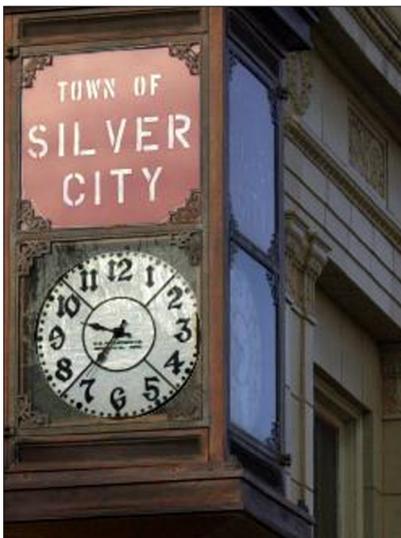




HEADWATERS  
ECONOMICS

# The Economy of the Gila Region



Report by Headwaters Economics  
July, 2008 | Bozeman, MT  
[www.headwaterseconomics.org](http://www.headwaterseconomics.org)



---

## EXECUTIVE SUMMARY

The Gila region, with over half of the land in public ownership, is a good example of the challenges and opportunities that face many rural, isolated regions of the West. The emergence of a mobile, service-oriented economy has placed a high economic value on the recreational and environmental amenities public lands provide. However, not all communities benefit equally from these amenities because they lack transportation infrastructure and are therefore isolated from major population centers.

Headwaters Economics chose this region as a case study because of our interest in the economy and environment of the rural West. During our involvement in several community-level economic development trainings in the region, we met citizens seeking to understand their economy better in order to find options for promoting local well-being. We therefore set out to discover what choices are available for economic development in the Gila region. Because of our interest in the role of public lands, and because they cover most of the land base in the region, we conducted this study with an eye towards understanding the changing nature of the economic role of Forest Service and Bureau of Land Management lands.

Several stories emerge from our research. The regional economy is growing, but erratically and unevenly, corresponding to the ups and downs of the mining industry and national recessions. In spite of recent losses in population, employment, personal income and per capita income are up and unemployment is down. Mining is a significant driver of the economy, yet the fastest growth, making up almost half of total personal income, is from non-labor income sources such as retirement and investments. This growth corresponds to an aging population, as well as the discovery of some of the Gila region's communities as attractive places to live, work and retire.

Another story involves the differences between counties. Greenlee County, Arizona and Grant County, New Mexico have historically depended heavily on copper mining. While Greenlee County continues to depend on mining, and on one employer in particular, Grant County has diversified, becoming, among other things, a retirement destination. It has the most diverse service economy and actively promotes itself as the gateway to public lands, including the Gila and Also Leopold wilderness areas. Catron County's economy is the smallest of the four, and its geographic isolation has limited the directions it can pursue for economic development. The largest employer is government, and the highest paying jobs are in the land management agencies. Agriculture, which is culturally important and a large part of the landscape, provides few jobs and little revenue (less than one percent of total personal income). Sierra County orients along the north-south I-25 corridor and has been able to attract tourists and retirees. It is facing opportunities to raise wages recently, including a facility for launching private spacecraft.

Past research has shown that the natural and recreational amenities provided by public lands can, and do, attract and retain people and business. An idea for the Gila region, one that has worked elsewhere in places like the Greater Yellowstone region, is to develop a regional identity – a brand of sorts. This could serve as a way to promote the larger region and coordinate efforts between counties. A Gila region brand could be part of an economic development strategy that capitalizes on the quality of life provided by the region's public lands.

---

# THE ECONOMY OF THE GILA REGION

BY Ray Rasker, Mark Haggerty, Julia Haggerty and Jeff van den Noort

Headwaters Economics, Bozeman, Montana

July, 2008

PUBLISHED ONLINE:

[www.headwaterseconomics.org/gila](http://www.headwaterseconomics.org/gila)

## ABOUT HEADWATERS ECONOMICS

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



HEADWATERS  
ECONOMICS

P.O Box 7059  
810 N. Wallace Ste. D  
Bozeman, MT 59715  
406-570-7044

[www.headwaterseconomics.org](http://www.headwaterseconomics.org)

**Cover photo credits:** All photos courtesy of creative commons on flickr.com. “Gila National Forest” by Malintzin; “City Hall” by Buggs; “Simple banner of freedom” by Ronterrazas; “upright prairie coneflower” by gwarcita.

---

## TABLE OF CONTENTS

	Page
Introduction	1
The Changing West and the Role of Public Lands	2
The Gila Region	8
Economic Measurement and Data Sources	13
Summary Findings: The Regional Economy	16
Summary Findings: County Economies	19
Summary Findings: Key County Indicators	23
Remoteness	29
Conclusion	30
“Branding” a Regional Identity	35
Endnotes	37
Appendix A: The Regional Economy	A-1
Appendix B: County Economies	B-1
Appendix C: A Closer Look at Key County Indicators	C-1

---

## INTRODUCTION

### Purpose

The purpose of this report is to understand whether rural, isolated communities can benefit from being gateways to large expanses of public lands. The Gila region, with 63 percent of the land in public ownership, is selected as a case study.

To view similar studies by Headwaters Economics on other rural parts of the West (e.g., central Oregon, Northeast Washington, Southeast Alaska) please visit [www.headwaterseconomics.org](http://www.headwaterseconomics.org).

### Natural Amenities, Connectedness and the Role of Public Lands in the Rural West

This study builds on earlier research on the economic contribution of public lands to the economy of the West (published in the journal *Society and Natural Resources*).<sup>1</sup> In our previous research, we looked at a wide array of public land types, ranging from those devoted primarily to commodity production to lands set aside for conservation. We also looked at a diversity of county types, ranging from metropolitan, to rural areas connected to cities by commercial airports and interstate highways, to places that are both rural and isolated with large travel time to markets.

We found a positive relationship between the amount of public lands in a county and various measures of prosperity (growth in wages, personal income, jobs, etc.). We also found that the strongest positive correlation between prosperity and federal conservation lands (Wilderness, National Parks, National Monuments, etc.) exists in rural isolated communities. In spite of this, many isolated rural communities are in decline. In this study, we hope to learn more about why this is, and to highlight economic opportunities for communities that are “gateways” to large expanses of public lands.

### A Quest for Solutions in the Gila Region

In April of 2004, the authors of this report were hired by the Bureau of Land Management (BLM) to conduct two “Know Your Economy” workshops in the towns of Reserve in Catron County and Socorro in Socorro County as part of the revision process for the Socorro Resource Management Plan. We conducted a similar workshop for the BLM in Truth or Consequences, in Sierra County, in April of 2005. In these workshops a diverse group of workshop participants reviewed a detailed socioeconomic profile of their county. The resulting conversation revealed a real thirst for solutions. At a similar workshop in 2001 in Silver City hosted by the BLM and Forest Service we encountered community leaders, business people and land managers engaged in thoughtful discussions about the future of the local economy.

These experiences piqued our interest in the region. We use the term Gila region to describe the greater landscape of public lands on the Gila and Apache-Sitgreaves national forests and the

---

public and private lands that surround them in Grant, Catron and Sierra counties, New Mexico and Greenlee County, Arizona. This rural and isolated region features a rich complex of public and private lands. The surrounding communities are starkly different, and some are struggling economically. We want to know why. It is our hope that our report can help the community leaders we've met in the region and others who are looking for solutions appropriate and sensitive to local goals and conditions.

## THE CHANGING WEST AND THE ROLE OF PUBLIC LANDS

The economy of the West has grown and diversified significantly over the last few decades, with the bulk of the new growth in jobs and personal income coming from sources other than the agriculture and resource extractive industries that have traditionally supported the West. From 1970 to 2000, for example, more than half of the net growth in personal income (in real terms) has been from service and professional sectors (high-wage occupations such as finance, engineering, and business services but also low-wage occupations in retail trade and tourism). Another third of the net growth in income came from non-labor sources: this includes transfer payments and dividends, interest and rent.<sup>2</sup> Another name for non-labor income is “retirement income and money earned from investments.” This report will show that non-labor income is a large part of the economy of the Gila region as well.

This change is not just an urban phenomenon. In the non-metropolitan West, more than half of the net growth in personal income growth from 1970 to 2000 was from non-labor sources, with another 30 percent from service-related occupations.<sup>3</sup>

This trend, in which the majority of economic growth comes from services and non-labor sources, continues into the 2000s. In 2005 (the latest published data), the bulk of personal income in the West is from non-labor sources (27%), service-related occupations (45%), and government (12%). Together these represent 84 percent of the economy, with the remainder made up of manufacturing (including lumber and wood products), construction, agriculture (farming and ranching), and forestry, fishing and related activities. Even in the midst of today's boom in energy production in the rural West, mining, including oil and gas development, constitutes one percent of all personal income.<sup>4</sup> Only a few counties depend on mining to a greater extent. Two of them, Grant County, New Mexico and Greenlee County, Arizona, are in the Gila region.

There are many reasons why the economy of the West has changed. Some of it has to do with the changing global economy, which we'll talk about first because it sets the stage for further discussions. And some of the change has to do with the shifting economic role of public lands.

Along with the rest of the developed world, the U.S. economy has made several important shifts. The first was from an agrarian economy to one dependent largely on manufacturing. The next shift was from manufacturing to services. Much of this last shift happened in the late 1980s and 1990s. By the early 2000s, another shift started to take place, from services to what some economists call the “knowledge-based” economy. Whether that is the right label is open to discussion. What is clear, however, is that more and more of the value of a finished product or service is attributable to the types of occupations that require thought, and the exchange of ideas and

---

information. They include engineers, architects, designers, financiers and marketers. In Bureau of the Census and the U.S. Department of Commerce data, these jobs are allocated to the “services” category.

One of the consequences of a shift in emphasis and value to a service and knowledge-based economy is that the process of goods production has changed. While in the past goods were made locally, today the assembly line is scattered throughout the globe. This means that the final stages of production, in which factory workers are employed to solder and bolt items together, may be in one end of the world, while the “knowledge-based” activities – the design, finance, marketing and management – can be located elsewhere. For the West, this has meant an emerging competitive advantage in attracting these “footloose” occupations. The West has a high quality of life, with vast stretches of wild country, many of them protected as National Parks and wilderness areas. The West also has developed modern telecommunications systems, fast highways, and a multitude of small and large airports. These developments – the changing nature of goods production and modern forms of communication and travel – have allowed the West to move from an agrarian and resource dependent economy to one that is service and knowledge-based.<sup>5</sup>

## **The Economic Role of Protected Landscapes**

### ***Quality of Life as an Attractant for People and Business***

There is a growing evidence that public lands have economic value beyond the opportunity to use resources, whether for recreation or resource extraction.<sup>6</sup> The population of the U.S., as well as many of its industries, is increasingly mobile.<sup>7</sup> Entrepreneurs often decide where to live and locate their businesses based on quality of life decisions. Retirees do the same. The sorts of amenities people seek when deciding where to live include the pace of life, the friendliness of the community, recreation opportunities and the natural surroundings.<sup>8</sup>

A relatively new phenomenon that began in the late 1980s and early 1990s, called “amenity migration” by geographers and social scientists, is significantly changing the face of the West. Because of the importance of amenities, the economic role of public lands is less as a contributor of resources to mine and harvest, and more as a setting that attracts people and business.

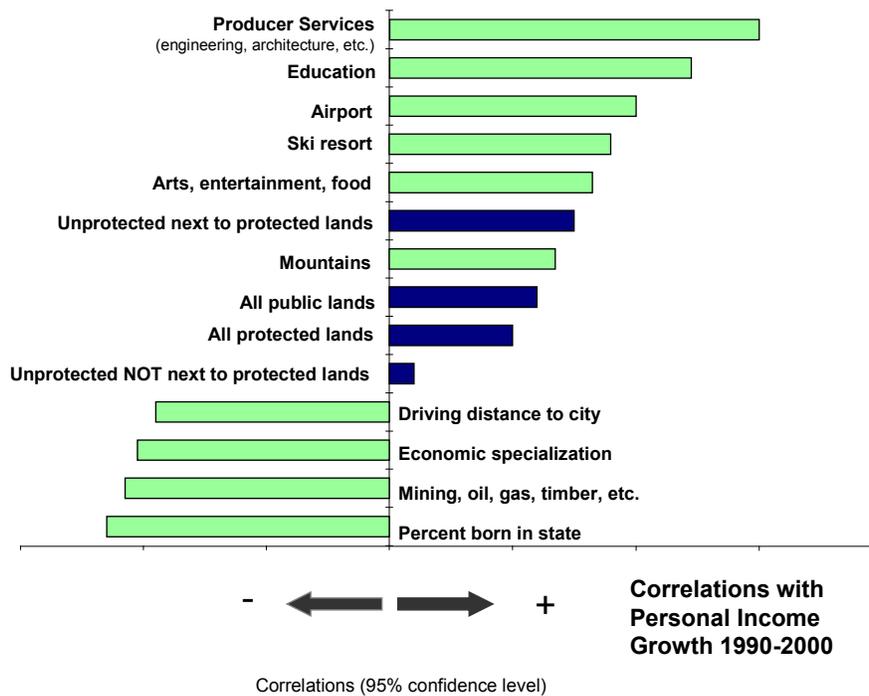
This new reality does not imply that amenities alone will drive today’s economy. Recent research has uncovered that while there is a strong positive relationship between economic growth and the degree of protection on public lands (wilderness, national parks, national monuments, etc.), for growth to occur it is also important to have access to markets via commercial airports or highways, to have an educated workforce and a diverse economy that welcomes new migrants.<sup>9</sup>

One detailed study of the relationship between Wilderness and other forms of protected public lands and economic development was conducted by the authors of this report. The study, entitled *Public Lands Conservation and Economic Well-Being* found that counties in the West with wilderness, national parks, national monuments and other protected public lands, set aside for their wildland characteristics, can and do play an important role in stimulating economic growth

– and the more protected the lands, the stronger their positive impact on growth.

Figure 1 shows the factors that are most positively, or negatively, correlated with real growth in total personal income, for all counties in the West. Public lands of all types (indicated by dark blue bars) correlate positively with growth in personal income. Protected public lands such as wilderness and national parks are a factor that counties with above-average income growth tend to have in common. An even stronger correlation is noted for unprotected public lands close to protected lands. This is likely because these areas are often used for commercial development such as ski resorts and other forms of large-scale tourism.

**Figure 1. Correlations Between Real Growth in Total Personal Income, 1970 to 2000, and Factors Influencing Economic Growth**



Sources: Rasker, R. 2006. "An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands." *Society and Natural Resources*. 19(3): 191-207. Rasker et al. 2005. Public Lands Conservation and Economic Well-Being. Sonoran Institute. "Protected" public lands are defined as those with some form of protection that excludes resource development. It includes Wilderness, National Parks, National Monuments and Wildlife Refuges.

---

Variables negatively correlated with growth in personal income are: driving distance to large cities, the degree of economic specialization, dependence on agriculture, mining, wood products and other “transformative” industries, and the relative lack of newcomers in the community (measured using the Census variable “percent born in state”).

A word of caution is warranted with regards to correlations. A positive correlation by itself does not imply a cause and effect relationship. Rather, correlation analysis serves as an indication for which variables an analyst may want to include in more rigorous statistical tests, such as regression analysis. This was done by the lead author of this report and published in the journal *Society and Natural Resources* (Volume 19, Issue 3, pages 191-207). The results, however, are the same: economic growth is closely related to the presence of protected public lands, yet the presence of protected lands in a county is not a sufficient condition for economic growth.

## The Challenge of Geographic Isolation

The West can be classified according to access to major population centers and markets. There are three general categories, based on population, distance from metropolitan areas, and transportation networks.

