
A Profile of Agriculture

Selected Geographies:
Shawano County, WI

Benchmark Geographies:
U.S.

Produced by
Economic Profile System
EPS
January 12, 2016

About the Economic Profile System (EPS)

EPS is a free, easy-to-use software application that produces detailed socioeconomic reports of counties, states, and regions, including custom aggregations.

EPS uses published statistics from federal data sources, including Bureau of Economic Analysis and Bureau of the Census, U.S. Department of Commerce; and Bureau of Labor Statistics, U.S. Department of Labor.

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

See headwaterseconomics.org/EPS for more information about the other tools and capabilities of EPS.

For technical questions, contact Patty Gude at eps@headwaterseconomics.org, or 406-599-7425.



headwaterseconomics.org

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



www.blm.gov

The Bureau of Land Management, an agency within the U.S. Department of the Interior, administers 249.8 million acres of America's public lands, located primarily in 12 Western States. It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.



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 achieve quality land management under the "sustainable multiple-use management concept" to meet the diverse needs of people while protecting the resource. Significant intellectual, conceptual, and content contributions were provided by the following individuals: Dr. Pat Reed, Dr. Jessica Montag, Doug Smith, M.S., Fred Clark, M.S., Dr. Susan A. Winter, and Dr. Ashley Goldhor-Wilcock.

Table of Contents

	Page
Farm Employment	
What are the trends in farm employment?	1
Farm Income	
What are the trends in farm income?	2
What are the trends in farm business income?	3
Farm Land and Type	
How much land is occupied by farms?	4
What are the major types of farms by land area?	5
What are the major types of farms by production?	6
Farm Wages	
How do farm wages compare to wages in other sectors?	7
How do farm jobs and wages compare?	8
Farm Benchmarks	
How does regional farm employment compare to the U.S.?	9
How does farm employment change compare across geographies?	10
Data Sources & Methods	11
Links to Additional Resources	12

The term "farm" in this report describes all forms of agricultural production, including livestock operations.

Note to Users:

This is one of fourteen reports that can be created and downloaded from EPS Web. You may want to run another EPS report for either a different geography or topic. 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. Throughout the reports, references to online resources are indicated in parentheses. These resources are provided as hyperlinks on each report's final page. The EPS reports are downloadable as Excel, PDF, and Word documents. For further information and to download reports, go to:

headwaterseconomics.org/eps

What are the trends in farm employment?

This page describes the number of farm jobs (full and part-time, and by place of work), including proprietors, and farm jobs as a share of total employment. It also shows long-term trends for farm proprietors as a share of all farm jobs and for farm versus non-farm jobs at the regional level.

Farm Employment, 2013

	Shawano County, WI	U.S.
Total Employment	19,579	185,798,800
Farm Employment	1,784	2,643,000
Farm Proprietors Employment	1,175	1,841,000
Non-Farm Employment	17,795	183,155,800

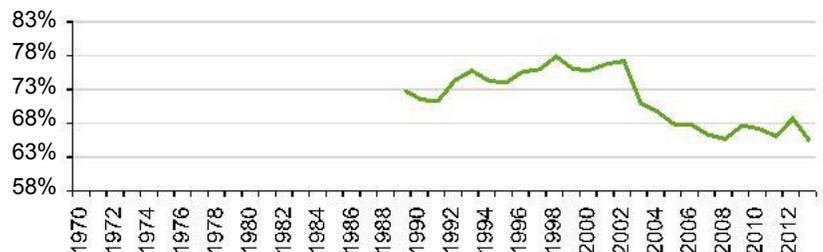
Percent of Total

Farm Employment	9.1%	1.4%
Farm Proprietors Employment	6.0%	1.0%
Non-Farm Employment	90.9%	98.6%

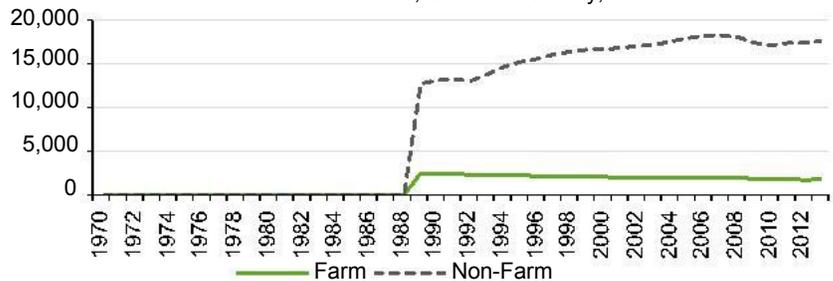
All employment data on this page are reported by place of work.

- In 1970, farm proprietors represented 0 percent of all farm employment. By 2013, farm proprietors represented 65.4 percent of all farm employment.

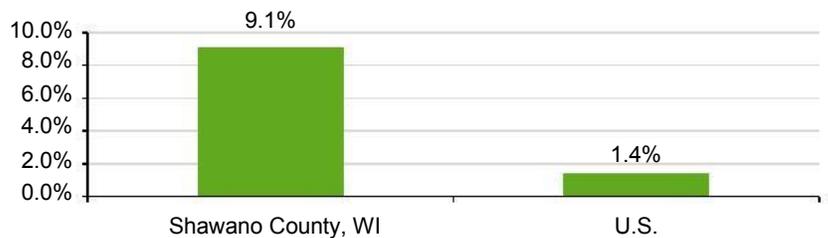
Farm Proprietors as a Percent of Farm Jobs, Shawano County, WI



Farm and Non-Farm Jobs, Shawano County, WI



Farm Jobs as a Percent of Total Employment, 2013



- In 2013, Shawano County, WI had the largest percent of total farm employment (9.11%), and U.S. had the smallest (1.42%).

Study Guide and Supplemental Information

What are the trends in farm employment?

What do we measure on this page?

This page describes the number of farm jobs (full and part-time, and by place of work), including proprietors, and farm jobs as a share of total employment. It also shows long-term trends for farm proprietors as a share of all farm jobs and for farm versus non-farm jobs at the regional level.

Farm: This refers to all forms of agricultural production, including livestock operations.

Total Employment: This is all full and part-time workers, wage and salary jobs (employees), and proprietors (the self-employed).

Farm Employment: This is the number of workers (full and part-time) engaged in the production of agricultural commodities, either livestock or crops. It includes sole proprietors, partners, and hired laborers.

Farm Proprietors Employment: These are people who are self-employed (full and part-time) as non-corporate farm operators. They can be sole proprietors or partners. For the purpose of defining "farm" proprietors, a farm is an establishment that produces, or normally would be expected to produce, at least \$1,000 worth of farm products in a typical year.

Non-Farm Employment: This is full and part-time non-farm wage and salary employment and non-farm self-employment.

Why is it important?

Farming and ranching can be a significant portion of the landscape and the local economy. Some forms of agriculture, such as ranching, may depend on public lands for grazing forage. Others, such as crop production, may rely on upstream public lands that provide water for irrigation.

While nationwide trends show that fewer people are work in farming, the land in farms is still valuable for a number of reasons, including the production of food (with gains in production efficiency, fewer farmers can produce more food than in the past) and the preservation of open space, scenic vistas, and wildlife habitat.

The growth or decline of farm proprietors could indicate new agricultural entrepreneurs and/or the consolidation of agricultural enterprises.

Methods

Data on this page are from the Bureau of Economic Analysis. We used these data because they provide long-term trends on employment and personal income from people employed in farming. In addition, this source also provides data on long-term trends in production expenses, different sources of crop and livestock income, and net profits, which are presented later in this report. The Census of Agriculture also provides employment information, but does so only every five years, most recently in 2002 and 2007. The Census of Agriculture is used elsewhere in this report because of its detailed information on the size and number of farms by type.

