West-Wide Economic Atlas

Methods and Data Sources, July 2019

*This document provides methods, data sources, and discussion about the West-Wide Economic Atlas, found at: **https://headwaterseconomics.org/dataviz/west-wide-atlas/***

Economy View

MAP – JOBS, PERCENT CHANGE 2008-2017

Methods:

This map includes all full and part-time workers, wage and salary jobs (employees), and proprietors (the self-employed) reported by place of work.

Why Is This Important?

Steady employment growth is generally an indication of a healthy, prosperous economy. No-growth or long-term decline in jobs is 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).

Data Source:

U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Table CA30. Further information concerning this section of the interactive on understanding local economies can be found at the Economic Profile System (EPS), free, easy-to-use software developed by Headwaters Economics in cooperation with the U.S. Forest Service and the Bureau of Land Management: http://headwaterseconomics.org/tools/economic-profile-system/about.

CHART 1 – PERSONAL INCOME BY SOURCE, 1970-2017

Methods:

This chart describes historical change in personal income (in real terms). Labor earnings (wage and salary) are reported by place of work and are organized according to three major categories: non-services related, services related, and government. Services consists of industries such as retail trade, finance, insurance, and real estate. Non-Services consists of industries such as farming, mining, and manufacturing. Government consists of federal, military, state and local government, and government enterprise. Non-Labor income consists of dividends, interest, and rent (money earned from investments), and transfer payments, which 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.

The personal income data are organized according to the Standard Industrial Classification (SIC) system from 1970 to 2000, and according to the newer North American Industrial Classification System (NAICS) from 2001 to present. Trends in data prior to and after 2001 may be influenced by 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. [Note: job numbers for some sectors may not be visible due to data disclosure restrictions.]

Why Is This Important?

Historical trend data for personal income are useful for understanding how the economy has evolved. They are also useful to see how the economy performed in the past (growth vs. decline, response to recessions, etc.), and whether the relationship between sectors has changed. If there has been a shift from non-services related industries to services related industries over time, this could signal a change in the competitive position of the local or regional economy. Most new jobs created in the U.S. economy in the last thirty 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 to legal, health, business, and educational services. Income from Government employment (e.g., the Forest Service and Bureau of Land Management) may also be an important component of the economy, particularly in many small rural communities.

In many geographies, non-labor income is the largest source of personal income and also the fastest growing. This is particularly the case in some rural areas and small cities. An aging population, stock market and investment growth, and a highly mobile population are some of the reasons behind the rapid growth in non-labor income. The growth in non-labor income can be an indication that a place is an attractive place to live and retire. The in-migration of people who bring investment and retirement income with them 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.

Data Source:

U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C. Table CA05 and CA05N.

CHART 2 – JOBS BY INDUSTRY, 2017

Methods:
This chart describes the percent of employment in various industries. Industries are colored according to three major categories (non-services related, services related, and government), which are described above in detail.

Why Is This Important?
This chart shows a detailed view of the share of jobs contributed by specific industries. Recent employment data (2001 to present) offers great detail, particularly with regard to services related industries. This is especially useful since in most geographies the majority of new job growth in recent years has taken place in services related industries, which encompass a wide variety of high and low-wage occupations ranging from jobs in accommodation and food services to professional and technical services. Mouse-over the chart to display industry-specific data.

Data Source:
Note that data sometimes are withheld by the federal government to avoid the disclosure of potentially confidential information. Categories where values are not available are indicated on charts with an asterisk.

U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

CHART 3 – NEW JOBS BY INDUSTRY, 2008-2017

Methods:
This chart describes recent employment change by industry from 2008 through 2017. Industries are colored according to three major categories (non-services related, services related, and government), which are described above in detail.

Why Is This Important?
This chart can be used to investigate which industries are most competitive or are declining in recent years. Recent employment data (2005 to present) offers great detail, particularly with regard to services related industries. This is especially useful since in most geographies the majority of new job growth in recent years has taken place in services related industries, which encompass a wide variety of high and low-wage occupations ranging from jobs in accommodation and food services to professional and technical services. Mouse-over the chart to explore the number of jobs gained or lost in the last decade within specific industries.

Data Source:
Note that data sometimes are withheld by the federal government to avoid the disclosure of potentially confidential information. Categories where values are not available are indicated on charts with an asterisk.

U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

Land Use View

MAP – RESIDENTIAL AREA, PERCENT CHANGE 2001-2010

Methods:

This map shows the rate of growth in land area used for residential development. Areas with mean lot sizes smaller than 40 acres were considered residential. Lot sizes greater than 40 acres are more typical of working agricultural landscapes and were not considered residential. The data were derived from the Decennial Census.

Why Is This Important?

In the past decade, despite the downturn in the housing market, the conversion of open space and agricultural land to residential development has continued to occur at a rapid pace in many counties. The popularity of exurban lot sizes has exacerbated this trend (low density development results in a larger area of land converted to residential development). This pattern of development reflects a number of factors, including demographic trends, the increasingly "footloose" nature of economic activity, the availability and price of land, and preferences for homes on larger lots.