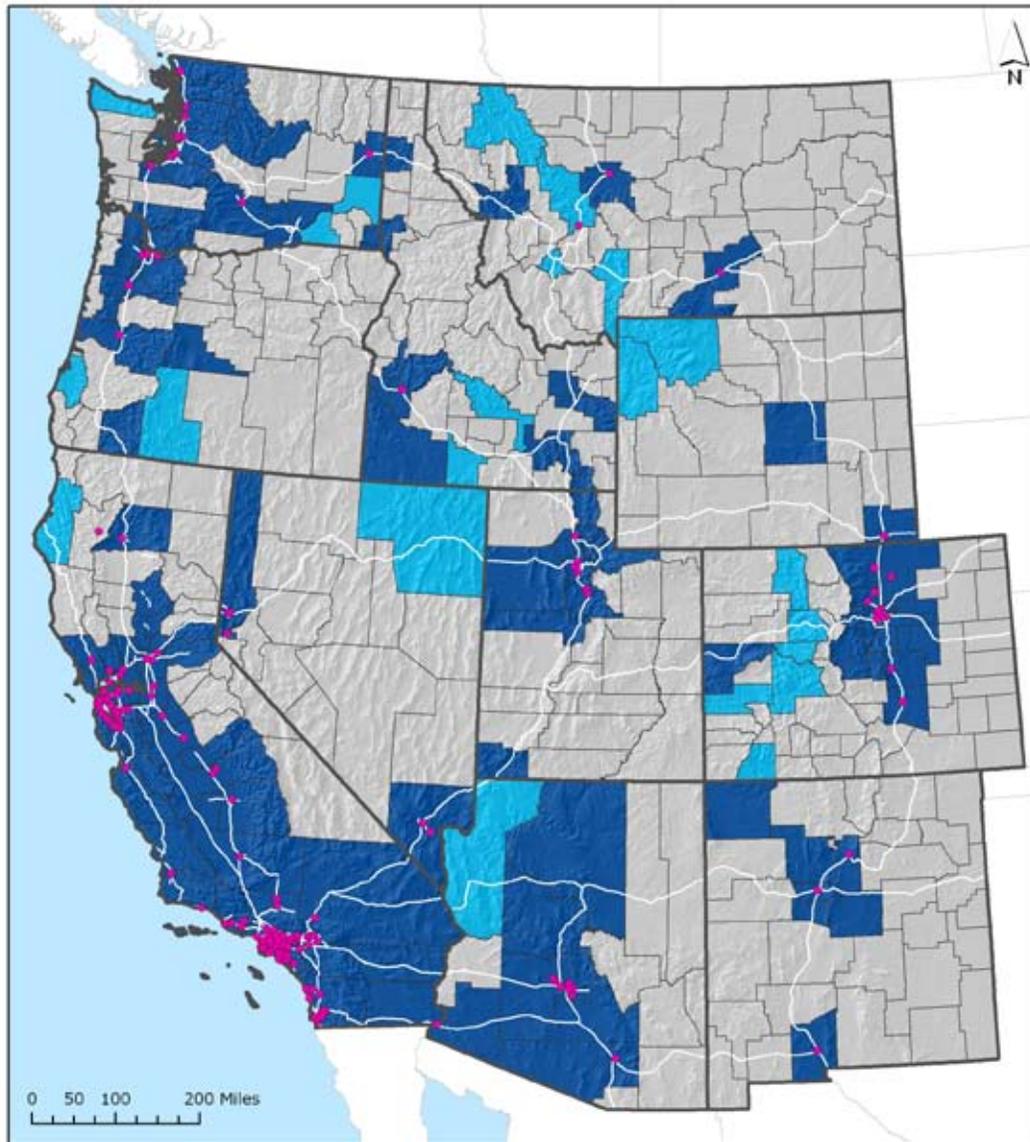
The three categories are:

1. Metropolitan or within a metropolitan commuter shed: Counties with an urban population greater than 50,000 (a size commonly used by the Bureau of the Census for defining a metropolitan area) or within an hour’s drive of such an area (also referred to as “metropolitan statistical areas”). For example, Denver, Seattle.
2. Rural with an airport or within an airport commuter shed: Counties with a population of less than 50,000, but having an airport with daily commercial flights and enplanements (passengers boarding) greater than 25,000 passengers per year,<sup>10</sup> or within an hour’s drive of such an airport (referred to as “rural with major commercial airport”). For example, Bozeman, Montana; Durango, Colorado.
3. Rural without an airport and not within an airport commuter shed: Counties with a population of less than 50,000, but more than an hour’s drive from metropolitan areas and without easy access to regularly scheduled commercial air service (referred to as “rural isolated”). For example, Reserve, New Mexico; Miles City, Montana.

The three Wests are shown in the map on the following page. The Gila region consists of the third type – rural and isolated (in gray). Because of its geographic location and lack of ready access to markets, its economic performance is likely to be less than that of metropolitan counties (dark blue) or rural counties that have access to metropolitan areas via large airports with daily commercial service (light blue).

As Figure 2 (p. 7) shows, isolated rural counties in the West have, on average, slower rates of growth in population, employment and real income.

**Map 1. Access to Large Population Centers**



**Access to Large Population Centers**

- Metropolitan Statistical Areas
- Rural with Major Commercial Airport
- Rural Isolated
- Major Cities
- Major Roads

Data Sources: Headwaters Economics, US Census, US Geological Survey, NationalAtlas.gov  
USA Contiguous Albers Equal Area Conic Projection  
Map Date: 2-7-2007

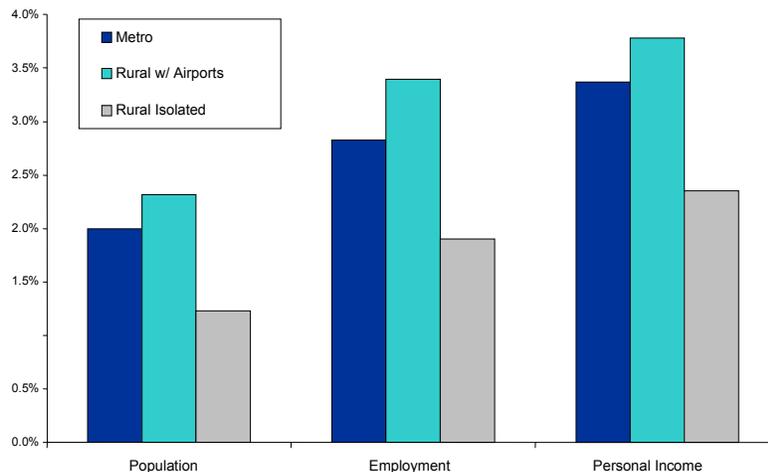


---

Previous studies have shown that from 1970 to 2000, real per capita income for isolated rural counties with a high proportion of the county in the form of protected public lands (Wilderness, National Park, etc.) grew more than 60 percent faster than isolated rural counties without any protected lands.<sup>11</sup> The study found that among the three types of counties, the correlation between economic growth and land set aside for conservation is the highest for the rural isolated counties. In other words, the potential is there for residents in rural areas to consider public lands amenities as an asset worth promoting. In spite of this relationship, the same study found that rural isolate places – even those surrounded by protected lands – grew least, and had the lowest wages. This means more is needed – an educated workforce, for example – and that despite the presence of environmental assets, the biggest challenge for these counties is the lack of ready access to markets.

---

**Figure 2. Annual Percent Growth in the Three Wests: 1970-2002**



As this report shows, the biggest economic challenge to the Gila region is its remoteness. In spite of the amenities provided by national forest lands and the designated wilderness areas, the ability to attract and retain a diversity of businesses is limited by the lack of ready access to major population centers.

## THE GILA REGION

We defined the Gila region as Grant, Sierra and Catron counties, New Mexico and Greenlee County, Arizona. Similar to much of the West, the Gila is rural and isolated (the gray are in Map 1), located in a rural area between Albuquerque, Phoenix, Tucson and El Paso (Map 2).

### Land Ownership

Like most places in the Interior West, the Gila region features a large amount of public land. Collectively, public ownership – including federal and state – comprises 64 percent of the land in the four counties, leaving 36 percent of the area in private ownership. Greenlee County has the highest proportion of public lands (92%), followed by Catron County (65%), Sierra County (63%), and Grant County (51%). The private land composition in the area reflects the historic use of Spanish land grants as a vehicle of land disposition, with large swaths of private land dominant, rather than the 160- and 320-acre parcels characteristic of areas settled through U.S. homesteading acts.

The Gila National Forest includes more wilderness than any other national forest in the Southwest. The Gila, Aldo Leopold and Blue Range wilderness areas make up a core of 669,320 protected acres surrounded by the Gila and Apache national forest (3.4 million acres of US Forest Service land in total), 1.9 million acres of BLM lands and 307 thousand acres of state land.

Catron County	Acres	Percent of County
Forest Service	1,828,798	41.15%
Private	1,559,927	35.10%
Bureau of Land Management	595,448	13.40%
Forest Service Wilderness	356,105	8.01%
State	103,948	2.34%
National Park Service	299	0.01%
Bureau of Land Management Wilderness	84	<0.01%
<b>Total</b>	<b>4,444,608</b>	

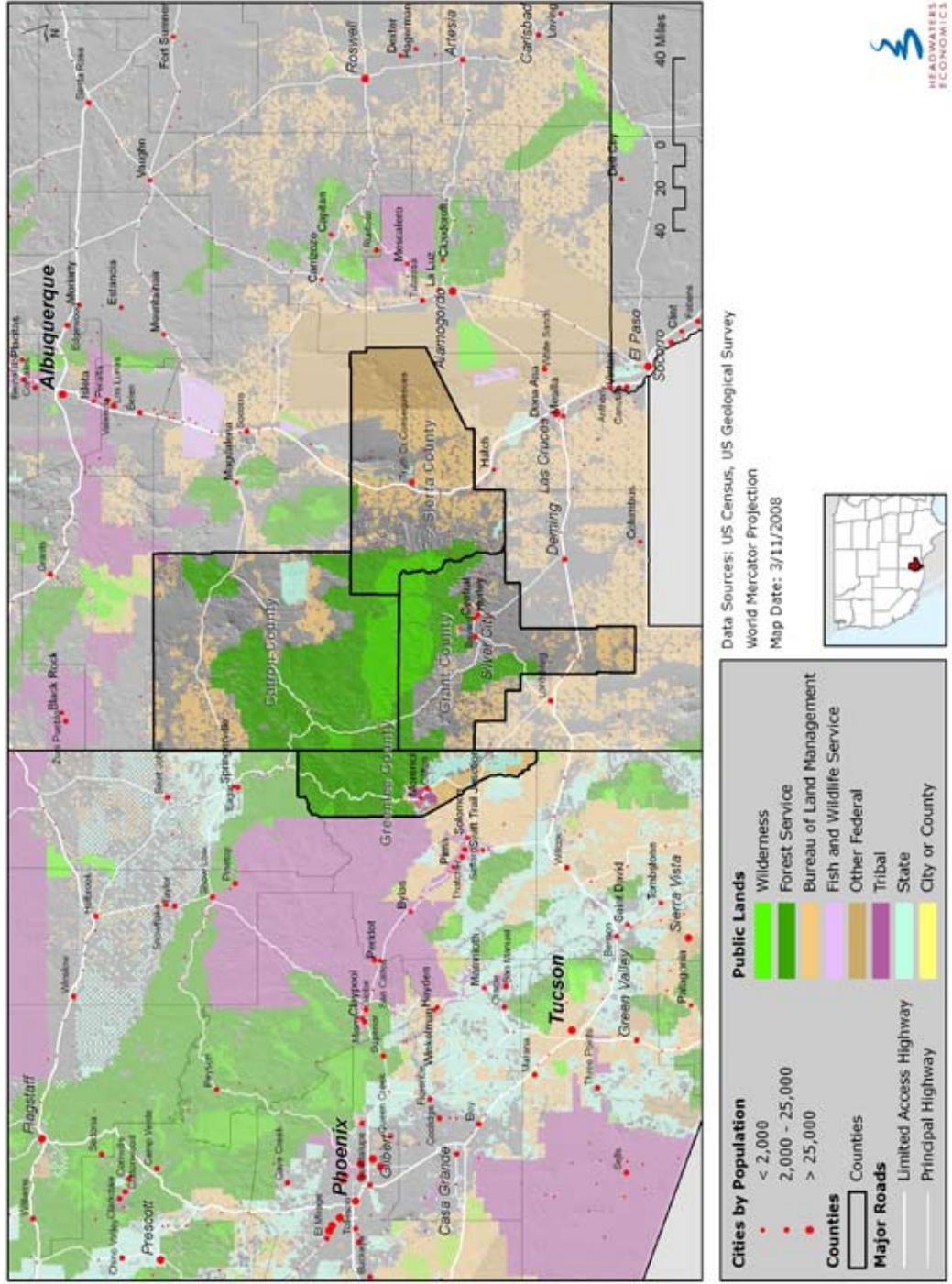
Greenlee County	Acres	Percent of County
Forest Service	732,697	62.17%
State	173,797	14.75%
Bureau of Land Management	163,739	13.89%
Private	96,237	8.17%
Forest Service Wilderness	11,126	0.94%
Bureau of Land Management Wilderness	932	0.08%
<b>Total</b>	<b>1,178,528</b>	

Grant County	Acres	Percent of County
Private	1,255,393	49.26%
Forest Service	617,962	24.25%
Bureau of Land Management	361,530	14.19%
Forest Service Wilderness	311,624	12.23%
Military	1,683	0.07%
State	115	<0.01%
<b>Total</b>	<b>2,548,307</b>	