Bureau of Economic Analysis data on this and later pages describe only the employment and personal income from people working directly in agricultural operations, and do not include the subcategory Forestry, Fishing, Related Activities, and Other (BEA line code 100). We do not include BEA line code 100 because it mixes farm related categories (e.g., soil preparation) with non-farm related categories (e.g., hunting). It is not possible to disaggregate BEA line code 100.

Additional Resources

For an online listing of all NAICS codes, see: naics.com/search.htm (1).

For additional online manuals and definitions of industry codes, see: bls.gov/bls/NAICS.htm (2) and census.gov/eos/www/naics (3).

The Economic Research Service of the U.S. Department of Agriculture provides a number of easy-to-use references on farm businesses and employment, and by form of production: ers.usda.gov/Publications (4).

Data Sources

U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

What are the trends in farm income?

This page describes earnings (in real terms and by place of work) derived from farm employment, including farm proprietors, and farm earnings as a share of all labor earnings. It also shows long-term trends in farm proprietors' income as a share of all farm earnings and for farm versus non-farm earnings at the region level.

Labor Earnings from Farm Employment, 2013 (Thousands of 2014 \$s)

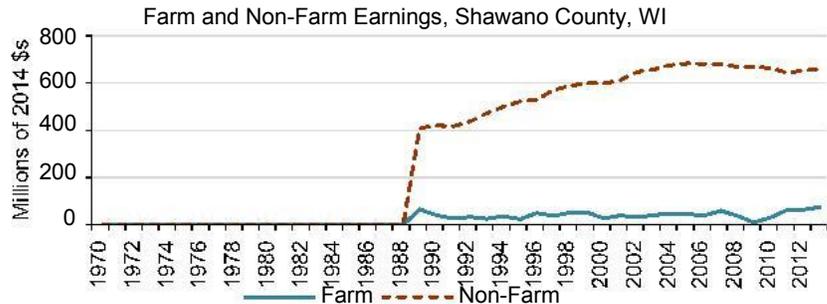
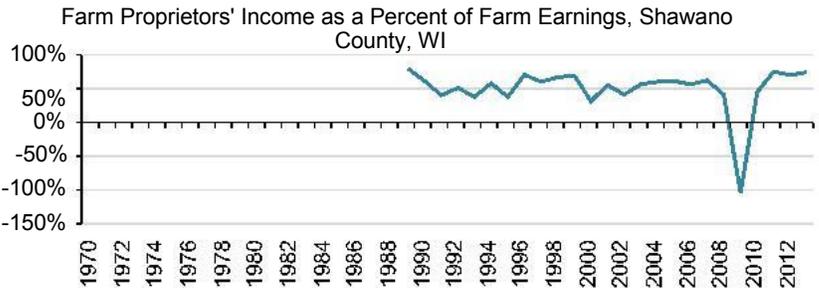
	Shawano County, WI	U.S.
Earnings by Place of Work (\$1000)	760,871	10,584,038,000
Farm Earnings	88,042	112,282,000
Farm Proprietors' Income	66,385	81,766,000
Non-Farm Earnings	672,829	10,471,756,000

Percent of Total

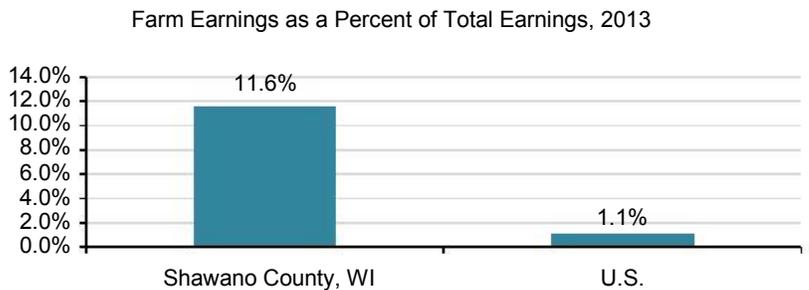
Farm Earnings	11.6%	1.1%
Farm Proprietors' Income	8.7%	0.8%
Non-Farm Earnings	88.4%	98.9%

All income data on this page are reported by place of work. Farm personal income shown here is different than business income shown on the next page.

- In 1970, farm proprietors' income represented 0 percent of all farm earnings. By 2013, farm proprietors' income represented 74.7 percent of all farm earnings.



- In 2013, Shawano County, WI had the largest percent of total earnings from farm earnings (11.57%), and U.S. had the smallest (1.06%).



Study Guide and Supplemental Information

What are the trends in farm income?

What do we measure on this page?

This page describes earnings (in real terms and by place of work) derived from farm employment, including farm proprietors, and farm earnings as a share of all labor earnings. It also shows long-term trends in farm proprietors' income as a share of all farm earnings and for farm versus non-farm earnings at the region level.

Farm: All forms of agricultural production, including livestock operations.

Earnings by Place of Work: This is the sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income (farm and non-farm). It does not include non-labor sources of income.

Farm Earnings: This is net income from sole proprietors, partners, and hired laborers arising directly from the production of agricultural commodities, either livestock or crops. It includes net farm proprietors' income, wages and salaries, pay-in-kind, and supplements to wages and salaries of hired farm laborers. It specifically excludes income from non-family farm corporations.

Farm Proprietors' Income: This is income that is received by sole proprietorships and partnerships in the operation of farms. It excludes income that is received by corporate farms.

Non-Farm Earnings: This is the sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income for all industries, excluding farms.

Why is it important?

The farm earnings trends shown on this page can be viewed alongside the employment trends on the previous page of this report. In some cases, farm earnings may decline, in absolute or relative terms, while farm employment stays the same or increases. In other cases, farm earnings may increase, in absolute or relative terms, while farm employment stays the same or declines. These same trends apply to farm proprietors and their income, and point to declining or improving farm wages. For more information on earnings, see the wages portion of this report.

Methods

The personal income information on this page does not include income received by corporate farms. The U.S. Department of Commerce provides farm "business" income data on corporations, in terms of production expenses, sources of income, and net profits. These data are presented in the next section of this report.

Additional Resources

The Economic Research Service of the U.S. Department of Agriculture provides a number of easy-to-use references on farm businesses and employment, and by form of production: ers.usda.gov/Publications (4).

For the Economic Research Service's outlook on livestock, dairy, and poultry production, see: ers.usda.gov/Publications/LDP (5).

For the Economic Research Service's outlook on crop production, see: ers.usda.gov/topics/farm-economy/commodity-outlook.aspx (6).

