other gratuities, and the value of meals and lodging.

The table compares level of employment and wages for all sectors of the economy and shows (in the far-right column) whether the sector's wages are above or below the average wage for all industries.

Depending on the areas selected, some data may not be available due to disclosure restrictions.

“Average annual wages” shown on this page is not the same as “average earnings per job” shown earlier in this report. Average annual wages are calculated from BLS data, which do not include proprietors, while earnings per job are calculated from Bureau of Economic Analysis data, which include proprietors.

Why is it important?

It is sometimes assumed, particularly in rural areas, that the only high-wage jobs are in manufacturing and natural resource industries (e.g., timber, fossil fuel energy development, and mining). While these jobs often provide high average wages, some services-related industries also offer high wages (e.g., information, financial activities, and professional and business services).

Nearly all new jobs created since 1990 have been in services-related industries, but they are not equally distributed across the country, and not all areas are able to attract and retain the relatively high-wage service-related jobs. The elements required to attract and keep high-wage service-related workers may include access to reliable transportation including airports, amenities, recreation opportunities, a trained workforce, and good schools.^{22, 23}

In some areas, the highest-paying jobs are in the public sector. During recessions, government jobs may serve as an economic buffer against declining employment and earnings in the private sector.

Socioeconomic Measures

Yellowstone County, MT

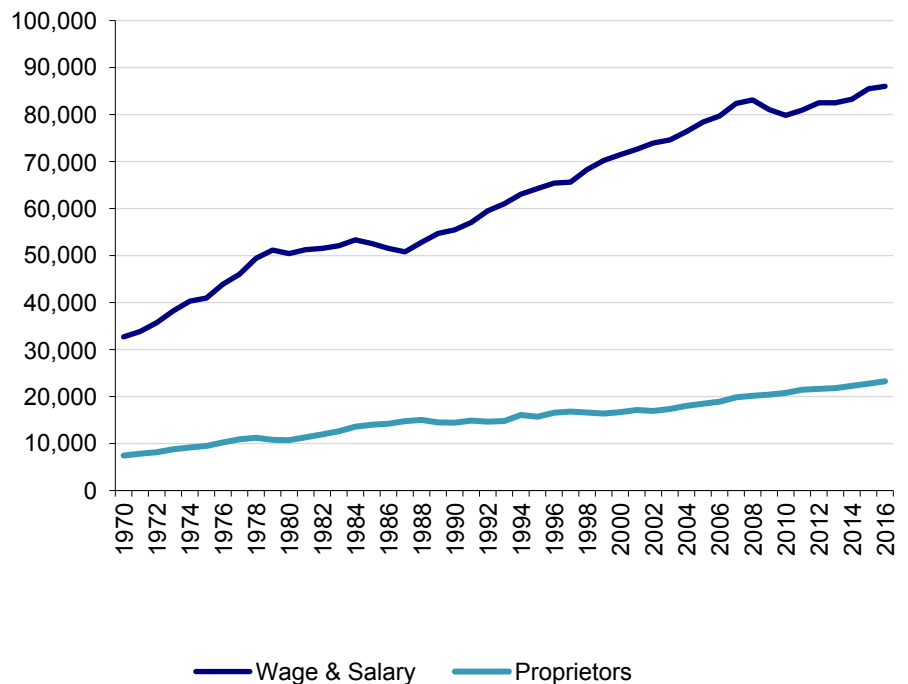
Proprietors (self-employed)

	1970	2000	2016	Change 2000-2016
Total Employment	40,149	88,147	109,252	21,105
Wage and salary jobs	32,701	71,463	86,009	14,546
Number of proprietors	7,448	16,684	23,243	6,559
				% Change 2000-2016
Total Employment				23.9%
Wage and salary jobs	81.4%	81.1%	78.7%	20.4%
Number of proprietors	18.6%	18.9%	21.3%	39.3%

All employment data in the table above are reported by *place of work* and include both full-time and part-time workers.

Components of Employment, Yellowstone County, MT

- From 1970 to 2016, wage and salary employment (people who work for someone else) grew from 32,701 to 86,009, a 163% increase.
- From 1970 to 2016, proprietors (the self-employed) grew from 7,448 to 23,243, a 212% increase.



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Proprietors (self-employed)

What do we measure on this page?

This page describes the changes in two components of employment: wage and salary employment, and proprietors.

Wage and Salary: This is a measure of the average annual number of full-time and part-time jobs by place of work. All jobs for which wages and salaries are paid are counted. Full-time and part-time jobs are counted with equal weight.²⁴

Proprietors: This term includes the self-employed in nonfarm and farm sectors by place of work. Nonfarm self-employment consists of the number of sole proprietorships and the number of individual business partners not assumed to be limited partners. Farm self-employment is defined as the number of non-corporate farm operators, consisting of sole proprietors and partners.²⁵

For more detailed information about farm employment and earnings, create an EPS Agriculture report at <https://headwaterseconomics.org/eps>.

Why is it important?

A high level of growth in proprietors' employment could be interpreted as a sign of entrepreneurial activity, which is a positive indicator of economic health.²⁶ However, in some areas and particularly in remote rural areas, it is possible that a high proportion of self-employed is an indication that few jobs are available. People may work for themselves because it is the only alternative or they may work for themselves in addition to holding a wage and salary job.