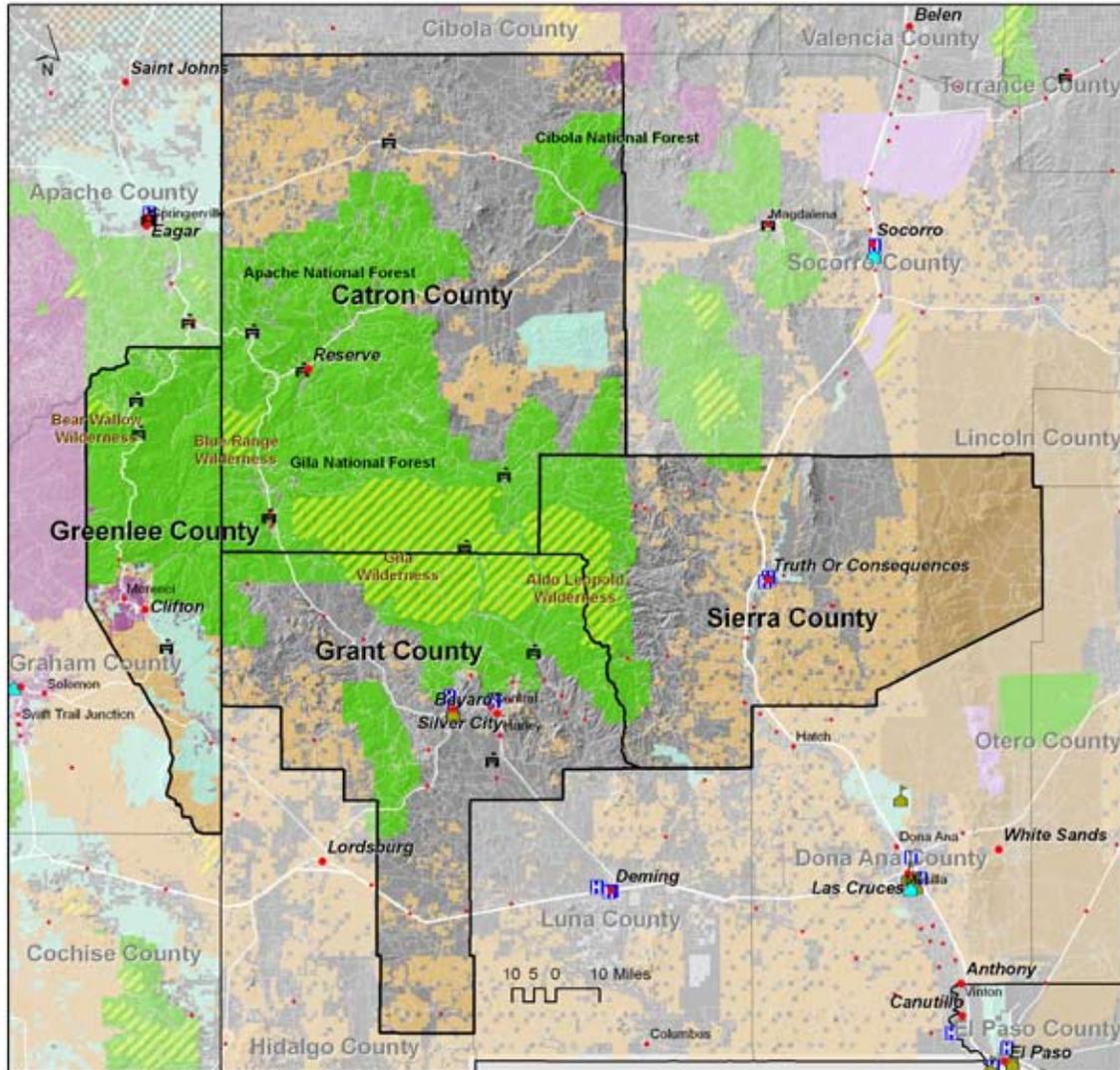
Sierra County	Acres	Percent of County
Private	999,566	36.82%
Bureau of Land Management	783,756	28.87%
Military	529,922	19.52%
Forest Service	239,334	8.82%
Forest Service Wilderness	133,014	4.90%
State	29,313	1.08%
<b>Total</b>	<b>2,714,906</b>	

Region: Land Ownership	Acres	Percent of County
Private	3,911,124	35.93%
Forest Service	3,418,791	31.40%
Bureau of Land Management	1,904,473	17.49%
Forest Service Wilderness	811,868	7.46%
Military	531,605	4.88%
State	307,174	2.82%
Bureau of Land Management Wilderness	1,016	0.01%
National Park Service	299	<0.01%
<b>Total</b>	<b>10,886,349</b>	

**Map 2. The Gila Region**



**Map 3. Land Ownership in the Gila Region**



<p><b>Cities</b></p> <ul style="list-style-type: none"> <li>Population &gt; 2000</li> <li>Population &lt; 2000</li> </ul> <p><b>Counties</b></p> <ul style="list-style-type: none"> <li>Counties</li> </ul> <p><b>Major Roads</b></p> <ul style="list-style-type: none"> <li>Limited Access Highway</li> <li>Principal Highway</li> </ul> <p><b>Services</b></p> <ul style="list-style-type: none"> <li>Hospitals and Medical Centers</li> <li>Universities and Colleges</li> </ul>	<p><b>Public Lands</b></p> <ul style="list-style-type: none"> <li>Wilderness</li> <li>Forest Service</li> <li>Bureau of Land Management</li> <li>Fish and Wildlife Service</li> <li>Other Federal</li> <li>Tribal</li> <li>State</li> <li>City or County</li> </ul> <p><b>Federal Land Management Offices</b></p> <ul style="list-style-type: none"> <li>Forest Service</li> <li>Bureau of Land Management</li> </ul>
---	---

Data Sources: US Census, US Geological Survey  
World Mercator Projection  
Map Date: 3/12/2008



---

## Geographic Overview

The core of the Gila region is a series of rugged, forested mountain ranges that rise to elevations of over 10,000 feet. The Continental Divide runs along the Mangas, Tularosa and Black ranges on the northeastern boundary of the forest. The San Francisco and Mogollon and White mountains fall west of the divide. These forested slopes are the source of two major rivers, the Gila and the San Francisco, as well as numerous smaller creeks and streams. The rivers feature a number of hot springs and box canyons.

In higher elevations, there can be significant snowfall, and snow-sports are popular uses of some parts of the national forest, particularly in Arizona's White Mountains on the Apache-Sitgreaves National Forest. For most of the area, though, the summer monsoons bring the most precipitation, with more than half the annual precipitation (roughly 13 inches per year, total, in Silver City, NM) falling between July and September in an average year.

These precipitation patterns shape the area's vegetation. Higher elevation lands support aspen stands and spruce and fir forests. These water-loving trees retreat to north-facing drainages in lower elevations, which tend to be dominated by park-like Ponderosa pine stands, scrub oak, piñon pine and juniper. A matrix of chaparral, sage and short grasslands covers valley bottoms and foothills. The Plains of San Augustin, stretching between the Black and Mangas ranges and NM state highway 60, are perhaps best-known as home to an installment of VLA (Very Large Array) telescopes, just east of our study area.

Most of the population in the Gila region is clustered in a few small towns. Grant County's Silver City (population of 10,545 according to 2000 census) and Sierra County's Truth or Consequences (population of 7,289 according to 2000 census) are the regional population centers, attracting retirees and other lifestyle-oriented residents with their agreeable climates and access to recreational amenities. In addition to claiming the area's largest hospital and Western New Mexico University, Silver City is home to the Gila National Forest Supervisor's Office. Ranger District Offices are located in Mimbres, Glenwood, Quemado, Reserve, Truth or Consequences and Clifton, Arizona. BLM headquarters are in Socorro and Truth or Consequences. Many of the area's historic small towns, such as Hillsboro, Winston and Luna, typically feature historic storefronts selling gas, sundries and ice—last stops for forest visitors.

## History

Rock art throughout the region along with the cliff dwellings at the Gila National Monument (administered by the National Park Service) remind visitors of pre-contact America and the Mogollon people. The area's forests and woodlands, replete with wildlife, botanical and geothermal riches, have long been an important resource to modern Native Americans, particularly the Apache and Pueblo peoples. The White Mountain Apache reservation borders the Gila region.

The legacies of Spanish colonialism are visible in wild mustangs roaming on nearby BLM land and in ranch properties established through the vast land grants that characterized land disposition in seventeenth- and eighteenth-century Mexico. The Spanish also introduced intensive mining (silver and copper) to the area in the late eighteenth century.

---

Extractive land uses, including livestock ranching, timber and mining, dominated the region's land use history during the era spanning the Treaty of Guadalupe-Hidalgo (1848) through the 1970s. The early nineteenth century witnessed a series of federal land reservations including designation of the Gila National Monument in 1907 and establishment of the Gila and Apache national forests in 1899 and 1909 respectively.<sup>12</sup>

Just as the area's forest peaks are highly vulnerable to lightning-ignited wildfires – the forest is ringed with lookout towers – the region has been a lightning rod for conservation politics. Aldo Leopold, who underwent a conversion in his conservation philosophy in the depths of the area's wildlands, ranks among the Gila's most prominent contemporary figures. Upon his urging, the Gila Wilderness Area, established in 1924, was the first in the nation and received official designation in 1964 upon ratification of the Wilderness Act. More recently, the area has been at the center of pitched battles over appropriate uses of public lands, especially regarding logging and grazing policies. The late 1980s and 1990s were a low-point for many rural communities, which were awash in divisive conflict over land use. The purchase of a 156,000-acre ranch in Sierra County by conservation-oriented media mogul Ted Turner in 1992, along with the listing of the Mexican Spotted Owl on the federal Endangered Species list (events that punctuated a general trend of mill closures and declining ranching economy), put many locals on alert about the changing nature of the region.

The late 1990s and 2000s have witnessed fledgling efforts to move beyond conflict and toward consensus-based environmental management. Our recent involvement in the region described in the introduction, and our hope for this report, fall in this new realm of consultative and adaptive management.

---

## ECONOMIC MEASUREMENT AND DATA SOURCES

### What is Economic Success?

Economics is the study of how people make choices in a constrained world. This means that to do well in economic terms is to make those choices that make us better off. Since we can't have it all, the trick is to choose well.

In personal terms, economic success is making those choices that maximize wealth, where wealth consists of having an abundance of what means most to you. In some cases wealth can be measured in monetary terms, like wages earned, and in others its value is non-monetary, such as spending time with family.

The same principle – that economics is about choices – plays itself out on a community level. Communities are also faced with decisions, the results of which can sometimes be measured in dollar terms, and sometimes not. The decision to permit a new residential development will have job, income and tax benefits. That same decision may also have costs in terms of increased traffic congestion, loss of open space, and a change of community character. Successful communities make choices that increase the well-being of community members. Sustainable communities are those that generate wealth – in terms of both the monetary and non-monetary values – while maintaining the ability of future generations to do the same.

### How to Measure Success: Standard of Living versus Quality of Life

In this study we report standard measures of growth, including changes over time in population, employment, personal income, earnings per job and per capita income. We also measure social and economic stress. For example, out-migration and high levels of unemployment are generally considered undesirable traits that can indicate a low standard of living.

Yet standard of living, generally measured quantitatively, is not the same as quality of life. Those things that increase people's quality of life – pleasant scenery, a friendly community, recreation opportunities – are also important and, in some communities or for some individuals, may be more important than standard of living measures.

In some parts of the West, quality of life is considered by community leaders an asset, worth protecting and promoting in order to stimulate economic activity, which in turn increases the standard of living. This, for example, is the strategy of the Yellowstone Business Partnership, which represents business owners in an area similar to the Gila region, with vast expanses of public lands. The Partnership, made up of business owners in a 20-county region surrounding Yellowstone National Park, is dedicated to preserving the environment as a cornerstone of the economy.<sup>13</sup> Their philosophy assumes that promoting the environment -- quality of life -- stimulates the economy, which in turn improves the standard of living by raising wages and increasing employment opportunities, etc.

---

## Connections to Markets

In this report, we have incorporated the concept of connectivity as a way to think about the choices that are available to different communities. Some counties in the Gila region are farther from major population centers and their markets than others, and this influences the economic choices they can make. For example, a “footloose” knowledge-based worker, such as an architect or software engineer, is more likely to live in a place where she can easily drive or fly to a major city. Counties in the Gila region that have, or are willing to develop, transportation infrastructure, will have a different set of choices than those whose choose to stay rural and isolated. This doesn’t mean isolation is necessarily a bad thing, especially if the decision to remain isolated is borne from community values. For some communities, isolation offers its own set of advantages, for example, by attracting people who want to escape the harried place of life in the city and retirees looking for affordable housing.

---

## Data Sources and Methods

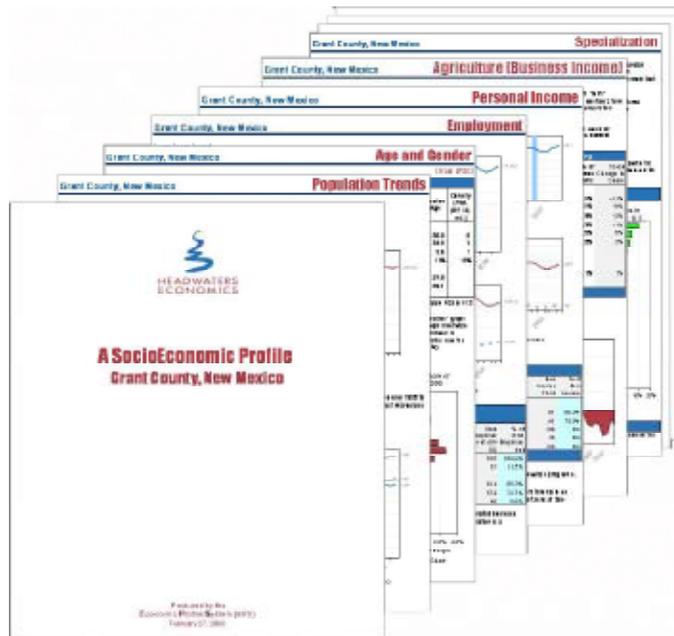
The analysis area consists of the following counties: Catron, Grant and Sierra counties, New Mexico and Greenlee County, Arizona.<sup>14</sup> Published data was obtained from:

- U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information Service (BEA/REIS).
- U.S. Department of Commerce, Bureau of the Census: 1990 and 2000 Census of Population and Housing (Census).
- U.S. Department of Commerce, Bureau of the Census: County Business Patterns (CBP).
- U.S. Department of Labor, Bureau of Labor Statistics (BLS).

Using the Economic Profile System (EPS) software, we produced several detailed 32-page socio-economic profiles: an aggregate profile of the four-county area, and individual profiles for each of the four counties. These profiles are too large to attach as appendices. They can be found on our web site: [www.headwaterseconomics.org/gila](http://www.headwaterseconomics.org/gila). From our web site, you may also download a free copy of the automated EPS software [www.headwaterseconomics.org/eps](http://www.headwaterseconomics.org/eps). The figure below shows an example of what these multi-page profiles look like.

---

**Figure 3. Sample EPS-Generated Profile**



---

## SUMMARY FINDINGS: THE REGIONAL ECONOMY

Overall, the Gila region is growing. In spite of a recent downturn in the population, employment and income continue to rise, as does per capita income. Meanwhile, the unemployment rate continues a steady downward trend. Over the last 35 years the rate of population growth has been erratic, due primarily to a high reliance on mining in two of the counties: Greenlee County, Arizona and, to a lesser extent, especially recently, Grant County, New Mexico. Non-labor sources of income – age- (retirement, Medicare, etc.) and investment-related – has grown rapidly, making up almost half of personal income in the region. This is consistent with an aging population and the stimulation of other sectors, such as services, health, construction and government. Much of this growth is due to de-coupling of the economy from its historic dependence on copper mining.

The following summary information is supported by data and analysis located in Appendix A. References to the location of specific findings are provided in the text.

### **Population (see p. A2)**

- The region has 53,675 people (in 2006).
- The population is growing (a 25% increase from 1970 to 2005), but erratically, with a slight recent downturn (a loss of 430 people from 2000 to 2006).
- And, it is aging (median age of 40.9 in 2000, up from 35.9 in 1990); age groups that are declining are the young (less than 30 years) and the fastest growing age group is the now at retirement age baby-boomer.

### **Employment and Income (see p. A3)**

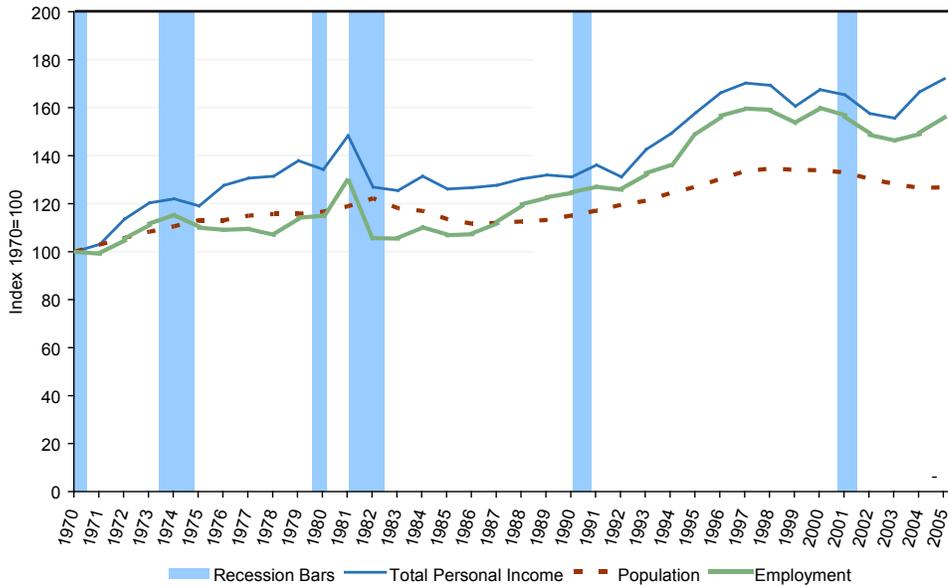
- Employment and income (in real terms) in the region are growing, but erratically, with recent growth in spite of population decline.
- The ups and downs of the economy closely track national recessions.