Data Sources

U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

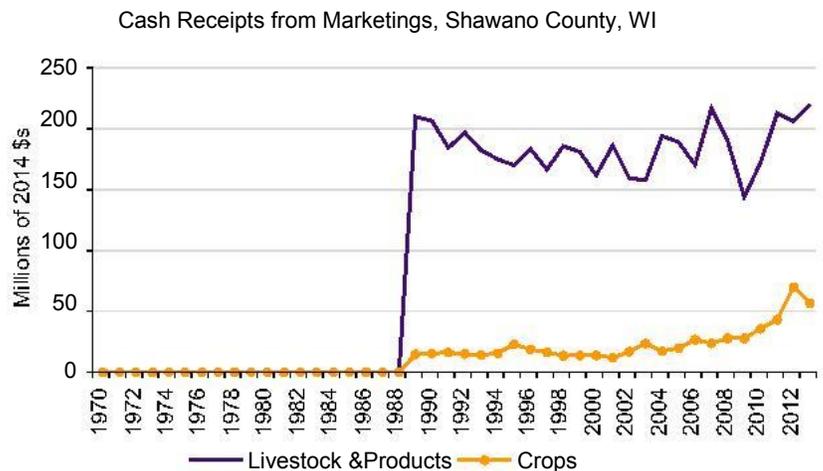
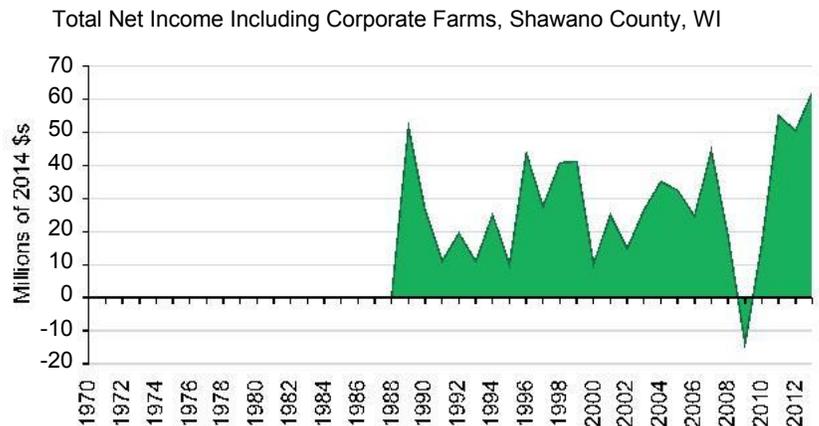
What are the trends in farm business income?

This page describes components of farm business income and expenses (in real terms), and shows a ratio of gross income to production expenses as a measure of profitability. It also shows trends (in real terms) in net farm business income and for crops and livestock cash receipts for the region.

Farm Business Income, 2013 (Thousands of 2014 \$s)

	Shawano County, WI	U.S.
Total Cash Receipts & Other Inc. (\$1000)	307,363	472,668,301
Cash Receipts from Marketing	294,019	428,463,476
Livestock & Products	263,518	233,586,810
Crops	30,501	194,876,666
Other Income	13,344	44,204,825
Government Payments	1,970	9,766,850
Imputed Rent & Misc. Income	11,374	34,437,975
Total Production Expenses	250,882	393,929,117
Realized Net Income (Receipts - Expenses)	56,481	78,739,184
Value of Inventory Change	15,380	14,198,547
Total Net Income Including Corp. Farms	71,861	92,937,731
Ratio: Total Cash Receipts & Other Income/Total Production Expenses	1.23	1.20

Farm business income shown here is different than farm personal income shown on the previous page.



Study Guide and Supplemental Information

What are the trends in farm business income?

What do we measure on this page?

This page describes components of farm business income and expenses (in real terms), and shows a ratio of gross income to production expenses as a measure of profitability. It also shows trends (in real terms) in net farm business income and for crops and livestock cash receipts for the region.

Farm: This refers to all forms of agricultural production, including livestock operations.

Total Cash Receipts & Other Income: This is a measure of the gross cash receipts of all farms. It consists of the following items: the cash receipts from farm marketing of crops and livestock; the cash receipts from other farm-related activities, including recreational services, sales of forest products, and custom-feeding services performed by farm operators; the payments to farmers under several Federal Government farm subsidy programs; the imputed value of home consumption, which is the value of the farm productions produced and consumed on farms; and the imputed gross rental value of farm dwellings.

Total Production Expenses: These are expenditures incurred by farm operators in the production of agricultural commodities, including livestock and crops. The major categories of production expenses are intermediate product expenses, which provide inputs to the production process (feed, livestock and poultry, seed, fertilizer, etc.), labor expenses (cash wages, employer contributions to social security, perquisites, and contract labor expenses), and other expenses (interest, net rent paid to non-operator landlords, capital consumption, property taxes, etc.).

Realized Net Income: This consists of total cash receipts and other income less total production expenses.

Value of Inventory Change: This is the estimated value of the net change in the farm inventories of livestock and crops that are held for sale during a given calendar year. This estimate is added to the estimate of realized net income so that the estimate of farm proprietors' income for a given year will include only the farm income from production during that year, or from "current" production. This estimate is added to Realized Net Income to calculate Total Net Income Including Corporate Farms.

Total Net Income Including Corporate Farms: This is the net income that is received by the sole proprietorships, partnerships, and corporations that operate farms. It is Realized Net Income plus the Value of Inventory Change.

Ratio (Total Cash Receipts & Other Income divided by Total Production Expenses): This is not an official Bureau of Economic Analysis calculation but is another measure of farm business profitability.

Why is it important?

This page helps answer important questions concerning the long-term health of the farm economy. In many places, farm business profits have been highly volatile, and rising expenses and/or declining cash receipts have narrowed profitability.

In the early 1970s there was a period of high profitability in the agricultural sector, followed by a period of rapid decline (partly due to an embargo that prevented farmers from selling grain to Russia, and to rising production costs in subsequent years despite stagnant prices). For many geographies, this represented a unique, one-time high point in net profits. As a result, in the figures on this page, it can appear that farm business profits have declined since the early 1970s. It may be helpful to examine agricultural business income and expense trends, including volatility, in more recent years to grasp a more common range of profitability.

Methods

The data on this page are from the U.S. Department of Commerce and provide detailed information on the sources of farm business income and expenses, as well as total net income. This dataset was used because of its high level of detail and because it provides long-term trends. The table on this page is an abbreviated version of REISTable CA45, which contains additional information that is available on specific expenditures, such as how much is spent on hired farm labor, feed, fertilizer, petroleum products purchased, etc. Farm business income shown on this page is not the same as farm personal income shown earlier in this report.

Additional Resources

Detailed tables on farm income and expenses are available from the U.S. Department of Commerce at: bea.gov/regional/reis/default.cfm?selTable=CA45 (7).

The Economic Research Service of the U.S. Department of Agriculture provides a number of easy-to-use references on farm businesses and employment, and by form of production: ers.usda.gov/Publications (4).

Data Sources

U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

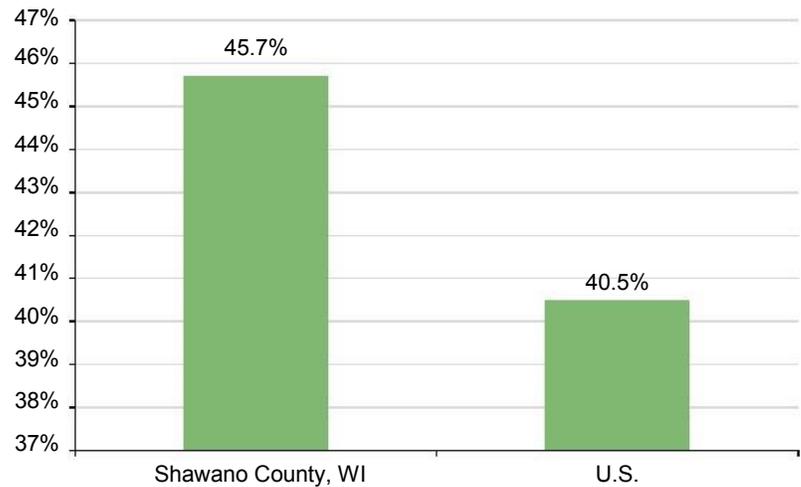
How much land is occupied by farms?

This page describes the number of farms, acres in farms, average farm size, total acres, and percent of total acres in farms.