One way to see whether growth and a high level of proprietors' employment is a positive sign for the local economy is to look at the long-term trends in proprietors' personal income. When proprietors' employment and real personal income are both rising, this is a healthy indicator of entrepreneurial activity. On the other hand, rising proprietors' employment and falling real personal income can be a sign of economic stress. The following section of this report examines this relationship.

Socioeconomic Measures

Yellowstone County, MT

Wages and Proprietors' Income

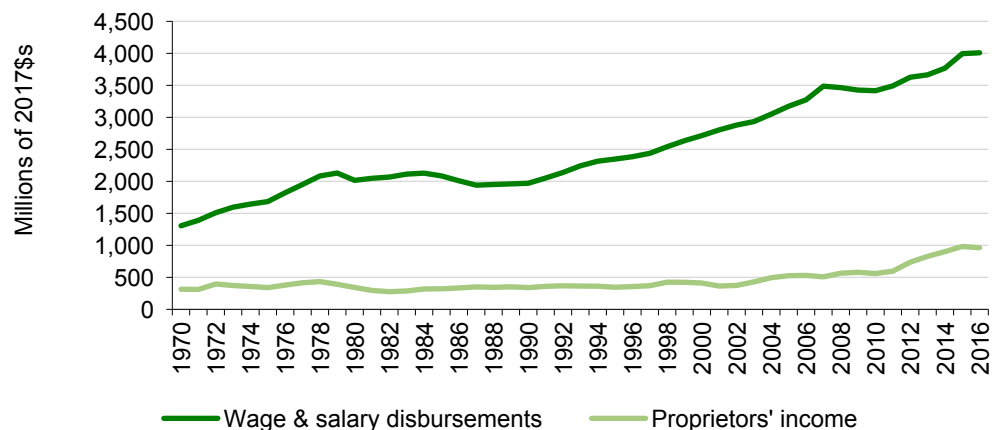
	1970	2000	2016	Change 2000-2016
Earnings by place of work	1,789,888	3,722,030	5,880,884	2,158,854
Wage & salary disbursements	1,305,727	2,715,474	4,008,991	1,293,517
Supplements to wage & salary	169,892	595,073	909,038	313,965
Proprietors' income	314,269	411,483	962,854	551,371

				% Change 2000- 2016
Earnings by place of work				58.0%
Wage & salary disbursements	73.0%	73.0%	68.2%	47.6%
Supplements to wage & salary	9.5%	16.0%	15.5%	52.8%
Proprietors' income	17.6%	11.1%	16.4%	134.0%

All income data in the table above are reported by *place of work*, which is different than earnings by *place of residence* shown on the following page of this report.

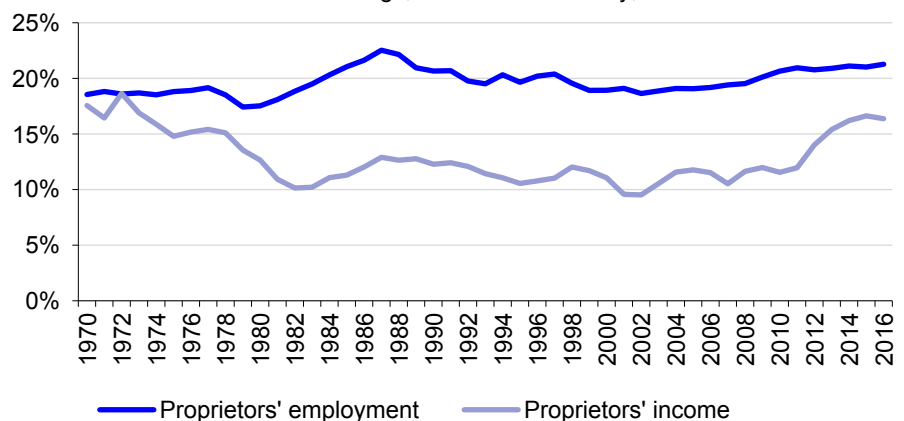
Components of Labor Earnings, Yellowstone County, MT

- From 1970 to 2016, labor earnings from wage and salary employment grew from \$1,305.7 million to \$4,009.0 million (in real terms), a 207% increase.
- From 1970 to 2016, labor earnings from proprietors' employment grew from \$314.3 million to \$962.9 million (in real terms), a 206% increase.



- In 1970, proprietors represented 19% of total employment. By 2016, proprietors represented 21% of total employment.
- In 1970, proprietors represented 18% of total labor earnings. By 2016, proprietors represented 16% of total labor earnings.

Proprietors' Employment Share of Employment & Proprietors' Income Share of Labor Earnings, Yellowstone County, MT



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Wages and Proprietors' Income

What do we measure on this page?

This page describes the components of labor earnings (in real terms): income from wage and salary, and proprietors' employment. It also looks more closely at proprietors, comparing long-term trends in proprietors' employment and personal income.

Earnings by Place of Work: This represents net earnings by place of work.

Wage and Salary Disbursements: This is a measure of the average annual number of full-time and part-time jobs in each area by place of work. All jobs for which wages and salaries are paid are counted. Full-time and part-time jobs are counted with equal weight.

Proprietors' Income: This term includes the self-employed in nonfarm and farm sectors. Nonfarm self-employment consists of the number of sole proprietorships and the number of individual business partners not assumed to be limited partners. Farm self-employment is defined as the number of non-corporate farm operators, consisting of sole proprietors and partners.