### **Unemployment (see p. A6)**

- The unemployment rate in 2006 (4.4%) was lower than the nation (4.6%) and significantly lower than in 2003 (8.5%). By April of 2007 the regional unemployment rate was 3.6 percent.

## SUMMARY FINDINGS: THE REGIONAL ECONOMY

**Figure 4. Regional Growth in Population, Employment and Real Personal Income (indexed to show relative rates)**



### Per Capita Income (see p. A7)

- Real per capita income has grown steadily, and in 2005 (\$22,506, latest data) was the highest it has been in the last 35 years.

---

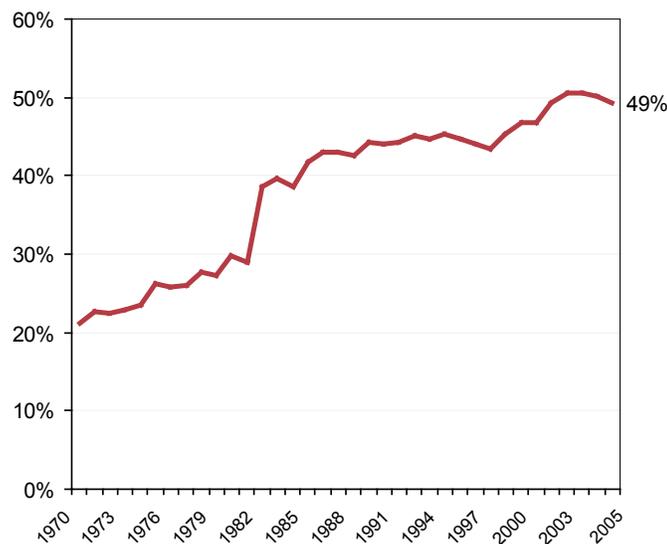
## SUMMARY FINDINGS: THE REGIONAL ECONOMY

### Changing Economic Structure (see p. A7)

- Non-labor sources (i.e., retirement and investment income) are almost half of total personal income.
- In the last 35 years, non-labor sources grew at an annual rate of 4 percent, outpacing labor income sources, which grew at 0.3 percent per year.
- In 2005, 35 percent of non-labor income was from dividends, interest and rent and 65 percent was from transfer payments.

---

**Figure 5. Non-Labor Share of Total Personal Income: 1970–2005**



- Mining plays a large, yet declining role, both in absolute and relative terms.
- The ability of the economy to rebound from losses in mining is a testament to how well it has diversified. From 1982 to 2000, the region's economy lost \$23.7 million in personal income due to declines in the number of people employed in mining. During that time, the economy added a net \$283 dollars in personal income. The bulk (72%) came from non-labor sources, followed by income from people working in service-related occupations (19% of net growth), and government (16.8%). As the next sections show, non-labor income and government employment are critical to several counties in the region.

---

## SUMMARY FINDINGS: COUNTY ECONOMIES

A regional overview of the economy hides important details, and the most striking aspect of the Gila region is the difference between the counties. Greenlee has long been dependent on mining and continues to be. Catron County is the smallest component of the economy, and is heavily dependent on non-labor income sources and government, in particular jobs in the federal land management agencies. Grant County still gets a significant portion of its income from mining, but has diversified, adding jobs in a number of service occupations. It has also attracted retirement dollars. Sierra County is the poorest and least educated, relies heavily on non-labor income sources and the bulk of its service industry jobs are in tourism.

The following summary information is supported by data and analysis located in Appendix B. References to the location of to specific findings are provided in the text.

### **Greenlee County, Arizona**

- 7,738 people in 2006 (14% of the region) (see p. B4)
- Recent population loss (minus 129 people from 2000 to 2006) (see p. B4)
- Youngest average age (33.6 median age in 2000) (see p. B5)
- Fewest college educated (12.2% in 2000) (see p. B10)
- Highest per capita income (\$25,319 in 2005) (see p. B7)
- Highest average annual wages (\$43,240 in 2005) (see p. C3)
- Smallest dependence on non-labor income (34% in 2005) (see p. C2)
- Smallest dependence on government employment (13% in 2005) (see p.C6)
- The bulk of employment (78% in 2005) is in copper mining (see p. C10)
- Lowest unemployment rate (3.7% in 2006) (see p. B9)

In spite of a relatively young population and a workforce with few college graduates, wages and per capita income are the highest in the region, primarily due to mining. A recent spike in copper prices to over \$3/lb. will likely increase local production and maintain or increase the demand for relatively high-wage mine workers. In terms of preparing for the long run and the eventual depletion of resources, the Greenlee County economy shows few signs of diversification.

---

## SUMMARY FINDINGS: COUNTY ECONOMIES

### Catron County, New Mexico

- 3,476 people in 2006 (6% of the region) (See p. B4)
- Small population loss (minus 11 people from 2000 to 2006) (See p. B4)
- Second oldest population (47.8 median age in 2000) (See p. B5)
- The second highest proportion with a college degree (18.4%) (See p. B10)
- Second fastest growth in real personal income (2.1% per year from 1990-2005) (See p. B6)
- Lowest per capita income (\$18,599 in 2005) (See p. B7)
- Fastest real growth in per capita income (14% increases from 2000 to 2005) (See p. B7)
- Second highest average annual wages (\$27,434) (See p. C3)
- Highest rate of unemployment (5.4% in 2006), but declining (7.7% in 2003) (See p. B9)
- The largest source of personal income is from non-labor sources (retirement, investments, etc.) (59% in 2005) (See p. C3)
- The largest proportion of employment in government (54% in 2005) (See p. C6)
- Highest wages (\$46,034 in 2005) in federal government (20% of all job in 2005) (See p. C6)

Catron County's small population is relatively well educated and the average annual wage is second only to Greenlee County. This is due to relatively high employment in government (54%) and the federal government in particular (20% of total, with the highest wages in the county). The unemployment rate is relatively high, but declining, and real personal income is rising quickly. However, little of this is labor income, and 59% of personal income is from retirement, investments and other non-labor sources.

---

## SUMMARY FINDINGS: COUNTY ECONOMIES

### Grant County, New Mexico

- 29,792 people in 2006 (54% of the region) (See p. B4)
- Recent population loss (minus 194 people from 2000 to 2006) (See p. B4)
- Second youngest population (38.8 median age in 2000) (See p. B5)
- Most educated (20.5% with a college degree in 2000) (See p. B10)
- Second highest per capita income (\$22,983 in 2005) (See p. B7)
- Third highest average annual wage (\$27,131 in 2005) (See p. C6)
- Second lowest unemployment rate (4.4% in 2006) and declining the fastest (10.3% in 2003) (See p. B9)
- Second lowest dependence on non-labor income sources, yet significant (49% of total personal income in 2005) (See p. C3)
- Second highest dependence on government employment (35%) (See p. C6)
- Mine employment (on average 11% of total jobs in 2000 to 2005) dropped from an average of 17 percent in the 1980s (See p. C10)
- The largest and most diverse service sector, with service wages (on average, \$22,683 in 2005) close all wages (\$27,131) (See p. C17)

Over half of region's economic activity takes place in Grant County (56% of the population and personal income). With a relatively young and the most educated workforce in the region, it has the second highest per capita income, a low and rapidly declining unemployment rate, yet a relatively low average annual wage. Close to half of personal income in the county is from retirement, investment and other non-labor sources, and over a third of employment is in government (including Western New Mexico University). Mining still plays a significant role (11% of employment) and recent copper price increase may stimulate an increase. However, since the peak of mining in the county (17% of all jobs in the 1980s) the economy has diversified significantly, and now has the largest and most diverse service sector of the region.

---

## SUMMARY FINDINGS: COUNTY ECONOMIES

### Sierra County, New Mexico

- 12,669 people in 2006 (24% of the region) (See p. B4)
- Small population loss (minus 96 people from 2000 to 2006) (See p. B4)
- Oldest population (48.9 median age in 2000) (See p. B5)
- Least educated (13.1% with a college degree; 23.9% with no high school diploma) (See p. B10)
- Second lowest per capita income (\$20,786) (See p. B7)
- Lowest average annual wage (\$23,520 in 2005) (See p. C6)
- Second lowest unemployment rate (4.4% in 2006) and declining (5.9% in 2004) (See p. B9)
- High dependence on non-labor income (59% percent of total) (See p. C3)
- More than one third of employment in government; another third is in service-related (See p. BC6)
- Second most diverse in the region; most service workers in relatively low-wage leisure and hospitality services (See p. C17)

Sierra County has the oldest population and, along with Catron County, is the most dependent on non-labor income sources (59% of total). The county has the least-educated workforce in the region and the lowest wages. The service sector is relatively diverse, but with a large percentage in relatively low-wage tourism-related occupations.

---

## SUMMARY FINDINGS: KEY COUNTY INDICATORS

In this section we take a closer look at key economic indicators, which are presented in detail in Appendix C. County-by-county analysis has shown significant differences between counties, in particular with regard to employment and personal income derived from certain industries and sources. For example, in Catron County the highest-paying jobs are in the federal government. Because of this, we take a closer look at the role of government employment. Mining is a significant contributor to the economies of Greenlee and Grant counties, and therefore we look more closely at the long-term trends in the copper mining industry. Agriculture, an important part of the physical and cultural landscape, is examined more closely. We also take a detailed look at the service industries, the role of non-labor income, wages and tax revenues.

The following summary information is supported by data and analysis located in Appendix C. References to the location of specific findings are provided in the text.

### **Non-Labor Income (Dividends, Interest, Rent and Transfer Payments) (See p. C2)**

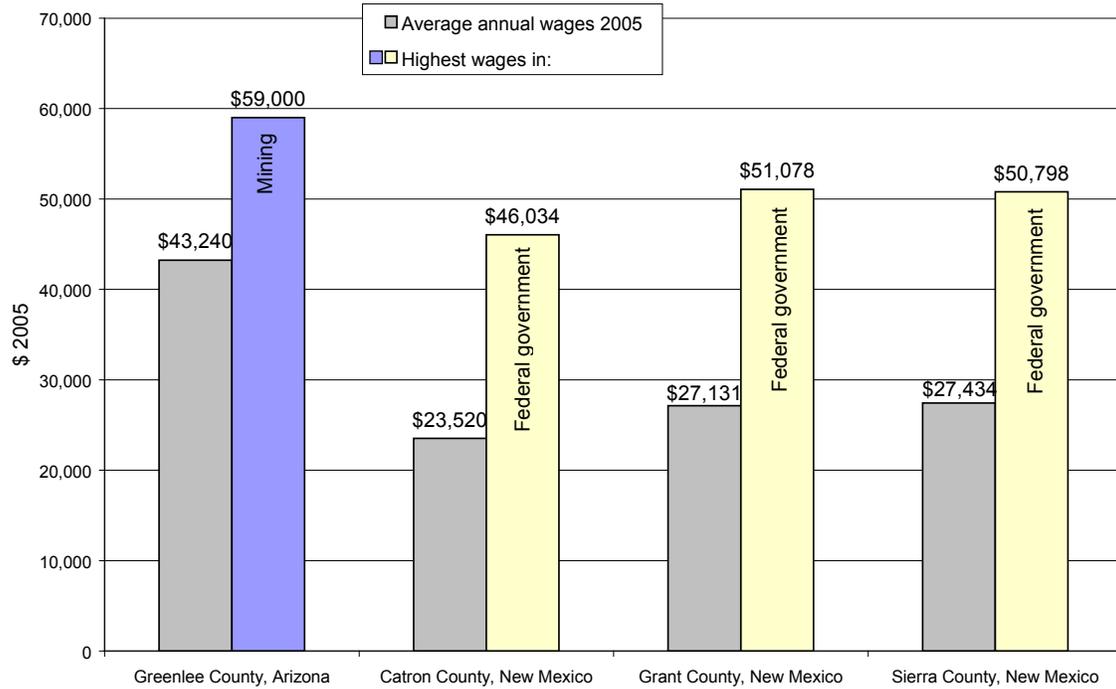
- 59 percent of total personal income in Catron and Sierra counties is from non-labor sources (49% in Grant County, 34% in Greenlee County).
- The bulk of non-labor income (38%) is age-related (retirement and Medicare), followed by investments (17%). (Welfare is 2.7% of total personal income.)
- Non-labor income does not count private retirement contributions (401k plans, etc.) and is therefore an underestimate.

### **Wages (See p. C3)**

- Wages are the highest in Greenlee County (\$43,240) due to a high percentage of the workforce employed in copper mining.
- The federal government pays the highest wages in three of the counties (\$46,034 in Catron County; \$51,078 in Grant County; \$50,998 in Sierra County).
- See Figure 6, p. 24

## SUMMARY FINDINGS: KEY COUNTY INDICATORS

**Figure 6. Average Annual Wages and Highest-Paid Occupations: 2005**



### Government Employment (See p. C6)

- The county government is the largest source of government employment; Catron County has the highest proportion working in government (54% of all jobs in government; 20% in federal government), followed by Grant County (35%), Sierra County (31%) and Greenlee County (13%).

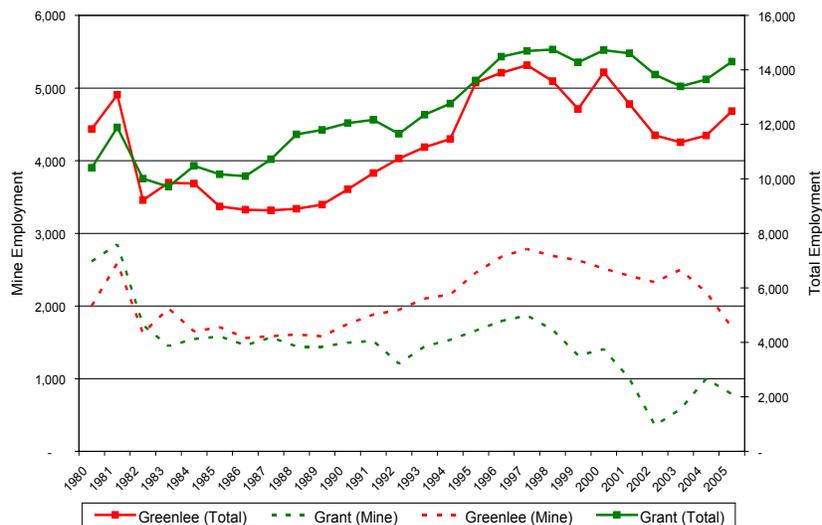
### Mining (See p. C8)

- Greenlee and Grant counties have historically been dependent on copper mining.
- Mining employment has closely followed copper prices; recently this relationship is less pronounced as mine employment dropped while prices increased.

## SUMMARY FINDINGS: KEY COUNTY INDICATORS

- Recent high copper prices (over \$3/lb. in 2007, up from \$1.2 in 2000) may stimulate higher production, if high-quality ore body exists and mining it is more economical than mining in other parts of the world.
- In both Greenlee and Grant counties the relationship between mine employment and total employment used to be strong, but recently total employment has gone up when mine employment declines. Greenlee County remains the most dependent on mining.