Land conversion to residential development can have many implications for conservation and land management. For example, human-wildlife conflicts and wildfire threats may become more serious issues where development occurs adjacent to public lands. In addition, there may be new demands for recreation opportunities and concern about the commodity use of the landscape. Geographies with a large percent change in the area of residential development often have experienced significant in-migration from more urbanized areas. Counties with a small percent change either experienced little growth or were already highly urbanized in 2000.

Data Source:

Theobald, DM. 2013. Land use classes for ICLUS/SERGoM v2013. Unpublished report, Colorado State University. For more socioeconomic information or to create a land-use profile for any county in the country, see the Economic Profile System (EPS), free, easy-to-use software developed by Headwaters Economics in cooperation with the U.S. Forest Service and the Bureau of Land Management: http://headwaterseconomics.org/tools/economic-profile-system/about.

CHART 1 – POPULATION, 1970-2017

Methods:
This chart shows the change in population over time.

Why Is This Important?
Growth can benefit the local population, especially by providing economic opportunities, but it can also stress communities and natural resources. The size of a population and economy (metropolitan, micropolitan, and rural) can have an important bearing on the types of activities present as well as opportunities and challenges for an area.

Data Source:
U.S. Department of Commerce. 2018. Bureau of Economic Analysis, Regional Economic Accounts, Washington, D.C.

CHART 2 – LAND OWNERSHIP, 2019

Methods:
This chart describes the share of land area that is private and that is managed by various public agencies. The data presented in this chart were calculated using Geographic Information System (GIS) tools.

Why Is This Important?
Local communities are affected by the presence of public lands and their management, particularly if public lands represent a large portion of the land base. Agency management actions that affect water quality, access to recreation, scenery (as well as other quality of life amenities), and the extent and type of resource extraction are particularly important in areas where much of the land is managed by public agencies. Some types of federal public lands, such as National Parks and Wilderness, have been shown to be associated with above average economic growth.

With a mix of land ownership, often across landscapes that share basic similarities, there is the potential for a mix of management priorities and actions. Federal and state land managers, private land owners, and others are constrained in different ways by laws and regulations that dictate how different lands can be managed. This can lead to adjacency challenges and opportunities. In addition, where a large portion of land is owned and managed by federal agencies, local governments may rely heavily on PILT ("Payments in Lieu of Taxes") and revenue sharing payments (e.g., Forest Service Secure Rural Schools and Community Self-Determination Act or BLM Taylor Grazing Act payments).

Data Source:
U.S. Geological Survey, Gap Analysis Program. 2018. Protected Areas Database of the United States (PADUS) version 2.0.

CHART 3 – DEVELOPED VS. UNDEVELOPED WILDLAND-URBAN INTERFACE, 2010

Methods:

This chart shows the portion of the wildland-urban interface (WUI) that has been developed and how much remains to be developed. The information in this chart is based on a study conducted by Headwaters Economics (see Data Sources) on the 11 contiguous western states.

The "wildland-urban interface (WUI)" is defined as private forestlands that are within 500 meters of public forestlands. We focus on adjacency to public forests since roughly 70 percent of western forests are publicly-owned and since wildfire is a natural disturbance in these forests, creating a potential risk to adjacent private lands.

"Developed WUI" is the area of private forest lands within 500 meters of public forestlands where residential development is present.

"Undeveloped WUI" is the area of private forest lands within 500 meters of public forestlands without homes. These lands have the potential to be developed.

Why Is This Important?

Wildfire directly impacts safety, private and public costs, and landscape health. Today, the rising expense of wildland firefighting that takes place both on public and private lands costs the federal taxpayer more than $3 billion per year. A principal reason for the escalating cost of wildland firefighting is the growing number of homes built in the WUI. Many studies have delineated the rising costs of forest and other wildland fires, and all point to the expanding pattern of residential development adjacent to public lands as a significant contributing factor. If residential development trends in the WUI continue, the costs of fire suppression will continue to grow and the goals of public forest management will increasingly focus on wildfire risk.

Fire plays an important part in most wildland ecosystems. However, many years of fire suppression, much of it undertaken to protect private property, has resulted in fuel buildup, which in turn increases the probability of a large, expensive fire. Warmer temperatures, less snowpack, and drier forests also result in longer and more intense fire seasons across the West. Other factors, such as bug infestations, can exacerbate fire intensities.

By hovering over the chart you can investigate whether the selected county has significant acreage in the WUI, and to what extent this acreage is currently developed.

Data Source:

Gude, P.H., Rasker, R., and van den Noort, J. 2008. Potential for Future Development on Fire-Prone Lands. Journal of Forestry 106(4):198-205; TIGER/Line 2010 Census Blocks from http://www.census.gov/geo/maps-data/data/tiger-line.html; U.S. Department of Commerce. 2011. Census Bureau, Census 2010, Washington, D.C. Summary File 1. See also, http://headwaterseconomics.org/interactive/wui-development-and-wildfire-costs.

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