For more detailed information about farm employment and earnings, create an EPS Agriculture report at <https://headwaterseconomics.org/eps>.

Why is it important?

The table and figures can be used to compare the relative importance, and change in importance, of wage and salary jobs and proprietors as a source of employment and earnings.

Rapid growth and/or high proportions of proprietors' employment and income can be a sign of a healthy economy that is attracting entrepreneurs and stimulating business development, especially when paired with population growth and low unemployment. However, if labor earnings are flat or declining, high levels of proprietors may indicate a lack of opportunity.

Socioeconomic Measures

Yellowstone County, MT

Commuting Patterns

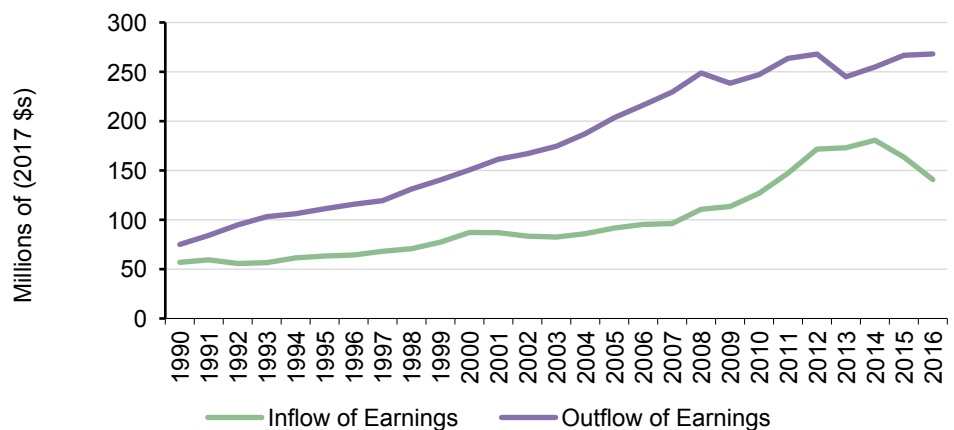
Personal income in thousands of 2017 \$s

	1990	2010	2016	Change 2010-2016
Total Personal Income	3,722,067	6,403,540	7,678,541	1,275,001
Cross-County Commuting Flows				
Inflow of Earnings	56,903	126,867	140,739	13,872
Outflow of Earnings	75,040	247,146	268,119	20,973
Net Residential Adjustment (In - Outflow)	-18,137	-120,279	-127,380	-7,101
				% Change 2010-2016
Percent of Total				
Net Residential Adjustment Share of Total Personal Income	-0.5%	-1.9%	-1.7%	0.2%

Data are only available at the county level (i.e., this page will be blank for aggregated geographies, states, and the U.S.). Total personal income is reported by *place of residence*.

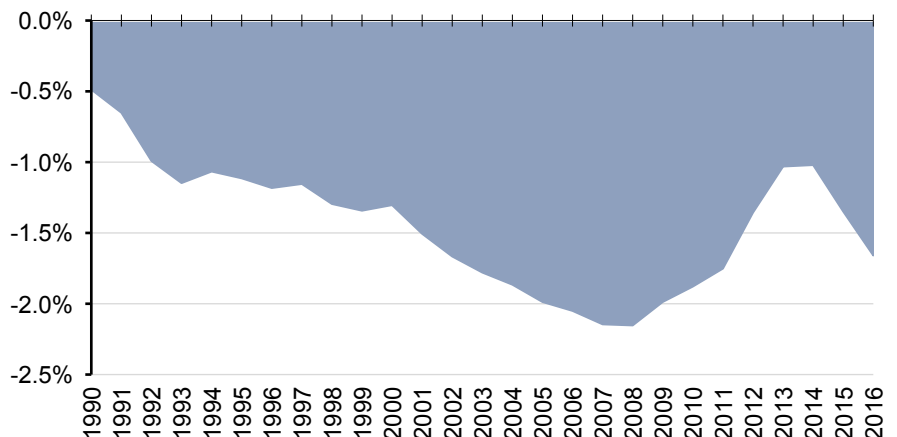
- From 1990 to 2016 inflow of earnings grew from \$56.9 million to \$140.7 million (in real terms), a 147% increase.
- From 1990 to 2016 outflow of earnings grew from \$75.0 million to \$268.1 million (in real terms), a 257% increase.

Inflow & Outflow of Earnings, Yellowstone County, MT



Net Residential Adjustment as Share of Total Personal Income, Yellowstone County, MT

- From 1990 to 2016, net residential adjustment (inflow - outflow) changed from -.5 to -1.7 percent of total personal income.



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C., reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Commuting Patterns

What do we measure on this page?

This page describes the flow of earnings into the county by residents who work in neighboring counties ("inflow" of earnings because they bring money home); the flow of earnings by residents from neighboring counties who commute into the county for work ("outflow" of earnings because they take their earnings with them); and the difference between the two ("net residential adjustment").^{19, 20, 21}

If net residential adjustment is positive (inflow exceeds outflow), it means county residents commute outside the county for work and bring back more personal income than leaves the county in net terms. If net residential adjustment is negative (outflow exceeds inflow), it means the economy of the county attracts workers from nearby counties and loses more personal income than it brings into the county in net terms.

Inflow of Earnings: The gross annual earnings of in-commuters (i.e., people who work out of the county and bring money home).