**Figure 7. Total Employment v. Mine Employment: Grant and Greenlee Counties, 1980–2005**



### Services (See p. C15)

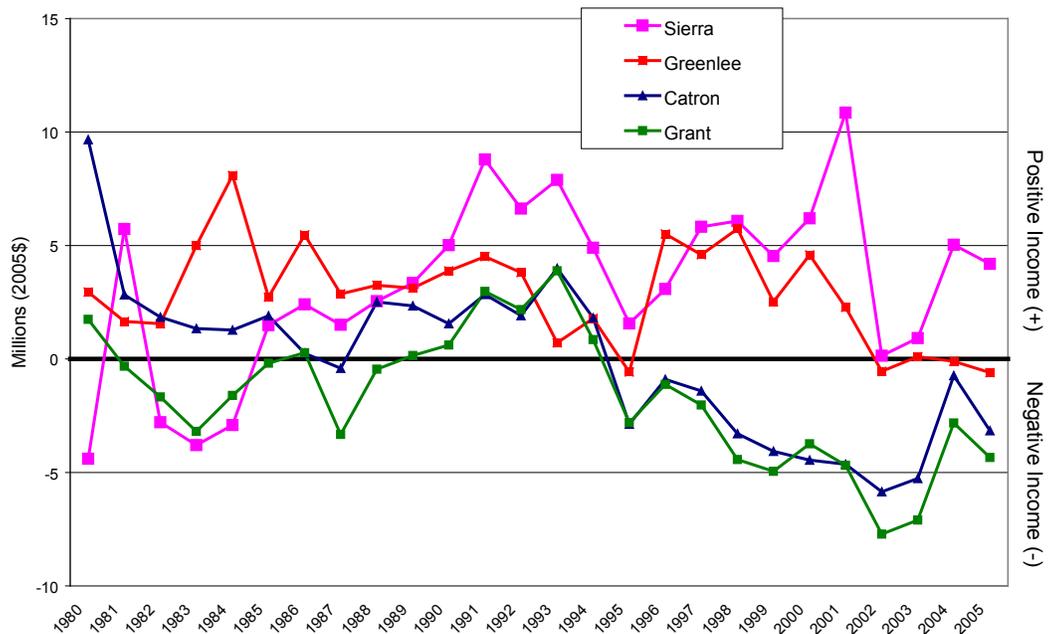
- Services are a fast-growing part of the economy, but highly diverse and, on average, dominated by low-wage occupations (*e.g.*, leisure and hospitality, educational services).
- Some high-wage “knowledge-based” services exist (*e.g.*, information and financial services), primarily in Grant County, but for the most part jobs in these sectors are few.
- High dependence on tourism-related services pulls down average service wages.

## SUMMARY FINDINGS: KEY COUNTY INDICATORS

### Agriculture (See p. C18)

- Net farm income has been negative every year for the first half of the 2000s for Grant and Catron counties; positive for Sierra County; and negative only recently for Greenlee County.
- On average for the last five years, farm and ranch income is less than 3 percent of total personal income (less than 1% for Catron and Grant counties).
- Counties with the largest declines in net farm income have the highest proportion of gross agricultural income from livestock (Catron, 91%; Grant, 85%). Those with positive income have the least reliance on livestock (Greenlee, 38%; Sierra, 72%, much of it from dairies).
- Farms and ranches in Catron and Sierra counties are the most leveraged and their operators are the oldest in the region.

**Figure 8. Net Farm and Ranch Income: 1980-2005**



---

## SUMMARY FINDINGS: KEY COUNTY INDICATORS

### Fiscal health (See p. C21)

A county's fiscal health relates to its ability to provide high-quality essential infrastructure and services and to invest in "nonessential" services, including arts and recreation, economic development, and natural resource protection, all of which can add to long-term economic competitiveness.

We used local financial data for the four counties in the Gila Region from the 2002 and 2005 Census of Governments and from the New Mexico and Arizona departments of revenue and taxation to calculate a set of ratios of fiscal condition. The ratios of fiscal condition were then ranked against the rest of the counties in each state to provide a relative assessment of fiscal well-being. The ratios are reported on page C27, following a more detailed discussion for each county.

In general, the fiscal condition of the counties is as diverse as their economies:

- Greenlee County, Arizona has the highest ratio of total revenues to population in the state, but the tax base is largely tied to a single industry, copper mining. The county also has the highest ratio of debt service to total revenues in Arizona (debt service is the payment required over a certain period of time to retire interest and principal on outstanding debt). Dependence on a single revenue source can create a tax base that is volatile and less resilient to changes in the economy than a more diversified revenue base. Despite high per-capita revenue, large debt service payments can be risky if the long-term revenue stream is uncertain.
- Catron County has a strong revenue base and the county has among the highest ratios of total revenues to population in New Mexico. However, most of the county's revenue (more than two-thirds) comes from federal and state transfers, and such dependency exposes local services to changes federal and state policy and spending decisions. For example, Catron received \$281,000 in Secure Rural Schools payments in 2002 and \$326,000 in 2005 (8 percent of the county's budget in 2005). These payments have not been reauthorized for 2008 at the time of this writing, signaling the uncertainty of federal transfers to counties. Catron County's local property tax base is strong, with 63 percent growth in non-residential taxable value between 2003 and 2007. A growing tax base may allow the County to reduce its dependence on the state and federal government in the future.

---

## SUMMARY FINDINGS: KEY COUNTY INDICATORS

- Grant County has a relatively healthy fiscal balance. However, non-residential property and mining combined make up less than half the property tax base (meaning residential property accounts for more than half of the tax base). If minerals decline in the long-run, the County may be at risk from relying too much on residential property taxes, particularly if population growth continues and the job base does not grow with it.
- Sierra County's revenue base is relatively limited. It ranks near the bottom in the ratio of total revenues to population in New Mexico and the property tax base lacks diversity with 59 percent of the tax base comprised of residential property. The county would benefit from expanding its commercial and industrial base, and finding new sources of revenue.

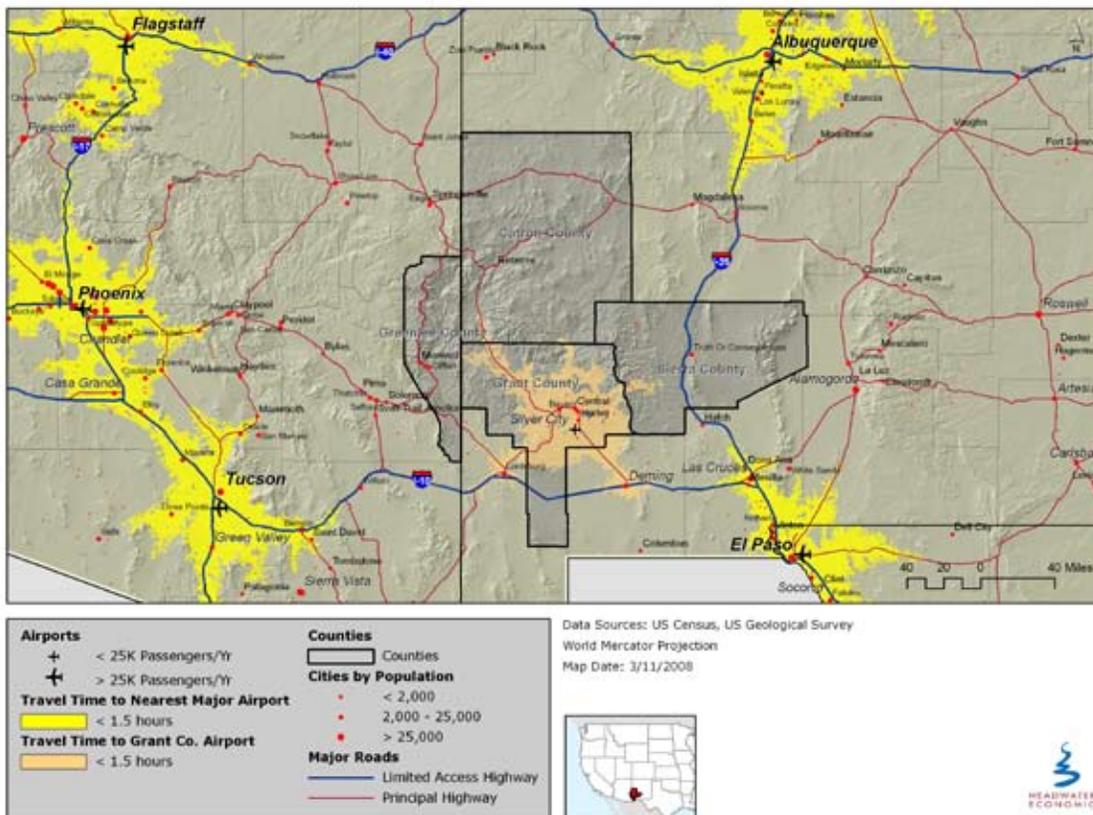
## RE MOTENESS

In spite of the recent growth in telecommunications technology, much of human communication takes place face-to-face. This means that from time to time business owners need to meet in person with their suppliers and clients. The ongoing importance of in-person communication puts the Gila region at a comparative disadvantage in terms of attracting new businesses.

By any standard, the region is remote. None of its communities lies within an hour and a half-drive time of a major regional airport or major city. Travel through the region is restricted to a handful of highways, several of which twist slowly through rugged terrain.

The map below shows (in yellow) drive times (on existing roads at posted speed limits) of 90 minutes or less to airports with daily commercial service to major hubs and population centers. For the purposes of this report, we use travel time to regional airports with enplanement (passenger volume) of 25,000 or more annually. Grant County does have a small airport (in light orange) with daily flights to Albuquerque, which may explain, in part, its relative economic success. (Also, Grant County has ready access to I-10 and I-25.)

**Map 4. Travel Times to Airports in the Gila Region**



---

## CONCLUSION

A growing body of literature suggests that the amenities that public lands provide—scenic vistas, recreation opportunities, etc.—are assets that can be used by communities in the West to attract and retain people and their businesses. However, not all communities experience the benefits of amenities in the same way. Past efforts to quantify this phenomenon have shown that a community’s ability to capitalize on and promote its amenities and quality of life shapes the economic dynamics of being an amenity-rich place.

Ideally, communities that are surrounded by Forest Service and BLM lands, by wilderness and national monuments, should be able to consider public land an economic asset; promoting quality of life stimulates the economy, which in turn increases the standard of living. In practice, this can be difficult. While amenities are a necessary condition for economic growth in today’s economy, by themselves they are not enough. An educated workforce, a diverse economy and, above all, ready access to larger population centers via road and air travel also play key roles in enabling areas to maximize the benefits of public lands.

For the Gila region, the degree of isolation is perhaps its biggest economic development challenge. In spite of it, there are reasons to be hopeful. Communities in the Gila region do have a number of choices available to them, many of which are already being acted on today.

### Grant County

The biggest story in the region is how Grant County, and Silver City in particular, have been able to diversify away from a sole dependence on mining and develop new employment in services.

Grant County’s population and economy are the largest and most diverse in the region, and as the area economy diversifies away from mining, it appears that recent income and employment growth will continue. Personal income and employment are growing more slowly than in several peer counties in the region, but Grant County has seen larger increases in jobs and income in absolute terms. In fact, recent growth independent of mining in Grant County may be the biggest economic story in the region.

Growth in non-labor income is strong, accounting for almost half of all personal income in 2005. Much of this is tied to medical and retirement transfer payments, and indeed the region is emerging as a popular retirement location. The magazine *55 Alive* ranks Silver City in the top ten bargain retirement towns in America, reporting that “the landscape draws people here, but its low property taxes, attractive housing costs, a state-of-the-art health center, and top-notch university keep them here.”<sup>15</sup> *Where to Retire* cites access to the Gila Wilderness, a warm climate and burgeoning art scene among Silver City’s retirement assets.<sup>16</sup> Expansion of the health clinic and a new cancer clinic show how Silver City can create high paying jobs in response to the influx of retirement wealth.<sup>17</sup>

---

*National Geographic Adventure* promotes Silver City for the young crowd, declaring the town “The Mother Lode” for those seeking wilderness adventure, a diversity of businesses and people, and youthful energy generated by the college.<sup>18</sup> *Outside Magazine* counts Silver City among its “20 Dream Towns”<sup>19</sup> and the *New York Times* has celebrated Grant County as “The Real New Mexico” “perched on the edge of the Gila National Forest in a high-desert wonderland of ponderosas, deep gorges and red-rock mesas” and still “a bit rough around the edges.”<sup>20</sup> Even the National Trust for Historic Preservation has taken notice of Silver City’s history and beauty.<sup>21</sup> *Budget Traveler* predicts that a visit to Silver City “will have you browsing the local real estate pages before you know it.”<sup>22</sup>

Grant County comes the closest to being both a “gateway” to the public lands, such as the Gila Wilderness, and a “rural-connected” community. Silver City is the main gateway to the heart of the Gila region, and the local airport already has connecting flights to Albuquerque. The opportunities include continued investment in health and social services to capture retirement wealth, and promoting access to the region’s public lands.

The Economic Development Strategy for Grant County counts among the county’s assets the following features: access—to highways I-10 and I-180, to Mexico; “evolving connectivity which increasingly enables remote, high-speed telecommunications”; a diverse and skilled labor force; and Western New Mexico University. Also noted as an asset is the quality of life: “An extraordinary natural environmental setting and highly attractive lifestyle setting” and “access to recreational facilities and opportunities.”<sup>23</sup>

## **Sierra County**

Sierra County already has the fastest growth in personal income and employment in the region including non-labor income and jobs in the services and professional sector. Per capita income, however, is low and many of these service jobs appear to be in relatively low-wage tourism occupations. Sierra County’s challenge will be growing the high-wage service sector and capitalizing on the increase in non-labor income, mainly from retirement.

Local businesses are heavily oriented toward recreation seekers and second-home owners on the reservoirs at Elephant Butte State Park. The Chamber of Commerce, for example, promotes itself as the “oasis of the Southwest” in reference to its large bodies of water. The *Sierra County Sentinel* online edition reports that tourism, agriculture and retirement are the main industries, and that most tourism is related to Elephant Butte Reservoir, which it reports can attract 100,000 people over a busy holiday weekend.<sup>24</sup>

A portion of the Aldo Leopold Wilderness lies within Sierra County and more importantly, the county’s largest city is a key way station for travelers coming to the Gila region from eastern points such as El Paso and Las Cruces. Small towns such as Hillsboro or Winston are tied more closely to hunting and recreation in the Gila National Forest.<sup>25</sup> In this sense, the county has a real opportunity to capitalize on an as yet low-profile role as gateway to this particular wildland region.

---

A 1993 article in the *New Mexico Business Journal* talks about the importance of transitioning from amenities as a way to attract tourists, to amenities as a way to attract business. It begins with:

Scenic Sierra County nestled in the pristine beauty and wide open spaces of south-central New Mexico is creating its own future. While this sparsely populated region for a time was content to rely on its cash crop of 2.2 million tourists a year lured in part by spectacular Elephant Butte and Caballo lakes, times and demands are changing. Cooperative efforts are underway to coax industries from California and elsewhere to relocate in Sierra County to create jobs where the living is easy, comparative costs are lower, taxes are less and the “stress factor” is virtually non-existent.<sup>26</sup>

Among the opportunities identified by the Sierra County Economic Development Organization is continued promotion of tourism and recreation, and promotion of the area as a retirement destination (including the Sierra Del Rio golf course and Turtleback Mountain Resort). Also on the list of prospects is the proposed Hot Springs Motorplex Development, a mixed-use development; the development will include homes, a hotel and spa and retail facilities, centered around motor sports, including a drag strip, an oval racecourse and off-road racing.<sup>27</sup> The county also envisions another development, called SpacePort America, where private companies will be able to launch spacecraft.<sup>28</sup> The development, a \$225-million investment, is expected to generate \$752 million and close to 5,800 jobs.<sup>29</sup>

## **Catron County**

Catron County is the most isolated and sparsely populated of the four counties. Population growth is slow and the population is growing older. Per capita income is the lowest in the four-county area, with wages nearly 20 percent lower than the region on average. The largest sources of income are non-labor (federal retirement, medical and transfer payments), and government jobs. Agriculture, while playing a strong cultural role among county residents, has lost money over the last five years. High-paying service-sector jobs, those most typically associated with an “amenity” economy trading on adjacent public lands, are few in Catron County. These jobs typically require easy access to large markets, and Catron County’s isolation from transportation networks appears to be the most significant obstacle to growth.