Number of Farms and Land in Farms (Acres), 2012

	Shawano County, WI	U.S.
Number of Farms	1,278	2,109,303
Land in Farms (Acres)	261,141	914,527,657
Average Farm Size (Acres)	204	434
Approximate Land Area (Acres)	571,557	2,260,583,852
Approximate Percent of Land Area in Farms	45.7%	40.5%

Approximate Percent of Land Area in Farms, 2012



- In 2012, Shawano County, WI had the largest percent of land area in farms (45.7%), and the U.S. had the smallest (40.5%).

Study Guide and Supplemental Information

How much land is occupied by farms?

What do we measure on this page?

This page describes the number of farms, acres in farms, average farm size, total acres, and percent of total acres in farms.

Farm: This refers to all forms of agricultural production, including livestock operations. These data exclude leased public land from total land in farms.

Why is it important?

Even when agriculture is a small component of the economy, the industry can represent a large portion of the land base. Farms and ranches on private lands can also have important implications for the management of public lands. For example, agricultural operations often rely on public lands for summer grazing pasture and irrigation water.

Many areas are experiencing the conversion of private agricultural lands to other uses, including residential development. This shrinks the farm and ranch land base, and can change the relationship between agricultural operations and public lands. The conversion of farm and ranch land is important to public land managers for a number of reasons: (1) the growth of the wildland-urban interface and the cost of protecting homes from wildfires; (2) the spread of weeds onto public lands; (3) the loss of access to public lands for recreation; (4) the loss of wildlife habitat and wildlife movement corridors that cross private-public land boundaries; and (5) the potential for conflict among user groups.

In places where agriculture increasingly operates alongside a larger, non-agricultural economy and greater range of adjacent land uses, farms and ranches continue to be important. They contribute to local economic diversity, the scenery they provide can be part of the mix of amenities that attract and retain people and businesses across a range of industries, and they are often an important part of local culture and community vitality.

Methods

Information on this page comes from the U.S. Department of Agriculture's Census of Agriculture. The Census of Agriculture is conducted every five years, the last two in 2002 and 2007. The advantage of the Census of Agriculture is that it provides a high level of detail that makes it possible to see what role farms play in the local economy and landscape, and to compare differences between geographies. The disadvantages of this data source is that, like all forms of census, the accuracy of the data depends on the survey methods used and the quality of the responses given to the survey. Also, with this data source it is not possible to display continuous long-terms trends.

Additional Resources

The Census of Agriculture can be viewed online: agcensus.usda.gov (8).

A useful portion of the Census of Agriculture web site allows for searches by state and county: agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/ (9).

Several sources are available to help explain trends in land use:

The Economic Research Service of the U.S. Department of Agriculture provides a web site on Urban Development, Land Use, and Agriculture: ers.usda.gov/publications/aer-agricultural-economic-report/aer803.aspx (10).

To browse Economic Research Service publications by topic, see: ers.usda.gov/topics.aspx (11).

A useful Economic Research Service publication is "Major Uses of Land in the United States, 1945-2002": ers.usda.gov/data-products/major-land-uses.aspx (12).

To see how land is being converted to residential development, consult the EPS Land Use report.

Data Sources

U.S. Department of Agriculture. 2014. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C.

What are the major types of farms by land area?

This page describes how much farm land (in acres) is used for different production purposes.

Land in Farms According to Use (Acres), 2012

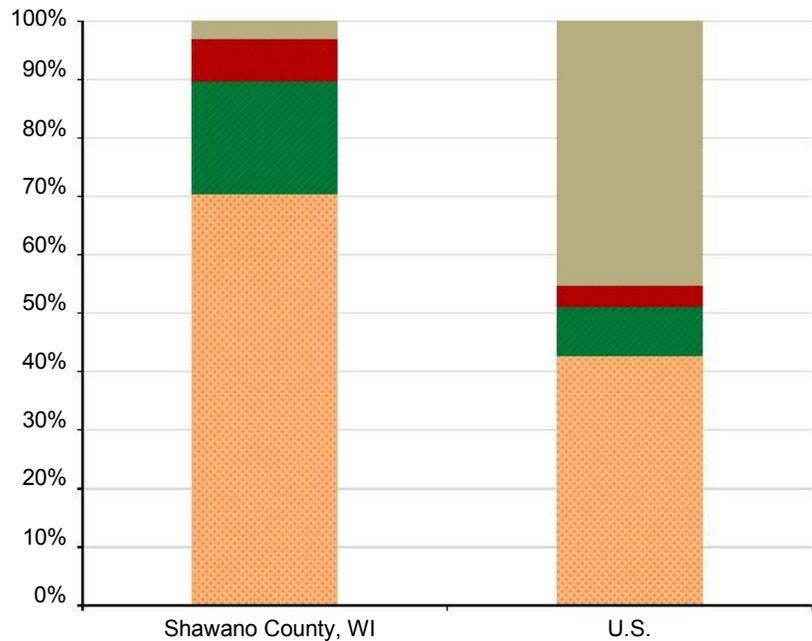
	Shawano County, WI	U.S.
Land in Farms	261,141	914,527,657
Cropland	183,461	389,690,414
Woodland	50,297	77,012,907
Land in Farmsteads & Buildings	19,195	32,515,057
Permanent Pasture & Rangeland	8,188	415,309,280

Percent of Total

Cropland	70.3%	42.6%
Woodland	19.3%	8.4%
Land in Farmsteads & Buildings	7.4%	3.6%
Permanent Pasture & Rangeland	3.1%	45.4%

- In 2012, Shawano County, WI had the largest percent of land area in cropland (70.3%), and the U.S. had the smallest (42.6%).
- In 2012, Shawano County, WI had the largest percent of land area in woodland (19.3%), and the U.S. had the smallest (8.4%).
- In 2012, Shawano County, WI had the largest percent of land area in farmsteads and buildings (7.4%), and the U.S. had the smallest (3.6%).
- In 2012, the U.S. had the largest percent of land area in permanent pasture and rangeland (45.4%), and Shawano County, WI had the smallest (3.1%).

Land Area in Farms by Use, 2012



■ Cropland ■ Woodland
■ Land in Farmsteads & Buildings ■ Permanent Pasture & Rangeland

Study Guide and Supplemental Information

What are the major types of farms by land area?

What do we measure on this page?

This page describes how much farm land (in acres) is used for different production purposes.

Farm: This refers to all forms of agricultural production, including livestock operations. These data exclude leased public land from total land in farms.

There are four main categories of farm land use: cropland, woodland, farmsteads and buildings, and permanent pastureland.

Cropland: This includes harvested cropland, cropland used only for pasture and grazing, and "other cropland" (i.e. idled cropland or cropland used for cover crops or soil improvement).

Woodland: This includes natural or planted woodlots or timber tracts, for wood products and woodland pasture.

Farmsteads and Buildings: This includes livestock facilities, ponds, roads (private access roads and driveways but not public roads), and wasteland (e.g., ditches).

Permanent Pastureland and Rangeland: This includes permanent pasture and rangeland, other than cropland and woodland, and encompasses grazable land that does not qualify as woodland pasture or cropland pasture.

Why is it important?

Even when agriculture is a small component of the economy, the industry can represent a large portion of the land base. Farms and ranches on private lands can also have important implications for the management of public lands.

Not all agricultural land is used in the same manner. How farm and ranch lands are used can have important economic, environmental, and policy implications. For example, cropland may require water from surrounding public lands; woodland can provide important habitat and store water; and pasturelands may be associated with public lands grazing and can provide open vistas that are important for attracting tourists and new migrants. Some lands may be less valuable (e.g., pastureland) and therefore more vulnerable to conversion for urban and suburban uses than other lands (e.g., cropland).