Outflow of Earnings: The gross annual earnings of out-commuters (i.e., people who work in the county but live elsewhere and take their earnings with them).

Net Residence Adjustment: The net inflow of labor earnings of inter-area commuters.^{22, 23}

Note: Data are only available at the county level, and begin in 1990 because that is the year the Bureau of Economic Analysis began reporting these data.

Why is it important?

One indicator of economic health for a county is whether it is able to attract workers from nearby counties. This could be the case if a county has a surplus of jobs that attract workers from adjacent counties and would be indicated by a negative net residential adjustment. Another possibility is that expensive housing in the county has driven some workers to live in relatively more affordable neighboring counties that have become "bedroom communities."

Alternatively, it is possible that a county with a positive net residential adjustment is a more desirable place to live (people are willing to commute and/or telecommute to work in order to live there for quality of life reasons). Commuting and telecommuting workers may also contribute to the economy by spending their money in the local area (essentially exporting work and importing wages).

Long-term trends in inflow, outflow, and net residential adjustment help to describe the role that the county's economy has played over time in a multi-county area. For example, a net residential adjustment that was positive but today is negative indicates that county residents used to have to commute to neighboring counties for work but today the reverse is true and the county attracts workers from neighboring counties.

If net residential adjustment is a large share of earnings (e.g., 10% or higher), it may indicate that the appropriate unit of analysis is a multi-county area that encompasses the entire labor market.

Socioeconomic Measures

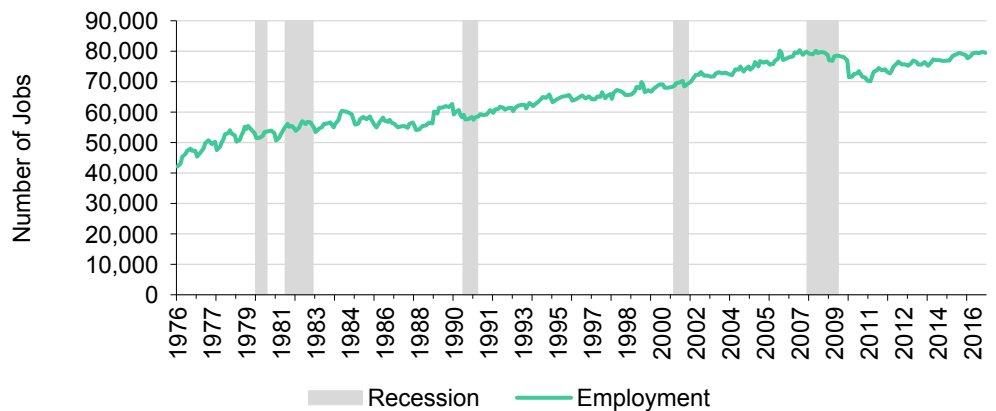
Yellowstone County, MT

Employment During National Recessions

National Recessions, 1976-2016	Jan '80 - July '80	July '81 - Nov '82	July '90 - Mar '91	Mar '01 - Nov '01	Dec '07 - June '09
Employment Change (Net Jobs)	1,672	791	-905	643	-876
Employment Change (Monthly % Change)	0.5%	0.1%	-0.2%	0.1%	-0.1%

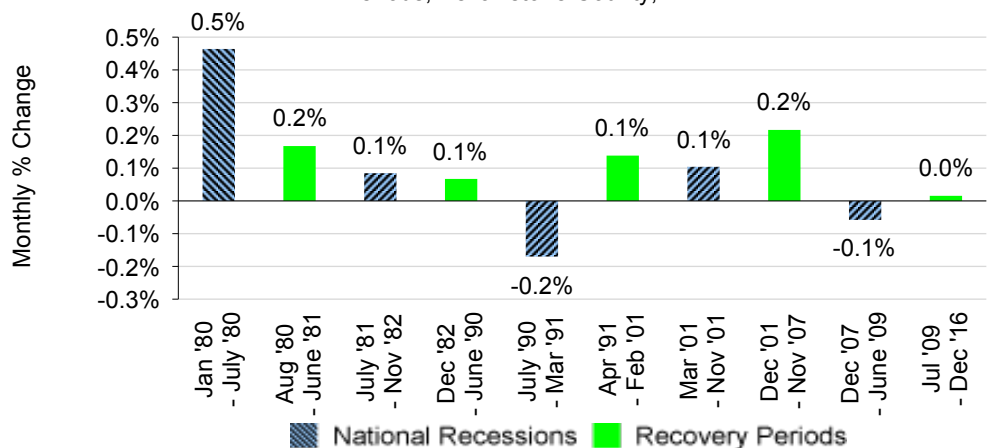
Recovery from National Recessions, 1976-2016	Aug '80 - June '81	Dec '82 - June '90	Apr '91 - Feb '01	Dec '01 - Nov '07	Jul '09 - Dec '16
Employment Change (Net Jobs)	989	3,357	9,650	10,783	1,094
Employment Change (Monthly % Change)	0.2%	0.1%	0.1%	0.2%	0.0%

Employment & National Recessions, Yellowstone County, MT



- From December of 1976 to December of 2016, employment grew from 47,289 to 79,463 jobs, a 68% increase.

Monthly Rate of Change in Employment During Recessions & Recovery Periods, Yellowstone County, MT



- In the recovery period (Dec '82-Jun '90) following the 1981-1982 recession, employment grew by 3,357 jobs, a 0.1% monthly increase.