In other ways the county exhibits positive economic trends. Personal income in Catron County grew faster than Grant and Greenlee Counties. The largest wage sector, government employment, comprises high-paying jobs that are linked to the presence of public lands in the county.

The importance of the natural environment is readily apparent on the Catron County Chamber of Commerce web site: “Catron County is centrally located on the state’s western border in the heart of some of the most spectacular country in the Southwest. The terrain consists predominantly of mountains and high mesas with extensive plains regions in the north and east. A portion of the Gila Forest was declared wilderness in 1924, making it the oldest declared wilder-

---

ness in the U.S.”<sup>30</sup> *Outdoor Life* magazine rated Catron County among the nation’s “Top Public Hunting Areas.”<sup>31</sup> These natural amenities, along with the county’s quiet and out-of-the-way qualities offer a special combination that the county could exploit to grow its economy in manageable ways.

Opportunities might include retirement if the county can boost health care services, affordable housing, and other social services. Young families who may find the slow pace of life and surrounding public lands welcoming may be reassured to know that New Mexico’s school equalization program that ensures Catron County’s schools receive equal resources to its urban peers. In addition, the county’s tax base grew by 42 percent in the last five years, largely due to a 62 percent increase in non-residential property assessments, suggesting Catron County can provide quality rural services that support local businesses and residents.

In a May, 2008 meeting the Catron County Board of Commissioners met to consider adopting an ordinance related to economic development planning.<sup>32</sup> Released by a local citizens group, the proposed ordinance, if approved, would become part of the county’s official economic development plan and would allow the county to dedicate financial resources to entities that promote economic development.<sup>33</sup> A list of eligible entities gives an indication of the ideas that have been generated for economic development. They include any organization that “fosters, supports and enhances the Custom and Culture of the County.” Also eligible are those engaged in:

- The manufacture, processing and assembly of agricultural or manufactured products.
- Research and generation of biofuels, biomass or renewable energy.
- Storage, warehousing and distribution of products produced by agriculture, mining or industry.
- Promotion of the arts and local culture.
- Supply of services to the public or government agencies (but not for the sale of goods or commodities at retail).

The commissioners have positive examples to point to as the *Mountain Mail Newspaper* reports two local entrepreneurs secured a \$250,000 Forest Service Woody Biomass Utilization Grant to work directly with the Gila National Forest on forest restoration projects.<sup>34</sup>

These ideas reflect the realities of Catron County. It is unlikely, given its distance from cities and airports, that any economic development plan aimed at attracting and retaining high-tech companies would succeed. Rather, citizens in Catron County – if the draft ordinance is an accurate reflection – have done a remarkable job of identifying ideas that are workable with existing assets. For example, adding value to agricultural products will increase the profitability of the farm and ranch sector. Researching and producing biofuels and renewable energy takes advantage of existing forest resources and the natural features of the county. Promotion of local arts and culture can help attract tourists, but also serve local citizens and a growing retirement population. Finally, a plan to sell services, in particular to government agencies (especially to federal

---

agencies such as the Forest Service and BLM) in recognition of the large role of government in the county's economy.

## **Greenlee County**

Greenlee's economic success has been tied almost exclusively to mining, with 58 percent of employment directly in the mining sector in 2005, and a large share of the remainder directly and indirectly related to it. As a result, the county's economic stability has been affected by the ups and downs of international commodity prices and national recessions. Diversifying the economy is likely the only way the county will smooth the volatility of mining wages and prepare for long-term competitiveness as the productivity of the mine eventually diminishes.

There are indications that Greenlee County is indeed interested in economic diversification. The county government's web site indicates that more and more people are traveling to the area to recreate and take in the scenery:

In about a four-hour drive you can experience dramatic environmental changes ranging from the cacti of the upper Sonoran desert to spectacular and sweeping slopes of mountains covered with pine, fir, and aspen. The life zones that exist in the 127-mile trip from Clifton to Springerville are the same as what you would see on a road trip from Mexico to Canada.<sup>35</sup>

The community master plan, too, shows people are looking for solutions. Comments that inform the vision statement include:

- The county should have an ample supply of production jobs with a variety of companies.
- If children choose to stay in the county as adults, children should have opportunities to work and raise their families.
- The county should have ample housing for retirees including long-term assisted care facilities.
- Outdoor recreation should remain a dominant feature (of life in Greenlee County).

These desires are translated into community goals, the first of which aims to "Develop a balanced, diversified economy to promote, to maintain, and to enhance the quality of life..."<sup>36</sup>

Community leaders may look to Silver City or a host of other mining towns that have successfully diversified. Access to wilderness and recreation such as snowmobiling, hunting and hiking paired with low-cost and small-town living may appeal to retirees and families. Investing in local health services, education and historic preservation may be options that will help attract and retain families.

---

## “BRANDING” A REGIONAL IDENTITY

Environmental amenities and quality of life are key economic drivers in today’s rural West. We know, for example, that public lands, especially those set aside for conservation purposes, attract people and business. In-migration and diversification of the rural West are likely to continue as businesses depend less and less on urban settings for manufacturing and communication technologies in the future. In addition, as the population ages and the baby-boom generation enters retirement age, it is highly likely that retirement and investment income will continue to be major drivers of economic growth.

The Gila region is rich in public land assets, with extensive BLM lands, two national forests and three wilderness areas. David McGranahan, of the U.S. Department of Agriculture’s Economic Research Service, recently completed a study entitled *Natural Amenities Drive Rural Population Change*. In it he developed a natural amenities index, and tested the statistical relationship between the presence of amenities and economic growth. The four counties of the Gila region received the highest scores for natural amenities.<sup>37</sup>

Every county in the Gila region has the opportunity to capitalize on its public lands amenities to some extent. However, not all communities in the region have positioned themselves, the way Silver City has, to take advantage of this wildland asset. Developing a regional identity—a brand of sorts—that celebrates the wild country and the quality of life it provides can help the region take advantage of the new economy of the rural West.

This is a proven concept. In the 1980s, what is known today as the Greater Yellowstone region consisted of 20 distinct counties of Idaho, Wyoming and Montana. After a decade of focused effort, the area is now successfully “branded” as Greater Yellowstone, successfully linking diverse and disparate communities to the economic asset of Yellowstone National Park and seven surrounding national forests and other public lands. A recent study has shown that the Greater Yellowstone region today has an economy that outperforms even high-growth areas such as Silicon Valley, the Front Range of Colorado and Puget Sound.<sup>38</sup> This has happened in spite of the fact that most of the region is rural with no community larger than 50,000 people. Over half of the land in the Greater Yellowstone is managed by either the Forest Service, BLM or Park Service.

A similar regional identity has been developed for the east slope of the Rockies in Montana, known as the Rocky Mountain Front – a large, remote and rural area adjacent to the Bob Marshall Wilderness and Glacier National park, stretching from Helena, MT to the Canadian border. A similar branding exercise is currently underway for the North Cascades in Washington State.

Letting the country know that the Gila region exists, and protecting its environmental assets and quality of life, is not enough. Collaboration and thinking across boundaries has been critical to the success of other regional promotional efforts: in Greater Yellowstone, the Greater Yellowstone Association of Counties, the Greater Yellowstone Business Partnership and an interagency group, the Greater Yellowstone Coordinating Committee, serve to coordinate land management, share information and strategies between local governments, and to promote and support busi-

---

nesses in the region.

As this report illustrates, diversity characterizes the region's economy. For some areas, mineral wealth still dominates, keeping economies vulnerable to declining production and volatile international commodity prices. Using income from the boom today to diversify for the future makes sense. There is evidence that Grant County has already done this, and Greenlee County is beginning to promote itself as a gateway to a wildland area. For others, the key will be translating increasing retirement and tourism activity into high-wage employment opportunities and managing the challenges of new growth. In addition, for a few, the single biggest challenge is isolation from markets.

The choice of what to do—for maximum well-being in the long term—is in the hands of the region's communities. We hope the information provided in this study will help them choose well.

---

## ENDNOTES

- <sup>1</sup> Rasker, R. 2006. "An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands." *Society and Natural Resources*. 19: 191-207.
- <sup>2</sup> U.S. Department of Commerce. 2007. Regional Economic Information System (REIS). Bureau of Economic Analysis. Washington, D.C.
- <sup>3</sup> Ibid, REIS.
- <sup>4</sup> Ibid, REIS.
- <sup>5</sup> For a review, see McGranahan, D.A. 1999. Natural Amenities Drive Population Change. Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Report 781, 1-24; Booth, D.E. 1999. Spatial Patterns in the Economic Development of the Mountain West. *Growth and Change*. 30 (3), 384-405.
- <sup>6</sup> Cromartie, J.B. and J.M. Wardwell. 1999. "Migrants Settling Far and Wide in the Rural West." *Rural Development Perspectives*. 14(2): 2-8; Beyers, W.B., D.P. Lindahl, and E. Hamill. 1995. "Lone Eagles and Other High Fliers in the Rural Producer Services." Paper presented at the Pacific Northwest Regional Economic Conference, May 1995, Missoula, Montana.
- <sup>7</sup> Fugitt, G.V. and C.L. Beale. 1996. "Recent Trends in Nonmetropolitan Migration: toward a New Turnaround?" *Growth and Change*. 27: 156-174.
- <sup>8</sup> McGranahan, "Natural Amenities Drive Population Change."
- <sup>9</sup> Rasker, "An Exploration into the Economic Impact of Industrial Development Versus Conservation." Rasker, R., B. Alexander, J. van den Noort, R. Carter. 2004. Public Lands Conservation and Economic Well-Being. Sonoran Institute. Bozeman, Montana; Rasker, R., B. Alexander, J. van den Noort, R. Carter. 2004. Prosperity in the 21st Century West. Sonoran Institute. Bozeman, Montana; Hansen, A.J, R. Rasker, B., Maxwell, J.L. Rotella, J.D. Johnson, A. Wright Parmenter, U. Langer, W. B. Cohen, R. L. Lawrence, and M. P.V. Kraska. 2002. "Ecological Causes and Consequences of Demographic Change in the New West." *BioScience*. 52(2): 151-162.
- <sup>10</sup> This is the level at which there is generally daily commercial air service to major cities and airport hubs
- <sup>11</sup> Source: Rasker, R. 2006. "An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands." Rasker et al. 2005. Public Lands Conservation and Economic Well-Being.
- <sup>12</sup> The Apache and Sitgreaves forests were consolidated in 1974. (<http://www.fs.fed.us/r3/asnf/about/index.shtml>) Baker, Robert D. et al. 1988. Timeless Heritage: A History of the Forest Service in the Southwest. College Station, TX: Intaglio, Inc. Accessed online: <http://www.fs.fed.us/r3/about/history/timeless/index.shtml>. page 36.
- <sup>13</sup> We did not include Apache County, Arizona, even though its southern tip could be considered part of the wildland region. Since long-term employment and income data is available primarily at the county level, we would have had to include all of Apache County, which is very large, stretching north to the Utah border, and would not have been representative on the southern part of the county; the two main towns, Springerville and Eager, represent less than 9 percent of the county's population Arizona Department of Commerce. 2007. Profile, Apache County, Arizona: <http://www.azcommerce.com/doclib/commune/apache%20county.pdf>.
- <sup>15</sup> "America's Top Ten Bargain Towns for Boomers: Best Places to Retire." <http://www.55-alive.com/PlacestoRetire.php?artID=5737>.
- <sup>16</sup> "Bordering a wilderness area, historic mining town mixes rustic settings with strong community spirit." *Where to Retire Magazine*. November/December, 2007. Quoted on Silver City/Grant County New Mexico Chamber of Commerce website: <http://www.silvercity.org/reviews.shtml>, accessed May 20, 2008.
- <sup>17</sup> National Geographic Adventure magazine cites a new cancer clinic and expansion at the hospital. "The Mother Lode." *National Geographic Adventure*. February 2008. 10 (1).
- <sup>18</sup> Ibid.

- 
- <sup>19</sup> M. Grudowski. "Outside's Best Towns 2004: 100-Proof America." *Outside Magazine*. August 2004. [http://outside.com/outside/destinations/200408/best\\_american\\_dream\\_towns\\_splash.html](http://outside.com/outside/destinations/200408/best_american_dream_towns_splash.html), accessed on May 20, 2008.
- <sup>20</sup> M. Finn, "36 hours in Silver City, NM." *The New York Times*. January 13, 2006. <http://travel2.nytimes.com/2006/01/13/travel/escapes/13hour.html?pagewanted=all>, accessed on May 20, 2008.
- <sup>21</sup> National Trust for Historic Preservation. Dozen Distinctive Destinations. 2002. <http://www.preservationnation.org/travel-and-sites/travel/dozen-distinctive-destinations/listings.html>.
- <sup>22</sup> "10 Coolest Small Towns," *Budget Travel*. September 2007.
- <sup>23</sup> Economic Adjustment Strategy for Grant County, New Mexico. October 2004. [http://www.silvercitybusiness.com/Images/Reprints/Pathfinders\\_Final\\_Report.pdf](http://www.silvercitybusiness.com/Images/Reprints/Pathfinders_Final_Report.pdf).
- <sup>24</sup> Sierra County Sentinel online. <http://www.gpkmedia.com/economy/economy.htm>. accessed on March 5, 2008.
- <sup>25</sup> Sierra County Recreation and Tourism Board. [http://www.sierracountynewmexico.info/about\\_page.html](http://www.sierracountynewmexico.info/about_page.html).
- <sup>26</sup> C. Main, "Creating the Future – Economic Development Program – Sierra County." *New Mexico Business Journal*, May 1993. [http://findarticles.com/p/articles/mi\\_m5092/is\\_n5\\_v17/ai\\_14036862](http://findarticles.com/p/articles/mi_m5092/is_n5_v17/ai_14036862)
- <sup>27</sup> HotSprings Motorplex. <http://www.hotspringsmotorplex.com/>
- <sup>28</sup> Spaceport America <http://www.scedo.org/spaceport.aspx>
- <sup>29</sup> L. David. "New Mexico: Building A Better Spaceport." January, 2006. [http://www.space.com/business/technology/060125\\_build\\_spaceport.html](http://www.space.com/business/technology/060125_build_spaceport.html), accessed May 20, 2008.
- <sup>30</sup> Catron County Chamber of Commerce, "About our County." <http://www.catroncounty.org/about.php>. Accessed May 20, 2008.
- <sup>31</sup> "Top Public Hunting Areas." *Outdoor Life Magazine*. September 2005.
- <sup>32</sup> Legal Notice: Public Hearing, Economic Development Ordinance. <http://catroncounty.blogspot.com/2008/03/legal-notice-public-hearing-economic.html>.
- <sup>33</sup> Proposed Catron County Local Economic Development Act Ordinance <http://www.catroncitizens.org/econdev/>.
- <sup>34</sup> J. Larson, "Reserve Duo Gets \$250,000 Grant." *Mountain Mail*. April 3, 2008. John Larson. <http://www.mymountainmail.com/stories/catlogging20080403.php>, accessed May 20, 2008.
- <sup>35</sup> Greenlee County Arizona home page <http://www.co.greenlee.az.us/> accessed on March 5, 2008.
- <sup>36</sup> 2003 Greenlee County Comprehensive Plan, Adopted March 4, 2003. <http://www.co.greenlee.az.us/PlanningZoning/Comprehensive%20Plan/Greenlee%20County%20Comprehensive%20Plan%202003.pdf>.
- <sup>37</sup> McGranahan, D.A. 1999. Natural Amenities Drive Rural Population Change.
- <sup>38</sup> Gateways To Yellowstone. National Parks Conservation Association. May 2006. [http://www.npca.org/northernrockies/gateways\\_yellowstone/Gateways-To-Yellowstone.pdf](http://www.npca.org/northernrockies/gateways_yellowstone/Gateways-To-Yellowstone.pdf).