In places where agriculture increasingly operates alongside a larger, non-agricultural economy and greater range of adjacent land uses, farms and ranches continue to be important. They contribute to local economic diversity, the scenery they provide can be part of the mix of amenities that attract and retain people and businesses across a range of industries, and they are often an important part of local culture and community vitality.

Additional Resources

The Census of Agriculture can be viewed online: agcensus.usda.gov (8).

A useful portion of the Census of Agriculture web site allows for searches by state and county: agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/ (9).

Several sources are available to help explain trends in land use:

The Economic Research Service of the U.S. Department of Agriculture provides a web site on Urban Development, Land Use, and Agriculture: ers.usda.gov/publications/aer-agricultural-economic-report/aer803.aspx (10).

To browse Economic Research Service publications by topic, see: ers.usda.gov/topics.aspx (11).

A useful Economic Research Service publication is "Major Uses of Land in the United States, 1945-2002": ers.usda.gov/data-products/major-land-uses.aspx (12).

To see how land is being converted to residential development, consult the EPS Land Use report.

Data Sources

U.S. Department of Agriculture. 2014. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C.

What are the major types of farms by production?

This page describes the number and percent of all farms according to what they produce.

Number of Farms by Type, 2012

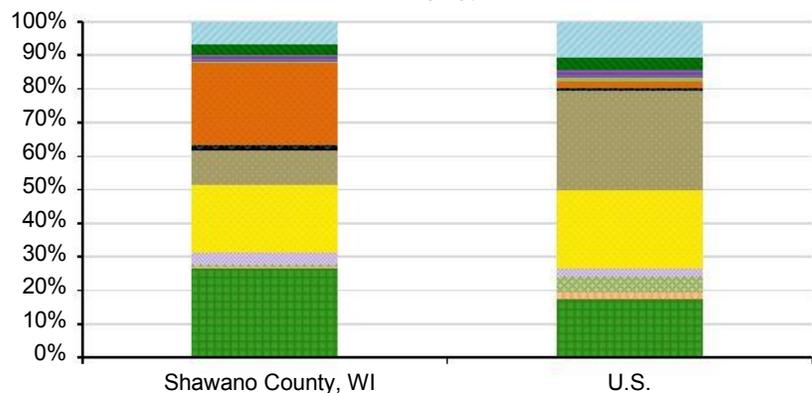
	Shawano County, WI	U.S.
All Farms	1,278	2,109,303
Oilseed & Grain Farming	340	369,332
Vegetable & Melon Farming	6	43,021
Fruit & Nut Tree Farming	9	93,020
Greenhouse, Nursery, etc.	45	52,777
Other Crop Farming	259	496,837
Beef Cattle Ranch. & Farm.	128	619,172
Cattle Feedlots	21	13,734
Dairy Cattle & Milk Prod.	315	46,005
Hog & Pig Farming	3	21,687
Poultry & Egg Production	26	52,849
Sheep & Goat Farming	42	73,272
Animal Aquaculture & Other Animal Prod.	84	227,597

Percent of Total

Oilseed & Grain Farming	26.6%	17.5%
Vegetable & Melon Farming	0.5%	2.0%
Fruit & Nut Tree Farming	0.7%	4.4%
Greenhouse, Nursery, etc.	3.5%	2.5%
Other Crop Farming	20.3%	23.6%
Beef Cattle Ranch. & Farm.	10.0%	29.4%
Cattle Feedlots	1.6%	0.7%
Dairy Cattle & Milk Prod.	24.6%	2.2%
Hog & Pig Farming	0.2%	1.0%
Poultry & Egg Production	2.0%	2.5%
Sheep & Goat Farming	3.3%	3.5%
Aquaculture & Other Prod.	6.6%	10.8%

- In 2012, Shawano County, WI had the largest percent of oilseed and grain farming (26.6%), and the U.S. had the smallest (17.5%).
- In 2012, the U.S. had the largest percent of beef cattle ranching and farming (29.4%), and Shawano County, WI had the smallest (10%).

Percent of Farms by Type, 2012



What are the major types of farms by production?

What do we measure on this page?

This page describes the number and percent of all farms according to what they produce.

Farm: This refers to all forms of agricultural production, including livestock operations. These data exclude leased public land from total land in farms.

Beef Cattle Ranching & Farming: This category (NAICS code 112111) comprises establishments primarily engaged in raising cattle (including cattle for dairy herd replacements).

Other Animal Production: This category (NAICS code 1129) comprises establishments primarily engaged in raising animals and insects (except cattle, hogs and pigs, poultry, sheep and goats, and aquaculture) for sale or product production. These establishments are primarily engaged in one of the following: bees, horses and other equine, rabbits and other fur-bearing animals, etc., and producing products such as honey and other bee products. Establishments primarily engaged in raising a combination of animals with no one animal or family of animals accounting for one-half of the establishment's agricultural production are included in this industry group.

Why is it important?

Some forms of agricultural production are more closely associated with the use of public lands (e.g., cattle and sheep ranches that rely on public lands forage) or can be affected by activities on public lands (e.g., crop production using irrigation water that originates on higher elevation public lands). In areas where livestock production is significant, public lands grazing resources may be especially important to the agricultural economics of an operation or class of operations.

Methods

The Census of Agriculture data on farms by type are only reported by the number of farms. They are not reported by employment, income, or acreage.

Additional Resources

A description of the form used in the Census of Agriculture, and definitions of terms, is available at: agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_1_US/usappxb.pdf (13).

No published federal database exists that accurately describes how dependent ranchers are on public lands grazing and what the trends have been in grazing over time. Because public lands grazing is an activity that requires a permit, both the Bureau of Land Management and Forest Service keep records of grazing activity. Additional information on these sectors may be available by contacting local offices. (The Census of Agriculture maintained data on the number of permittees on public lands until 2002, but these data were generally unreliable.)

The Forest Service hosts an online "Rangelands" resource, available at: fs.fed.us/rangelands (14).

One way to understand long-term trends in public lands grazing is to track grazing-related payments that are returned to county governments. To see these trends at the county level, run the EPS County Payments report.

Data Sources

U.S. Department of Agriculture. 2014. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C.

How do farm wages compare to wages in other sectors?

This page describes wages (in real terms) from farm employment, including sub-sectors, compared to wages from non-farm employment combined. It also describes the percent of jobs in each category. These are shown together to illustrate the relative wage levels in farming, including sub-sectors, and how many people are employed in each sub-sector.

Average Annual Wages, 2014 (2014 \$s)

	Shawano County, WI	U.S.
Total Private & Public	\$30,170	\$51,361
Total Private	\$29,985	\$51,295
Farm	\$26,676	\$30,674
Crop Production	\$16,584	\$29,221
Animal Production	\$27,457	\$33,968
Non-Farm	\$28,466	\$51,439

This table shows wage data from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on previous pages of this report.

Percent of Total Employment, 2014

	Shawano County, WI	U.S.
Total Private	78.0%	84.6%
Farm	3.1%	0.6%
Crop Production	0.2%	0.4%
Animal Production	2.9%	0.2%
Non-Farm	57.0%	84.0%

This table shows employment data from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on previous pages of this report.

Study Guide and Supplemental Information

How do farm wages compare to wages in other sectors?

What do we measure on this page?

This page describes wages (in real terms) from farm employment, including sub-sectors, compared to wages from non-farm employment combined. It also describes the percent of jobs in each category. These are shown together to illustrate the relative wage levels in farming, including sub-sectors, and how many people are employed in each sub-sector.

The primary purpose of this page is to compare the average annual wages between sectors, and to investigate the relative number of people employed in high and low-wage sectors.