Blue vertical bars in the figures above represent the last five recession periods: January 1980 to July 1980; July 1981 to November 1982; July 1990 to March 1991; March 2001 to November 2001; and December 2007 to June 2009. The green columns in the figure above represent the intervening recovery periods.

Data Sources: U.S. Department of Labor. 2018. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C.; National Bureau of Economic Research. 2009. U.S. Business Cycle Expansions and Contractions, Cambridge, MA, reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Employment During National Recessions

What do we measure on this page?

This page describes long-term trends in employment during national recessions and recovery periods.^{32, 33}

The Employment and National Recessions graph shows long-term change in employment against periods of national recession (blue bars) and recovery. The Employment During Recessions and Recovery Periods graph shows the percent gain or loss in employment during periods of national recession (blue bars) and recovery (green bars).

Recession: According to the National Bureau of Economic Research: "A recession is a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales. A recession begins just after the economy reaches a peak of activity and ends as the economy reaches its trough. Between trough and peak, the economy is in an expansion."

The U.S. Bureau of Labor Statistics changed methodology related to unemployment rates in 1990. Caution should be used comparing pre-1990 estimates of unemployment rates with those from 1990 forward.³⁴

Why is it important?

One measure of economic well-being is the resilience of the local economy during periods of national recession. It is a positive sign if local employment continues to grow (or does not decline) during a recession.³⁵

Another sign of economic well-being is how well the local economy recovers from a recession, measured as growth of employment from the trough (at the depth of the recession) to the peak (just before the next period of decline).

As the economy of a place diversifies, it can become more resilient to economic downturns. Places that attract new residents, retain manufacturing, and support a high-tech economy tend to be less affected by economic downturns.

Government employment is more stable and can help to absorb some of the losses in private sector economic activity during a recession.

Socioeconomic Measures

Yellowstone County, MT

Comparisons

Indicators		Yellowstone County, MT	U.S.	Ratio of Yellowstone County, MT vs. U.S.
Trends	Population, % change, 2000-2016	22.3%	14.5%	
	Employment, % change, 2000-2016	23.9%	17.1%	
	Personal Income, % change, 2000-2016	57.8%	32.1%	
	Average Earnings per Job, % change, 2000-2016	27.5%	4.7%	
	Per Capita Income, % change, 2000-2016	29.1%	15.4%	
Prosperity	Avg. Earnings per Job, 2016	\$53,829	\$59,598	
	Per Capita Income, 2016	\$48,464	\$50,280	
	Services, Avg. Annual Wages, 2016	\$42,641	\$52,806	
	Non-Services, Avg. Annual Wages, 2016	\$62,383	\$63,393	
	Government, Avg. Annual Wages, 2016	\$52,280	\$55,359	
Stress	Unemployment Rate, change 2000-2016	-0.6%	0.9%	
	Unemployment Rate, 2016	3.6%	4.9%	
Structure	Proprietors, % of Jobs, 2016	21.3%	22.6%	
	Non-Labor Income, % of Pers. Income, 2016	34.6%	36.8%	
	Services, % of Jobs, 2016	76.8%	72.9%	
	Non-Services, % of Jobs, 2016	14.3%	14.5%	
	Government, % of Jobs, 2016	8.9%	12.5%	
	Net inflow of labor earnings of inter-county commuters*	-1.7%	0.0%	

* Displayed only when comparing a county to a benchmark county.

-1500% -1000% -500% 0% 500%

Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.; U.S. Department of Labor. 2018. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C.; U.S. Department of Labor. 2017. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.; reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Comparisons

What do we measure on this page?

This page compares key performance indicators for the selected location(s) to the selected benchmark area. (If no custom benchmark area was selected, EPS defaults to benchmarking against the U.S.) Performance indicators are organized by groups (Trends, Prosperity, Stress, and Structure) that highlight potential competitive strengths and weaknesses.

The percent, or relative, difference between the selected geography and the benchmark is calculated by dividing the difference between the values by the arithmetic mean of the values.

In some cases it may be appropriate to compare a local economy to the U.S. economy. In most cases, however, it will be more useful to compare county or regional economies to similar county or regional economies. For example, if the county being analyzed is small and rural, it should be compared to similar counties because comparing against the U.S. will include data from large metropolitan areas.

Some indicators require a judgment call to decide whether they represent a positive or negative indicator of well-being. For example, a high percentage of personal income in the form of non-labor income could mean the location has done a good job of attracting retirees and investment income. However, it could also mean that there is very little labor income so non-labor income is relatively larger.

The term "benchmark" in this report should not be construed as having the same meaning as in the National Forest Management Act (NFMA).

Why is it important?

A number of indicators determine the economic health of a place. No single indicator should be used by itself. Rather, a range of indicators should be analyzed to derive a comprehensive view of the economy.

The indicators in this report can be used to gauge both standard of living (through factors such as earnings per job and per capita income) and growth (through factors such as change in population, employment, and personal income). When comparing performance among places, it may be important to consider additional measures that are not provided in this report, such as leisure time, crime rate, health statistics, sense of well-being, and other factors that represent quality of life.

Detailed data on a range of topics, including in-depth reports on individual industries, can be obtained by creating other EPS reports at <https://headwaterseconomics.org/eps>.