---

## APPENDIX A. THE REGIONAL ECONOMY<sup>1</sup>

<b>TABLE OF CONTENTS</b>	Page
Population	A2
Age	A3
Employment	A3
Personal Income	A4
Unemployment	A6
Per Capita Income	A7
Changing Economic Structure	A7
Non-Labor Income	A8
Mining	A9
Services	A10
Government	A10
Other Sectors	A10
Endnotes	A11

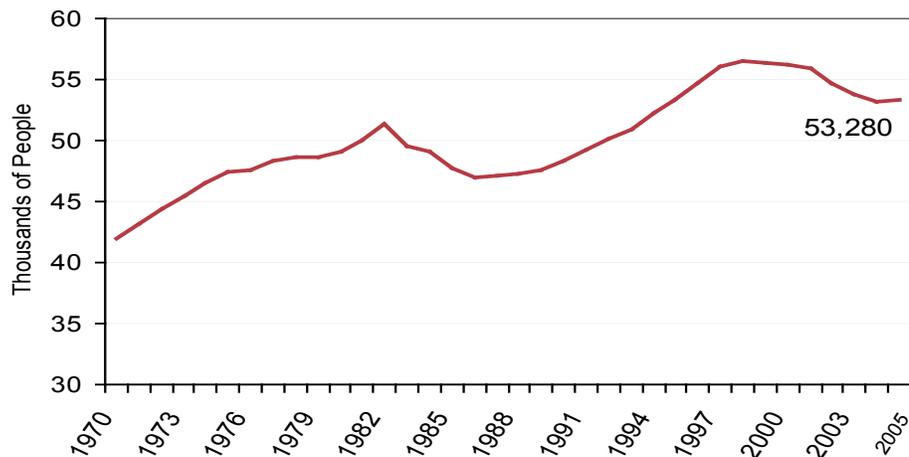
## APPENDIX A. THE REGIONAL ECONOMY

### Population<sup>2</sup>

The population of the region is growing, but erratically, with a recent downturn that started in 2000. Young people, in particular, are leaving the region, and newcomers are more likely to be older, contributing to a relatively high median age.

From 1970 to 2005, the region's population grew by 11,274 people, a 27 percent increase in population. (By comparison, the state of Arizona grew by 232% during that time, and New Mexico by 88% . The U.S. grew by 45% during those years).

**Figure A1. Regional Population: 1980–2005**

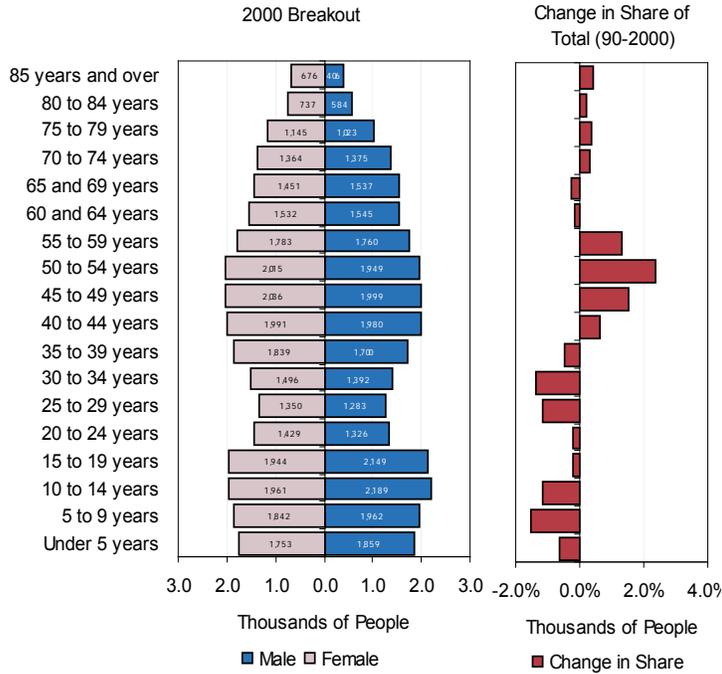


### Age

The region is relatively old, consisting of aging baby boomers (over 50), while the proportion of teenagers and kids is declining. According to the last decennial census (2000) the median age was 40.9 years, up from 35.9 a decade earlier.<sup>3</sup> The age group that grew the fastest from 1990 to 2000 was between 50 to 54 years – these have entered retirement age by 2007. As we show in latter parts of this report, an ageing population (and rising non-labor sources) offers opportunities for communities willing to capitalize on this trend.

# APPENDIX A. THE REGIONAL ECONOMY

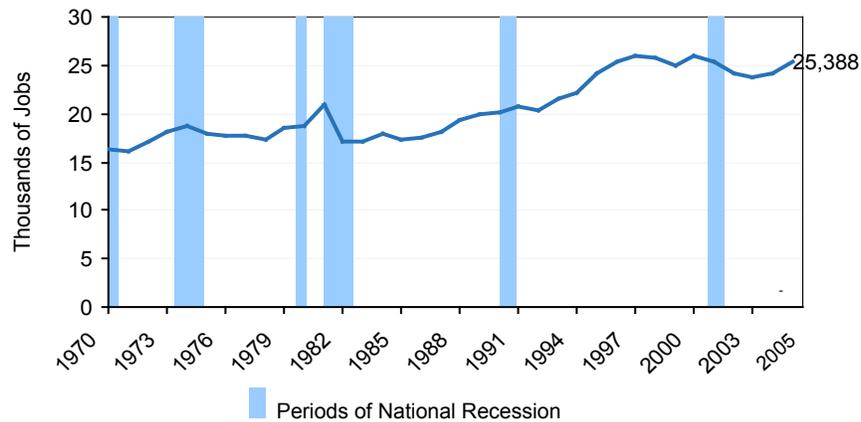
**Figure A2. Regional Population by Age Cohort**



## Employment

From 1970 to 2005, 9,148 new jobs were created in the region, although the growth has been erratic.

**Figure A3. Regional Employment: 2005**



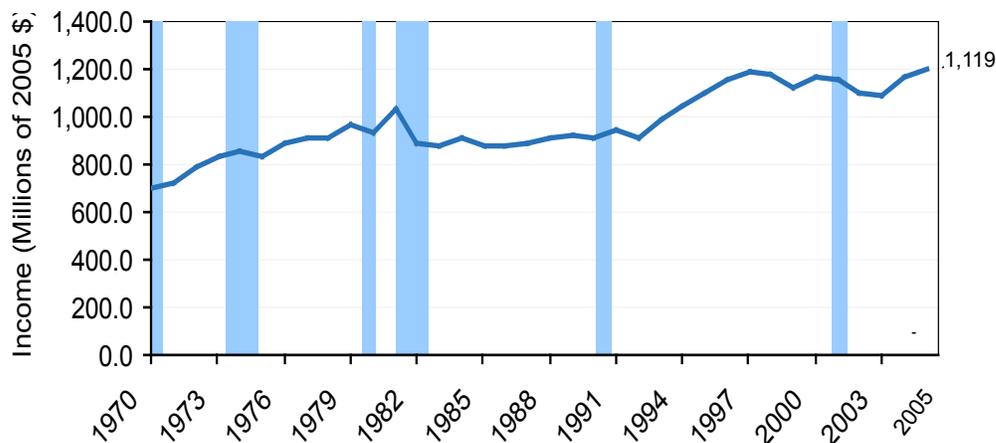
## APPENDIX A. THE REGIONAL ECONOMY

Downturns in employment in the region correspond with periods of national recession (blue bars), particularly during the 1981-82 recession and the latest one during 2001. The fluctuations can also be explained, at least until recently, by the erratic nature of the copper mining industry in two of the four counties. This is explored in detail in subsequent sections of this report.

### Personal Income

From 1970 to 2005, personal income grew by \$502 million in real terms, an expansion of 67 percent. Fluctuations in personal income were similar to those in employment and, until very recently, were influenced by national business cycles (periods of expansion and recession) and the rise and decline of mining activity.

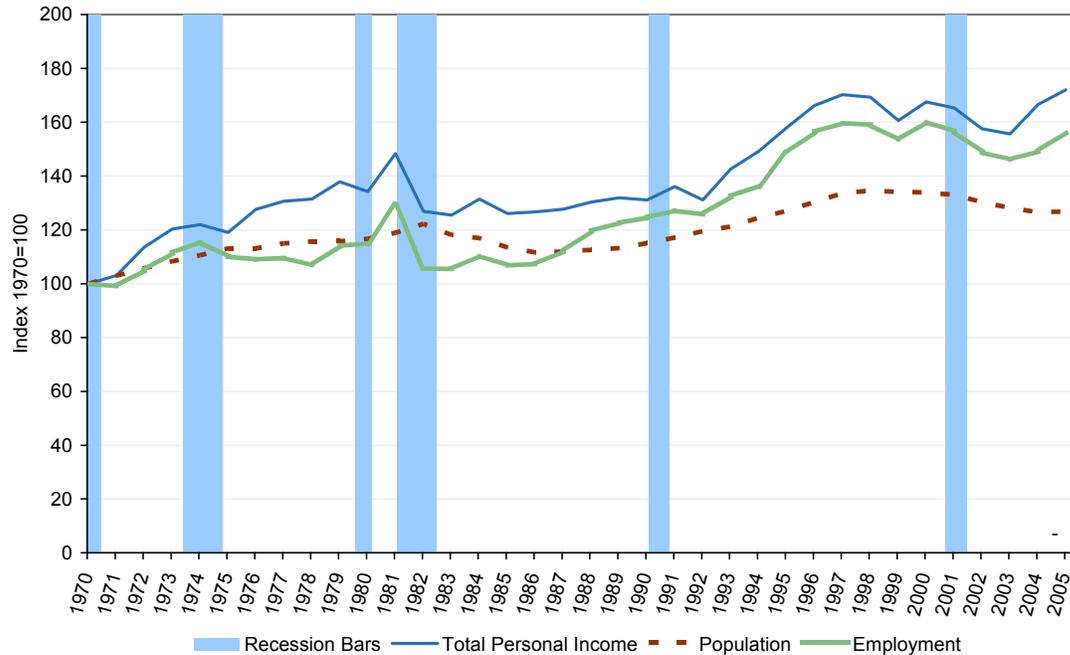
**Figure A4. Regional Personal Income: 2005**



More recently, the economy (employment and income) entered a period of overall growth in non-labor income sources and employment in services, government and other sectors, despite declines in mining. Of particular importance to the region's recent performance is the degree of diversification away from dependence on mining in Grant County. New growth there is likely linked to a different set of national trends – an aging population and increased demand for services.

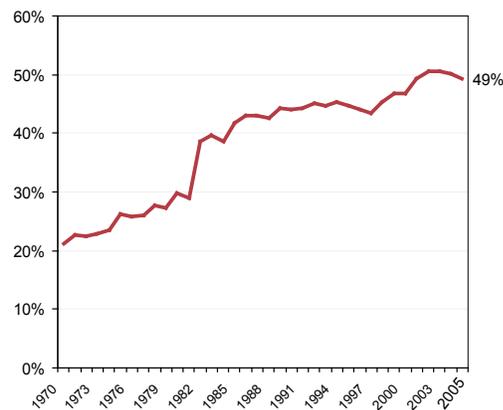
## APPENDIX A. THE REGIONAL ECONOMY

**Figure A5. Regional Growth in Population, Employment and Real Personal Income (indexed to show relative rates): 1970–2005**



When compared on the same figure (indexed with 1970=100), employment and income trends (top two lines in figure below) track very closely yet population fluctuates less dramatically. Recently, the rate of population change was negative, yet jobs and income increased. This means several factors made up for the loss in population. One is the rapid rise of non-labor income (Transfer Payments, Dividends, Interest and Rent) (see figure below) and the other is the decline in unemployment.

**Figure A6. Non-labor Share of Personal Income: 1970–2005**

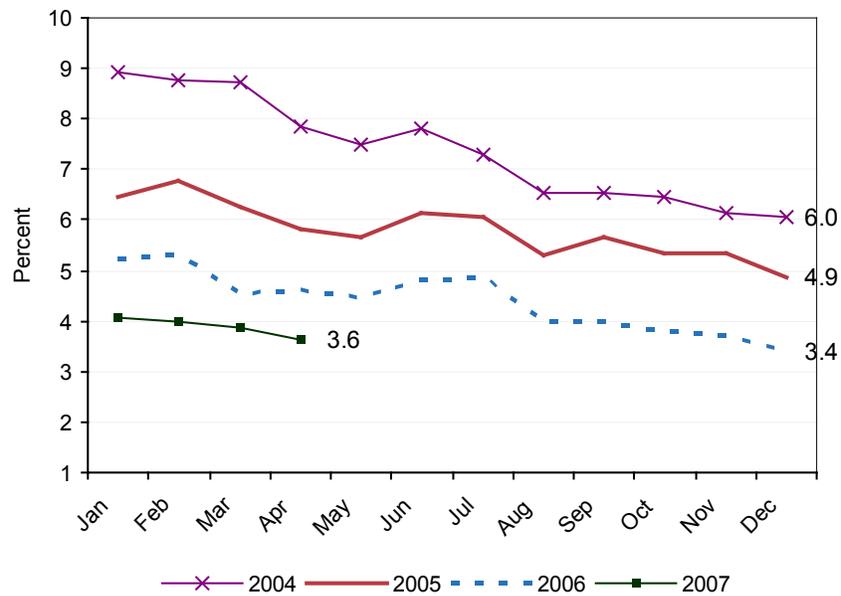


## APPENDIX A. THE REGIONAL ECONOMY

### Unemployment<sup>4</sup>

The unemployment rate in the region has declined steadily over the last four years, from a high of nine percent in January of 2004 to 3.6 percent in May of 2007. The average annual unemployment rate in 2006 was 4.4 percent, which was lower than the nation (4.6%) and significantly lower than in 2003 (8.5%). By April of 2007 the regional unemployment rate was 3.6 percent.