Farm: This refers to all forms of agricultural production, including livestock operations.

Why is it important?

Farm employment often pays below average wage rates, but this can vary by farm sub-sector and by geography. Some important issues to consider are how farm industry wages compare to wages in other sectors, whether crop and animal production pay different wages, and if there are significant wage differences between geographies.

Methods

The wage and employment data on this page are from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on the initial pages of this report.

What we show as Farm in the tables on this page is the sum of the following NAICS codes: crop production (111) and animal production (112). It does not include NAICS code 115 (support activities for agriculture and forestry) because this category mixes farm and non-farm services.

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

Some data are withheld by the federal government to avoid the disclosure of potentially confidential information. Occasionally, one or more data values underlying the data aggregations shown on this page are non-disclosed. When this occurs, the values are indicated with tildes (~).

Additional Resources

For an overview of how the Bureau of Labor Statistics treats employment, see: bls.gov/bls/employment.htm (15).

For an overview of how the Bureau of Labor Statistics treats pay and benefits, see: bls.gov/bls/wages.htm (16).

Employment and wage estimates are also available from the Bureau of Labor Statistics for over 800 occupations. Looking at farming by occupation, rather than by sector or industry, is helpful since wages can vary dramatically across occupations. For more information on the most recent employment and wage estimates for Agriculture, Forestry, Fishing and Hunting (NAICS 11) by occupation, see: bls.gov/oes (17).

The Census of Agriculture web site provides county-level farm data for counties, available at: agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/ (9).

For more information on employment and wages in non-farm industries, run the EPS Socioeconomic Measures report.

Data Sources

U.S. Department of Labor. 2015. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.

How do farm jobs and wages compare?

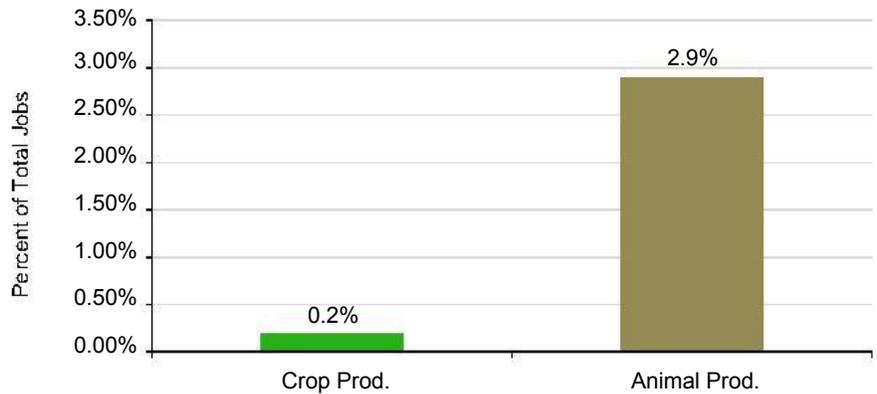
This page describes average wages (in real terms) and employment levels in crop and animal production. It also shows average wage trends (in real terms) for these farm sectors.

Avg. Annual Wages & Percent of Total Employment in Crop & Animal Production, Shawano County, WI, 2014

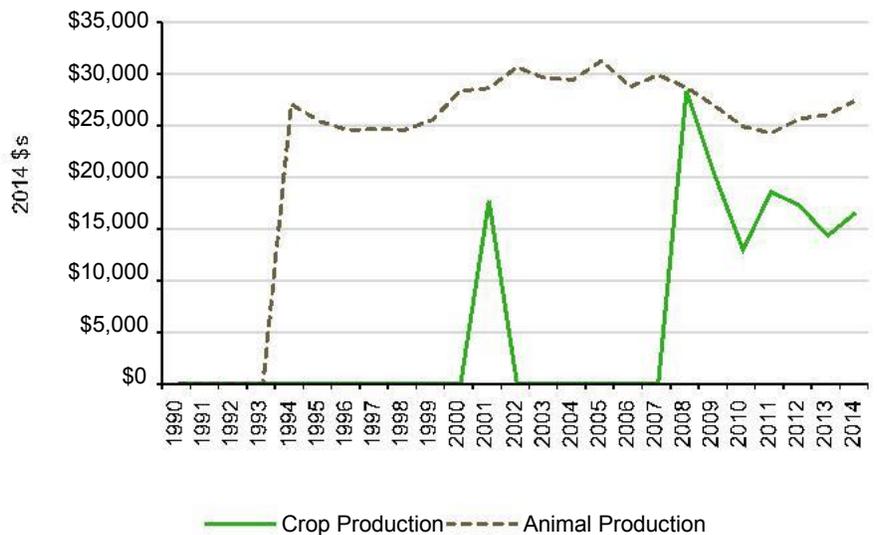
- In 2014, average annual wages in crop production were \$16,584 and average annual wages in animal production were \$27,457.



- In 2014, crop production jobs were 0.2 percent of total employment and animal production jobs were 2.9 percent of total employment.



Avg. Annual Wages in Crop & Animal Production, Shawano County, WI



Data Sources: U.S. Department of Labor. 2015. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.

Study Guide and Supplemental Information

How do farm jobs and wages compare?

What do we measure on this page?

This page describes average wages (in real terms) and employment levels in crop and animal production. It also shows average wage trends (in real terms) for these farm sectors.

The figure Avg. Annual Wages and Percent of Total Employment in Crop and Animal Production is useful for describing how many people are working in relatively high and low-wage farm sectors. The figure Avg. Annual Wages in Crop and Animal Production is useful for comparing wage trends by farm sector.

Farm: This refers to all forms of agricultural production, including livestock operations.

Why is it important?

Not all components of the farm industry pay the same wages or employ the same number of people. Some important issues to consider are how farm industry wages compare to wages in other sectors, whether crop and animal production pay different wages, and if there are significant wage differences between geographies.

A significant increase in farm jobs that pay below the average for all industries will decrease overall average earnings per job. On the other hand, a significant increase in farm jobs that pay above the average for all industries will increase overall average earnings per job. A modest change in farm employment, especially when this industry is a small share of total employment, will not likely affect average earnings in a local area.

Methods

The wage and employment data on this page are from the Bureau of Labor Statistics, which does not report data for proprietors or the value of benefits and uses slightly different industry categories than those shown on the initial pages of this report.

The components of farm on this page (NAICS 111 crop production and NAICS 112 animal production) do not include agricultural services (NAICS 115 support activities for agriculture and forestry) because this category mixes farm and non-farm services.

The figure Avg. Annual Wages in Crop and Animal Production starts in 1990 because this is the first year these wage data are available from the Bureau of Labor Statistics.

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

Additional Resources

For an overview of how the Bureau of Labor Statistics treats employment, see: bls.gov/bls/employment.htm (15).

For an overview of how the Bureau of Labor Statistics treats pay and benefits, see: bls.gov/bls/wages.htm (16).

If there are significant undisclosed data on this page, options for ascertaining wages data for farm sectors include:

The Bureau of Labor Statistics' Quarterly Census of Employment and Wages data for industries at the state level is available at: data.bls.gov/pdq/VersionInfo.jsp?version=0.0.0 (18).

The Bureau of Labor Statistics' Occupational Outlook Handbook, 2010-2011 Edition, which has detailed industry earnings and wages data at the national level, is available at bls.gov/oco (19).

The Bureau of the Census' County Business Patterns database, which reports industry-level employment and payroll and can be used to estimate earnings, is available at census.gov/econ/cbp/index.html (20).