Socioeconomic Measures

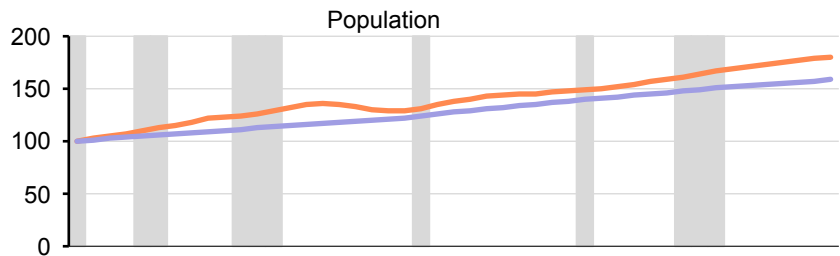
Yellowstone County, MT

Comparisons

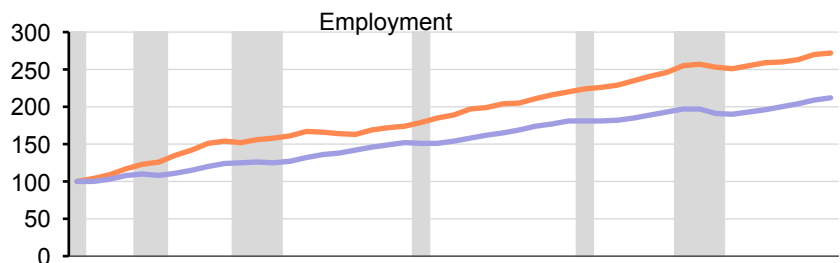
Yellowstone County, MT compared to the U.S.

Recession Yellowstone County, MT U.S.

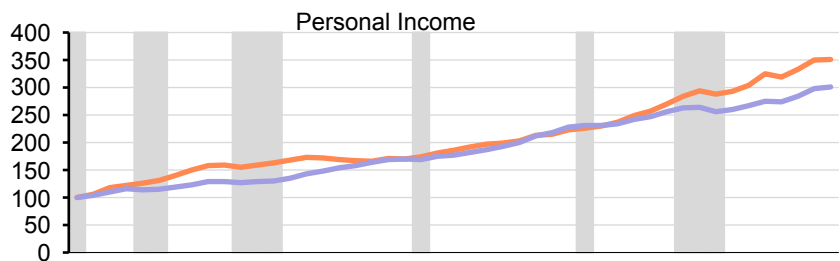
- From 1970 to 2016, population in Yellowstone County, MT grew by 80% compared to 59% for the U.S..



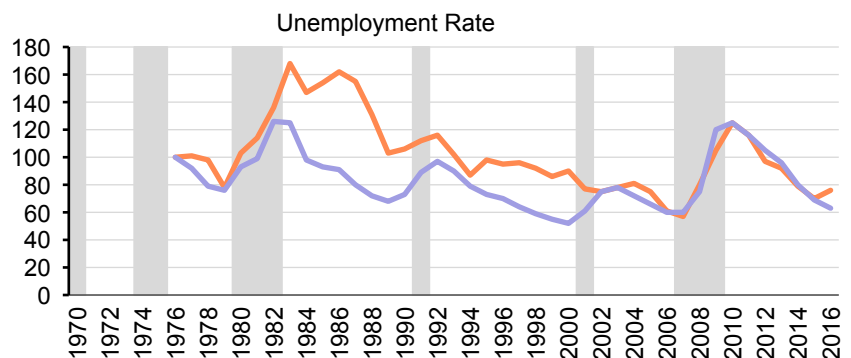
- From 1970 to 2016, employment in Yellowstone County, MT grew by 172% compared to 112% for the U.S..



- From 1970 to 2016, personal income in Yellowstone County, MT grew by 251% compared to 201% for the U.S..



- From 1976 to 2016, the unemployment rate in Yellowstone County, MT shrank by 24% compared to -37% for the U.S..



Data Sources: U.S. Department of Commerce. 2017. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.; U.S. Department of Labor. 2018. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C.; reported by Headwaters Economics' Economic Profile System, headwaterseconomics.org/eps.

Socioeconomic Measures

Yellowstone County, MT

Comparisons

What do we measure on this page?

This page describes trends in key performance indicators (change in population, employment, real personal income, and the unemployment rate) for the selected area and compared to the benchmark area. Gray vertical bars indicate periods of national recession.

Data are indexed to the start year for each indicator so that data from areas of different sizes can be compared. The charts are useful for showing the relative difference in the rate of change for each indicator.

The term "benchmark" in this report should not be construed as having the same meaning as in the National Forest Management Act (NFMA).

Information for a range of locations and measures can be obtained by creating additional EPS reports at <https://headwaterseconomics.org/eps>.

Why is it important?

This page shows long-term economic performance at a glance. It enables the reader to compare performance between places, and evaluate how performance was impacted by national business cycles.

Socioeconomic Measures

Yellowstone County, MT

Data Sources & Methods

This Socioeconomic Measures report uses national statistics from public government sources. All data used in EPS can be readily verified with the original sources:

- **Regional Economic Information System**
Bureau of Economic Analysis, U.S. Department of Commerce
<http://bea.gov/bea/regional/data.htm>
Tel. 202-606-9600
- **Local Area Unemployment Statistics**
Bureau of Labor Statistics, U.S. Department of Labor
<http://www.bls.gov/lau>
Tel. 202-691-6392
- **Quarterly Census of Employment and Wages**
Bureau of Labor Statistics, U.S. Department of Labor
<http://www.bls.gov/cew>
Tel. 202-691-6567
- **Population Division**
Census Bureau, U.S. Department of Commerce.
<http://www.census.gov/population/www/>
Tel. 866-758-1060
- **National Bureau of Economic Research**
<http://www.nber.org/cycles/recessions.html>
Tel. 617-868-3900

EPS core approaches

EPS is designed to focus on long-term trends across a range of important measures. Trend analysis provides a more comprehensive view of changes than spot data for select years. We encourage users to focus on major trends rather than absolute numbers. EPS displays detailed industry-level data to show changes in the composition of the economy over time and the mix of industries at points in time. EPS employs cross-sectional benchmarking – comparing smaller areas such as counties to larger regions, states, and the nation – to give a sense of relative performance. EPS allows users to aggregate data for multiple locations to allow for more sophisticated cross-sectional comparisons.

Industrial Classifications

Industry data reported in EPS come from data sources that use standard industry classification systems. Starting in the 1930s, the Standard Industrial Classification (SIC) system served as the structure for the collection, aggregation, presentation, and analysis of industry data. Under SIC, which used a four-digit coding structure, an industry consisted of a group of establishments primarily engaged in producing or handling the same product or group of products or in rendering the same services. As the U.S. economy shifted from a primary emphasis on manufacturing to a more complex services economy, SIC became less useful for describing the economy's changing industrial composition.

The North American Industry Classification System (NAICS), developed using a production-oriented conceptual framework, groups establishments into industries based on the activity in which they are primarily engaged. NAICS uses a six-digit hierarchical coding system to classify all economic activity into 20 industry sectors. Five sectors are mainly goods-producing sectors and 15 are entirely services-producing sectors.

Adjusting dollar figures for inflation

Because a dollar in the past was worth more than a dollar today, data reported in current dollar terms should be adjusted for inflation. The U.S. Department of Commerce reports personal income figures in terms of current dollars. All income data in EPS are adjusted to real (or constant) dollars using the Consumer Price Index. Figures are adjusted to the latest date for which the annual Consumer Price Index is available.

Data gaps and estimation

Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Headwaters Economics uses supplemental data from the U.S. Department of Commerce to estimate these data gaps. These are indicated with tildes (~) in tables. Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at <https://headwaterseconomics.org/eps>.

Socioeconomic Measures

Yellowstone County, MT

Endnotes

- 1 - In addition to the U.S. Census Bureau county classifications offered here, several other county classification systems are available: the Economic Research Service of the U.S. Department of Agriculture offers a county classification system based on economic dependence on particular sectors (for example, "Farming-dependent," "Mining-dependent"), economic activity ("Non-metro recreation"), and policy type (for example, "Housing-stress" or "Persistent poverty"). The Economic Research Service's "Rural-Urban Continuum Codes" codes with explanation can be found at <https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/>. Headwaters Economics developed a "Three Wests" county typology for all counties in the 11 contiguous western U.S. states based on access to markets via highway or air travel. Its web site (<https://headwaterseconomics.org/economic-development/trends-performance/three-wests-explained/>) offers sortable county data, a journal article on the subject, and an interactive tool that allows users to compare economic and demographic data for "Metro," "Connected," and "Isolated" counties across the West.
- 2 - Population and Housing Unit Estimates. U.S. Census Bureau. <https://www.census.gov/programs-surveys/popest/about.html>.
- 3 - The U.S. Census Bureau provides a tool for mapping migration flows into and out of all counties in the country: <https://flowsmapper.geo.census.gov/map.html>.
- 4 - For a comprehensive cost of living index, see <http://livingwage.mit.edu/pages/about>.
- 5 - A 2006 study documented that workers would accept lower wages in order to live closer to environmental amenities. See: Schmidt L and Courant PN. 2006. Sometimes Close is Good Enough: The Value of Nearby Environmental Amenities. *Journal of Regional Science* 46(5):931-951. See also: Deller SC, Tsai T-H, Marcouiller DW, and English DBK. 2001. The Role of Amenities and Quality of Life in Rural Economic Growth. *American Journal of Agricultural Economics* 83(2): 352-365.
- 6 - The Occupational Outlook Handbook, published by the Bureau of Labor Statistics, contains descriptions of all occupations, median pay, and the education and training required for each: <https://www.bls.gov/ooh/>.
- 7 - To see the possible impact of non-labor income sources on per capita income, see previous sections of this report that show the percent contribution of non-labor to total personal income, or create an EPS Non-Labor Income report at <https://headwaterseconomics.org/eps>.
- 8 - A 2014 study analyzed the impact of types of non-labor income on socioeconomic performance. See: Lawson MM, Rasker R, and Gude PH. 2014. The importance of non-labor income: An analysis of socioeconomic performance in western counties by type of non-labor income. *Journal of Regional Analysis and Policy* 44(2): 175-190.
- 9 - For online SIC and NAICS manuals and definitions of industry codes, see <https://www.census.gov/eos/www/naics/> and https://www.osha.gov/pls/imis/sic_manual.html.
- 10 - Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at <https://headwaterseconomics.org/eps>.
- 11 - According to estimates by the U.S. Department of Labor, from 2008 through 2018 "goods-producing" employment in the U.S. (mining, construction, and manufacturing) will not grow. By 2018, goods-producing sectors will account for 12.9 percent of all jobs, down from 14.2 percent in 2008. In contrast, "service-producing" sectors are expected to account for 96 percent of the growth in new jobs. The fastest growing are projected to be professional and business services, and health care and social assistance. See: Bartsch KJ. 2009. The employment projections for 2008-18. *Monthly Labor Review Online* 132(11): 3-10. <https://www.bls.gov/opub/mlr/2009/11/art1full.pdf>.