Data Sources

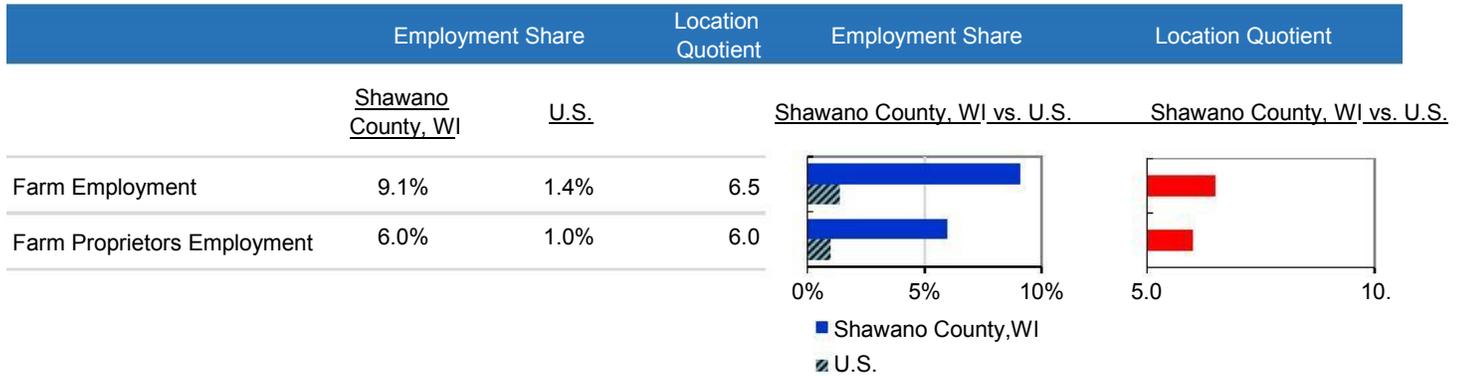
U.S. Department of Labor. 2015. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.

How does regional farm employment compare to the U.S.?

This page describes whether the region is specialized in farm employment. The figure illustrates the difference between the region and the U.S. by comparing farm jobs, including proprietors, as a share of total employment and with location quotients.

Location quotient: A ratio that compares an industry's share of total employment in a region to the national share. More precisely, it is the percent of local employment in a sector divided by the percent of employment in the same sector in the U.S. In other words, it is a ratio that measures specialization, using the U.S. as a benchmark. A location quotient of more than 1.0 means the local area is more specialized in that sector relative to the U.S. A location quotient of less than 1.0 means it is less specialized.

Percent of Total Farm Jobs, Shawano County, WI vs. U.S., 2013



- In 2013, farm employment had the highest location quotient score (6.5) and farm proprietors employment had the lowest (6).

Study Guide and Supplemental Information

How does regional farm employment compare to the U.S.?

What do we measure on this page?

This page describes whether the region is specialized in farm employment. The figure illustrates the difference between the region and the U.S. by comparing farm jobs, including proprietors, as a share of total employment and with location quotients.

Location quotient: A ratio that compares an industry's share of total employment in a region to the national share. More precisely, it is the percent of local employment in a sector divided by the percent employment in the same sector in the U.S. In other words, it is a ratio that measures specialization, using the U.S. as a benchmark. A location quotient of more than 1.0 means the local area is more specialized in that sector relative to the U.S. A location quotient of less than 1.0 means it is less specialized.

Farm: This refers to all forms of agricultural production, including livestock operations.

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?

Agricultural employment in most parts of the U.S. has been declining, largely as a result of mechanization and other efficiencies of scale, for most of the last century. Nevertheless, it is still an important source of jobs in many places. This page shows a measure of importance (employment share) relative to the U.S.

A useful way to think about location quotients is as a measure of whether a place or geography produces enough goods or services from an industry to satisfy local demand for those goods or services. Results above or below the 1.0 standard indicate the degree to which a place or geography may import or export a good or service. Although there is no precise cutoff, location quotients above 2.0 indicate a strong industry concentration (and that an area is likely exporting goods or services) and those less than .5 indicate a weak industry concentration (and that an area is likely importing goods or services).

A few caveats: (1) A large location quotient for a sector does not necessarily mean that sector is a significant contributor to the economy. (2) LQs greater than 1.0 suggest potential export capacity when compared to the U.S., but do not take into account local demand. Local demand may be greater than a national average, and therefore all goods and services may be consumed locally (i.e., not exported). (3) LQs can change from year to year. (4) LQs can vary when income or wage data are used rather than employment.

Methods

$LQ = (ei/e) \text{ divided by } (Ei/E)$

Where: ei = Local employment in industry i ; e = Total local employment; Ei = U.S. employment in industry i ; E = Total U.S. employment.

Additional Resources

For a review of literature on economic diversity, see Sterling, Andrew. 1998. "On the Economics and Analysis of Diversity." Electronic Working Papers Series, University of Sussex, available at: sussex.ac.uk/Units/spru/publications/imprint/sewps/sewp28/sewp28.pdf (21); and Malizia, E. E. and K. Shanzai. 2006. "The Influence of Economic Diversity on Unemployment and Stability." *Journal of Regional Science*. 33(2): 221-235.

A useful book on the evolving competitive environment for commodity industries in rural areas is: Gaston, William A., and Karen J. Baehler. 1995. *Rural Development in the United States: Connecting Theory, Practice, and Possibilities*. Washington: Island Press.

A succinct definition of a location quotient is offered by Florida State University's Department of Urban and Regional Planning: mailer.fsu.edu/~tchapin/garnet-tchapin/urp5261/topics/econbase/lq.htm (22).

For an example of location quotients used in a regional economic study, see: [wwjobcenter.org/2009%20SOW%20Report\(FINAL\).pdf](http://wwjobcenter.org/2009%20SOW%20Report(FINAL).pdf) (23).