Endnotes (cont.)

- 12 - The Bureau of Labor Statistics provides industry employment projections to 2024: <https://www.bls.gov/opub/mlr/2015/article/industry-employment-and-output-projections-to-2024.htm>.
- 13 - For an overview of how historical changes in employment have affected rural America, see Whitenar, LA and McGranahan DA. 2003. Rural America: Opportunities and Challenges. Amber Waves 1(1):1-8 available at https://www.agclassroom.org/teen/ars_pdf/social/amber/rural_america.pdf.
- 14 - The Economic Research Service of the U.S. Department of Agriculture is a good source for articles and data on the rural economy: <https://www.ers.usda.gov/topics/rural-economy-population/>.
- 15 - See the Bureau of Labor Statistics' explanation of seasonal adjustments at <https://www.bls.gov/cps/seasfaq.htm>.

- 16 - For more information on unemployment, see related Bureau of Labor Statistics resources available at <https://www.bls.gov/cps/faq.htm>.
- 17 - The U.S. Department of Labor offers an explanation of seasonal and part-time employment: <https://www.dol.gov/general/topic/workhours/seasonalemployment>.
- 18 - For research findings on economic resiliency, see Chapple K and Lester TW. 2010. The resilient regional labour market? The U.S. case. Cambridge Journal of Regions, Economy and Society 3(1):85-104.
- 19 - For an overview of how the Bureau of Labor Statistics treats employment, see <https://www.bls.gov/bls/employment.htm>.
- 20 - For an overview of how the Bureau of Labor Statistics treats pay and benefits, see <https://www.bls.gov/bls/wages.htm>.
- 21 - Employment and wage estimates for more than 800 occupations are available from the Bureau of Labor Statistics. It is helpful to look at services by occupation rather than by sector or industry because wages vary dramatically across occupations associated with different services. For more information, see <https://www.bls.gov/oes/>.

- 22 - For a review of the role of public lands amenities and transportation in economic development, see Rasker R, Gude PH, Gude JA, van den Noort J. 2009. The Economic Importance of Air Travel in High-Amenity Rural Areas. Journal of Rural Studies 25: 343-353. https://headwaterseconomics.org/wp-content/uploads/3wests/Rasker_et_al_2009_Three_Wests.pdf.
- 23 - This article specifically captures the idea that amenity values are capitalized into wages: Knapp TA and Graves PE. 1989. On the Role of Amenities in Models of Migration and Regional Development. Journal of Regional Science 29(1):71-87.
- 24 - Glossary. Bureau of Economic Analysis. https://www.bea.gov/glossary/glossary_a.htm.
- 25 - Regional Economic Accounts: Regional Definitions. Bureau of Economic Analysis. <https://www.bea.gov/regional/definitions/>.
- 26 - For an example of an academic study where proprietors' employment is considered an indication of entrepreneurial activity, see Mack E, Grubestic TH, and Kessler E. 2007. Indices of Industrial Diversity and Regional Economic Composition. Growth and Change 38(3):474-509.
- 27 - Regional Economic Accounts. Bureau of Economic Analysis. <https://www.bea.gov/iTable/definitions.cfm?did=2360&reqId=70>.
- 28 - For a glossary of terms used by the Bureau of Economic Analysis with definitions, see <https://bea.gov/regional/definitions/>.
- 29 - The Decennial Census also reports the number of workers commuting between counties, see <https://www.census.gov/topics/employment/commuting.html>.

Endnotes (cont.)

- 30 - According to the Bureau of Economic Analysis: "Estimates of gross commuters' earnings inflow and outflow are derived from the residence adjustment estimates, which are the estimates of the net inflow of the earnings of inter-area commuters. In the personal income accounts, the residence adjustment estimates are added to place-of-work earnings estimates to yield place-of-residence earnings estimates. This conversion process is an important part of the local area economic accounts because personal income is a place-of-residence measure, whereas the data used to estimate over 60 percent of personal income is reported on a place-of-work basis."
- 31 - For a study documenting a negative residential adjustment that is considered a positive indicator, see Mack E, Grubestic TH, and Kessler E. 2007. Indices of Industrial Diversity and Regional Economic Composition. *Growth and Change* 38(3):474-509.
- 32 - For a definition of recession and recovery periods, see the National Bureau of Economic Research: Business Cycle Dating Committee available at www.nber.org/cycles/recessions.html.
- 33 - For a list of national recessions and recovery periods, see www.nber.org/cycles/cyclesmain.html.
- 34 - For information regarding data collection and methodology for labor force statistics compiled by the Bureau of Labor Statistics, see <https://www.bls.gov/lau/laumthd.htm>. Please note that Local Area Unemployment Statistics data prior to 1990 are no longer supported by the Bureau of Labor Statistics.
- 35 - For research findings on economic resiliency, see: Chapple K and Lester TW. 2010. The resilient regional labour market? The U.S. case. *Cambridge Journal of Regions, Economy and Society* 3(1):85-104.