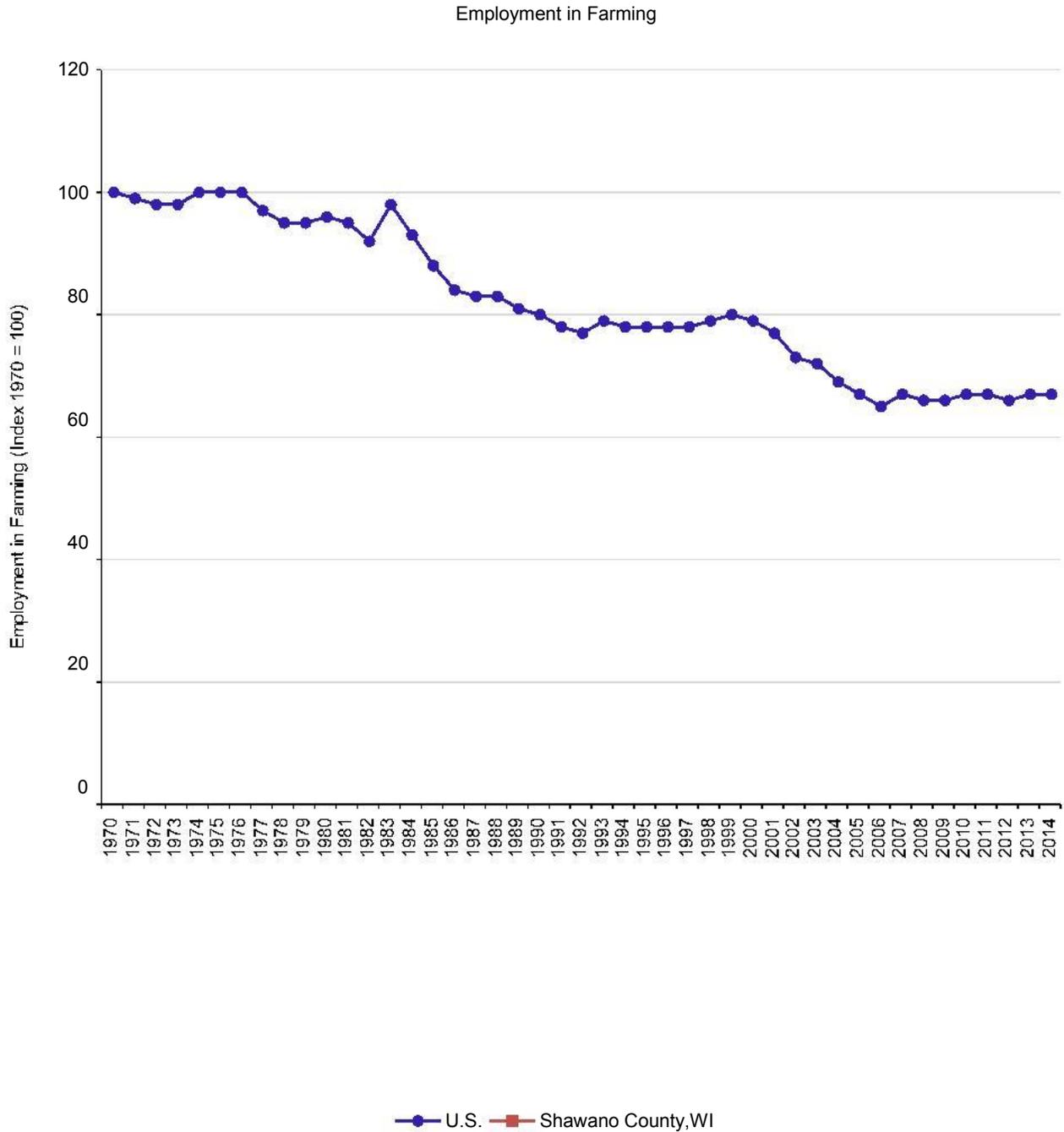
The Economic Research Service of the U.S. Department of Agriculture provides a number of easy-to-use references on farm businesses and employment, and by form of production: ers.usda.gov/Publications (4).

Data Sources

U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

How does farm employment change compare across geographies?

This page compares the change in farm employment for the geographies selected and the U.S. The information is indexed (1970=100) so that data from geographies with different-size economies can be compared and to make it easier to understand the relative rate of growth or decline of services employment over time.



Data Sources: U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

How does farm employment change compare across geographies?

What do we measure on this page?

This page compares the change in farm employment for the geographies selected and the U.S. The information is indexed (1970=100) so that data from geographies with different size economies can be compared and to make it easier to understand the relative rate of growth or decline of services employment over time.

Index: Indexed numbers are compared with a base value. In the line chart, employment in 1970 is the base value, and is set to 100. The employment values for subsequent years are expressed as 100 times the ratio to the base value. The indexing used in the line chart enables easier comparisons between geographies over time.

Farm: This refers to all forms of agricultural production, including livestock operations.

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

Note: If many geographies are selected, it may be difficult to read the figure on this page.

Why is it important?

Agricultural employment in most parts of the U.S. has been declining, largely as a result of mechanization and other efficiencies of scale, for most of the last century. However, this is not the case everywhere. In addition, not all geographies have lost or attracted farm employment at the same rate. An index makes it clear where the rate of farm decline or growth has been the fastest. Lines below 100 indicate absolute decline while those above 100 show absolute growth. The steeper the curve, the faster the rate of change.

It may be helpful to look for large year-to-year rises or dips in figure lines to identify rapid employment changes. If the reasons behind these fluctuations are not evident, it may be helpful to talk with regional experts or locals to learn more about what caused abrupt changes.

Additional Resources

The Economic Research Service of the U.S. Department of Agriculture provides a number of easy-to-use references on farm businesses and employment, and by form of production: ers.usda.gov/Publications (4).

For the Economic Research Service's outlook on livestock, dairy, and poultry production, see: ers.usda.gov/Publications/LDP (5).

For the Economic Research Service's outlook on crop production, see: ers.usda.gov/topics/farm-economy/commodity-outlook.aspx (6).

The Bureau of Labor Statistics provides an overview and outlook of the farm industry (as part of agriculture, forestry, and fishing). See: bls.gov/oco/cg/cgs001.htm (24).

A useful book on the evolving competitive environment for commodity industries in rural areas is: Gaston, William A., and Karen J. Baehler. 1995. *Rural Development in the United States: Connecting Theory, Practice, and Possibilities*. Washington: Island Press.

Data Sources

U.S. Department of Commerce. 2014. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Data Sources

The EPS Measures report uses published statistics from government sources that are available to the public and cover the entire country. All data used in EPS can be readily verified by going to the original source. The contact information for databases used in this profile is:

- Regional Economic Information System
Bureau of Economic Analysis, U.S. Department of Commerce
<http://bea.gov/bea/regional/data.htm>
Tel. 202-606-9600
- Quarterly Census of Employment and Wages
Bureau of Labor Statistics, U.S. Department of Labor
<http://www.bls.gov/cew>
Tel. 202-691-6567
- Census of Agriculture
Nat. Agricultural Statistics Service, U.S. Dept. Agriculture
<http://www.agcensus.usda.gov>
Tel. 800-727-9540

Methods

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 geographies 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 geographies, such as multi-county regions, to accommodate a flexible range of user-defined areas of interest and to allow for more sophisticated cross-sectional comparisons.

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 in italics in tables. Documentation explaining methods developed by Headwaters Economics for estimating disclosure gaps is available at headwaterseconomics.org/eps.

Links to Additional Resources

For more information about EPS see:

headwaterseconomics.org/EPS

Web pages listed under Additional Resources include:

Throughout this report, references to on-line resources are indicated with italicized numbers in parentheses. These resources are provided as hyperlinks here.

- 1 www.naics.com/search.htm
- 2 www.bls.gov/bls/NAICS.htm
- 3 www.census.gov/eos/www/naics
- 4 www.ers.usda.gov/Publications
- 5 www.ers.usda.gov/Publications/LDP
- 6 www.ers.usda.gov/topics/farm-economy/commodity-outlook.aspx
- 7 www.bea.gov/regional/reis/default.cfm?selTable=CA45
- 8 www.agcensus.usda.gov
- 9 www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1_Chapter_2_County_Level/
- 10 www.ers.usda.gov/publications/aer-agricultural-economic-report/aer803.aspx
- 11 www.ers.usda.gov/topics.aspx
- 12 www.ers.usda.gov/data-products/major-land-uses.aspx
- 13 www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1_Chapter_1_US/usappxb.pdf
- 14 www.fs.fed.us/rangelands
- 15 www.bls.gov/bls/employment.htm
- 16 www.bls.gov/bls/wages.htm
- 17 www.bls.gov/oes
- 18 <http://data.bls.gov/pdq/VersionInfo.jsp?version=0.0.0>
- 19 www.bls.gov/oco
- 20 www.census.gov/econ/cbp/index.html
- 21 www.sussex.ac.uk/Units/spru/publications/imprint/sewps/sewp28/sewp28.pdf
- 22 www.mailer.fsu.edu/~tchapin/garnet-tchapin/urp5261/topics/econbase/lq.htm
- 23 [www.wvjobcenter.org/2009%20SOW%20Report\(FINAL\).pdf](http://www.wvjobcenter.org/2009%20SOW%20Report(FINAL).pdf)
- 24 www.bls.gov/oco/cg/cgs001.htm