**Figure A7. Regional Unemployment Rate**



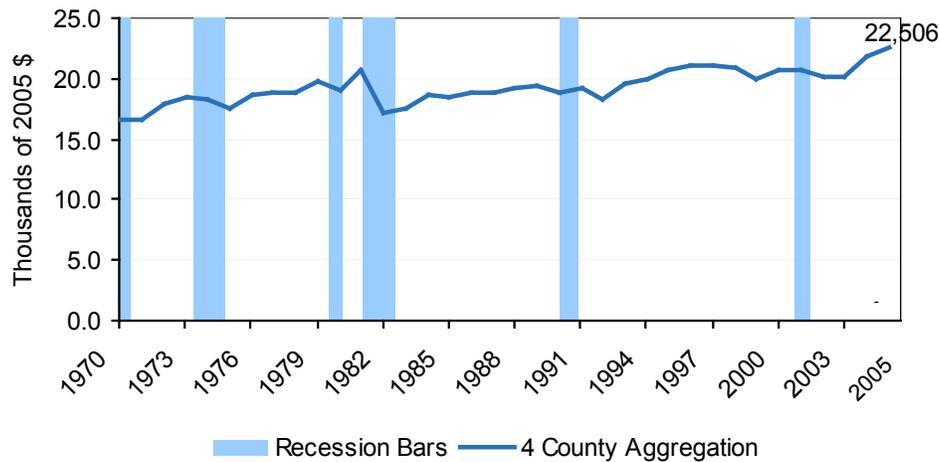
## APPENDIX A. THE REGIONAL ECONOMY

### Per Capita Income<sup>5</sup>

Per capita income in the region is rising: \$16,591 in 1970; \$20,709 (at the peak of mining employment); to \$22,506 in 2005. Since per capita income is total personal income divided by population, the increasing amount of non-labor income contributes to the rise.

The average per capita income for the region in 2005 was \$22,506, 33 percent lower than the state of Arizona and 23 percent lower than the state of New Mexico. This is not surprising since the region lacks metropolitan areas.

**Figure A8. Regional Per Capita Income: 1970–2005**



### Changing Economic Structure

A historic perspective emphasizes the changing nature of the regional economy in terms of the contribution of various economic sectors to personal income. Figure A9 (next page) shows historical trends in the four-county region, expressed in terms of changes in personal income by source. Labor income includes jobs in various business sectors, such as mining, services and government. Non-labor sources include government, medical and retirement payments and private investment income.

We show historical trends for a couple of reasons. First, the most reliable long-term trend data is from 1970 to 2000. Beyond that date, the U.S. Department of Commerce places restrictions on data availability. Second, in 2001 the U.S. Department of Commerce and other agencies switched to a different industrial classification system that is not backward comparable to historic

## APPENDIX A. THE REGIONAL ECONOMY

data (i.e., they cannot be displayed on the same long-term trend line graph).

**Figure A9. Personal Income by Industry and Source: 1970–2005**

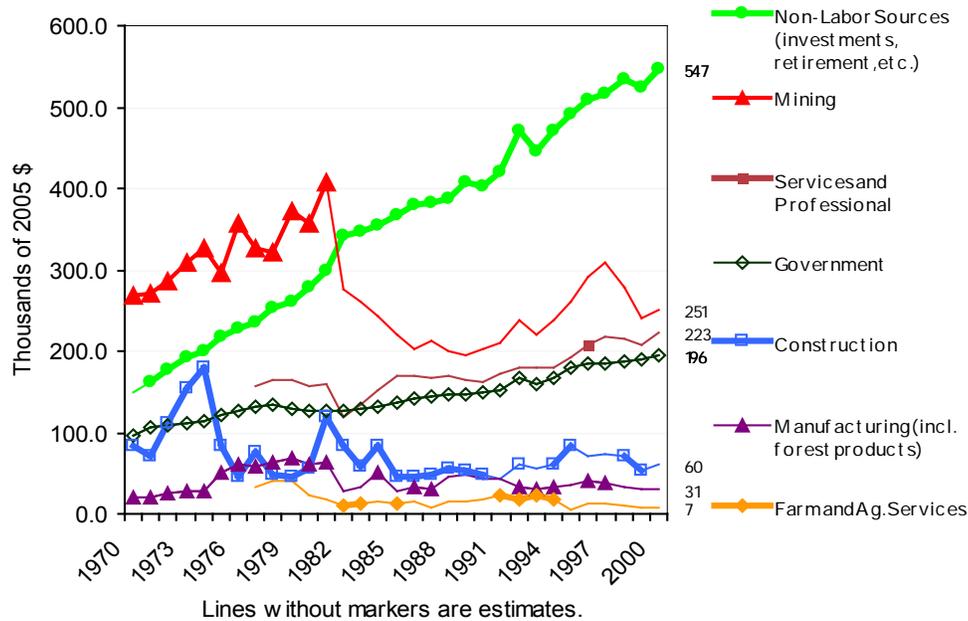


Figure A9 (above) shows the long-term historical trend in personal income by industry and by source. An important reference point is 1981, an economic peak before the region's economy dropped into the 1982 recession. This year was also when mine employment was at its highest in Grant County, and at its second highest in Greenlee County.

### **Non-Labor Income**

Non-labor income sources (in green) are the largest contribution to the economy and a primary driver of per capita income growth. Non-labor income consisted of 21 percent of total personal income in 1970; 39 percent by 1982; 43 percent in 2005 (slightly down from 51% in 2003). In 2005, 35 percent of non-labor income was from dividends, interest and rent and 65 percent was from transfer payments. Transfer payments consist of age-related payment to individuals, including federal retirement payments (43%) and medical payments (38%).

In the last 35 years, non-labor sources grew at an annual rate of 4 percent, outpacing labor income sources, which grew at 0.3 percent per year.

---

## APPENDIX A. THE REGIONAL ECONOMY

It is important to note that because non-labor income, as reported by the U.S. Department of Commerce, includes only government retirement payments to individuals and not private contributions such as 401k plans, the non-labor income in this figure is an underestimation.

Non-labor income is important in the region for several reasons. The first is stability. When an economy is affected by a recession, such as the downturn that began in 1981, non-labor income can have a stabilizing effect. From 1982 to 2000 – a period of recovery from the last major recession – non-labor income contributed more than \$546 million in personal income, contributing 72 percent of all personal income growth during that time.

Another reason why non-labor income is important is the long-term effect it can have in stimulating other sectors of the economy. From 1970 to 2005, non-labor income has contributed 88 percent of the net growth in personal income in the region. During that time, total personal income in the region grew, in real terms, by 72 percent, despite significant declines in mining.

Retirees and people with investment income stimulate other sectors of community economies, including retail, construction, real estate and health services. Whether a community is able to capitalize on this growing source of income depends on whether the trend is known and whether the community makes a concerted effort to capture non-labor dollars for local industry. As we show later in this report, some communities have been able to do this better than others.

Later in this report, we explore in more detail the importance of non-labor income sources to each county's economy.

### ***Mining***

The second largest contributor to the region's economy is mining (in red). Mining plays a large, yet declining, role, both in absolute and relative terms. In the long-term — from 1982 to 2000 — the region's economy lost \$23.7 million in personal income due to declines in the number of people employed in mining, mostly due to the bust in 1982. Following the bust there have been periods of growth in mining. For example, 1991 to 2000, growth in personal income from mine employment was relatively stable, with a gain of \$42 million in personal income (19% of net growth).

Mining – mainly copper – is still important in the region, primarily for Greenlee and Grant counties. As following sections will show, Greenlee County remains highly dependent on copper mining as the primary industry in the county. Grant County, historically very dependent on mining, has diversified significantly, moving away from the fluctuations that come with changing global copper prices.

The long-term trend graph is useful for exploring the relationship between other sectors in the economy and this historically dominant industry. Note that non-labor income sources and

---

## APPENDIX A. THE REGIONAL ECONOMY

personal income from government employment have risen steadily, without the up and down fluctuations associated with mining.

### ***Services***

Service and professional sectors (in maroon) have grown steadily. This includes a mixture of high-wage occupations, such as health, business, engineering, management services, and some relatively low-wage occupations, such as those found in tourism related activities. From 1982 to 2000 this sector added \$103 million in personal income, which constitutes 37 percent of total income growth during that time.

### ***Government***

The fourth largest source of personal income in the region is government (in black). This sector consists of personal income earned by people employed in local, state and federal government. From 1982 to 2000, government contributed \$68.4 million in personal income, or 24 percent of net income growth.

### ***Other Sectors***

The remainder of the economy (more than 30%), consists of “other” sectors (more than \$389 million). If the economic structure in 2005 was similar to that of 2000, it can be safely assumed that the bulk of “other” consists of service sectors. The largest among them is in “trade, transportation and utilities.”

---

## APPENDIX A. THE REGIONAL ECONOMY

### Endnotes

<sup>1</sup>Except where indicated, information for this section was obtained from the U.S. Department of Commerce. 2007.

Bureau of Economic Analysis, Regional Economic Information System (BEA/REIS). Washington, D.C.

<sup>2</sup>Data for population, employment, personal income, and the changing economic structure from BEA/REIS. 2006 population estimate: Bureau of the Census: <http://www.census.gov/popest/counties/CO-EST2006-01.html>.

<sup>3</sup> Bureau of the Census. Decennial Census of Population and Housing, 1990, 2000. Washington, D.C.

<sup>4</sup>Unemployment data from Bureau of Labor Statistics.

<sup>5</sup>Per capita income data from BEA/REIS.

---

## APPENDIX B. COUNTY ECONOMIES<sup>1</sup>

<b>TABLE OF CONTENTS</b>	Page
Population	B2
Age	B5
Employment and Personal Income	B6
Per Capita Income	B7
Unemployment	B9
Education	B9
Income Distribution	B11
Changing Economic Structure	B12
Greenlee County, Arizona	B12
Catron County, New Mexico	B13
Grant County, New Mexico	B14
Sierra County, New Mexico	B15
Endnotes	B16

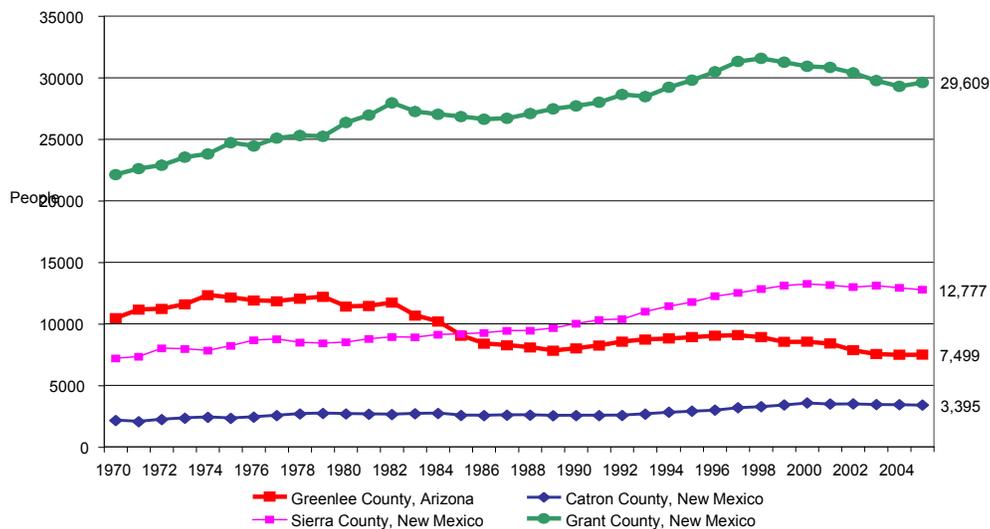
## APPENDIX B. COUNTY ECONOMIES

### Population

From 1990 to 2005 the largest average annual growth in population was in Catron County, followed closely by Sierra County. During that time Greenlee County lost population (in synch with a loss of mining jobs) and Grant County's population stayed roughly the same (despite a decline in mining employment).

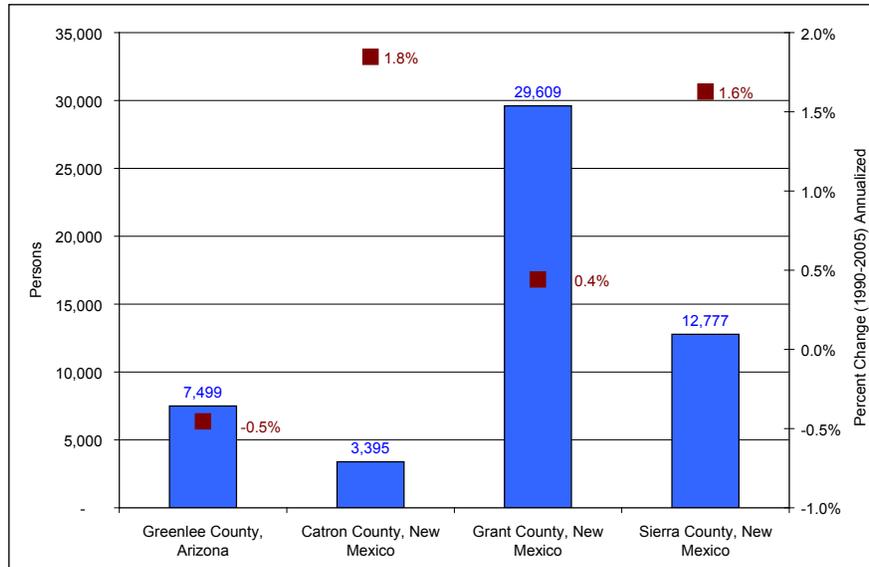
Over half of the region's population is in Grant County; 80 percent is in Grant and Sierra counties. Catron County has the smallest population, constituting six percent of the four-county region.

**Figure B1. Population over Time, Four Counties**



## APPENDIX B. COUNTY ECONOMIES

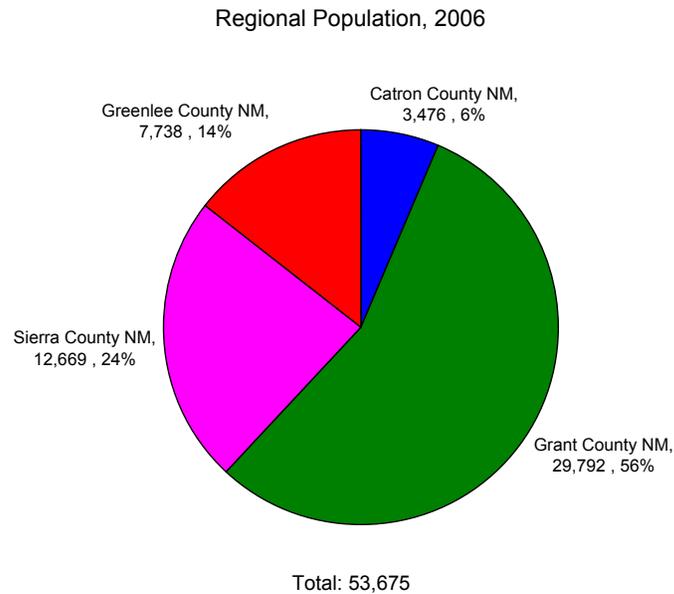
**Figure B2. Change in Population: 1990–2005**



Note: in Figure B2, the number of people is depicted in blue and by the left-hand vertical axis. Percent change per year is shown as red blocks and by the right-hand vertical axis.

## APPENDIX B. COUNTY ECONOMIES

**Figure B3. Regional Population by County: 2006**



Recently, from 2000 to 2006, all four counties lost population (last column in table).<sup>2</sup> The highest loss in population was in Greenlee and Grant counties. Despite positive natural growth (births exceeded deaths) rapid out-migration has resulted in a net loss of population. As later sections of this report show, these counties are also the two most mining-dependent, thus at risk from fluctuating commodity prices, particularly copper.

Components of Population Change (people per year): 2000 - 2006

	Births	Deaths	Natural (Births - Deaths)	International Migration	Internal Migration	Total Migration	TOTAL
Greenlee County	99	54	45	7	(183)	(175)	(129)
Catron County	24	36	(12)	0	5	5	(11)
Grant County	372	316	56	13	(253)	(240)	(194)
Sierra County	111	210	(100)	24	(16)	8	(96)
Arizona	90,250	42,581	47,668	32,746	86,605	119,351	165,710
New Mexico	27,900	14,291	13,610	5,275	3,662	8,937	21,688

Total migration = international + internal (domestic)

Total = natural + total migration (plus an adjustment factor - see footnote)

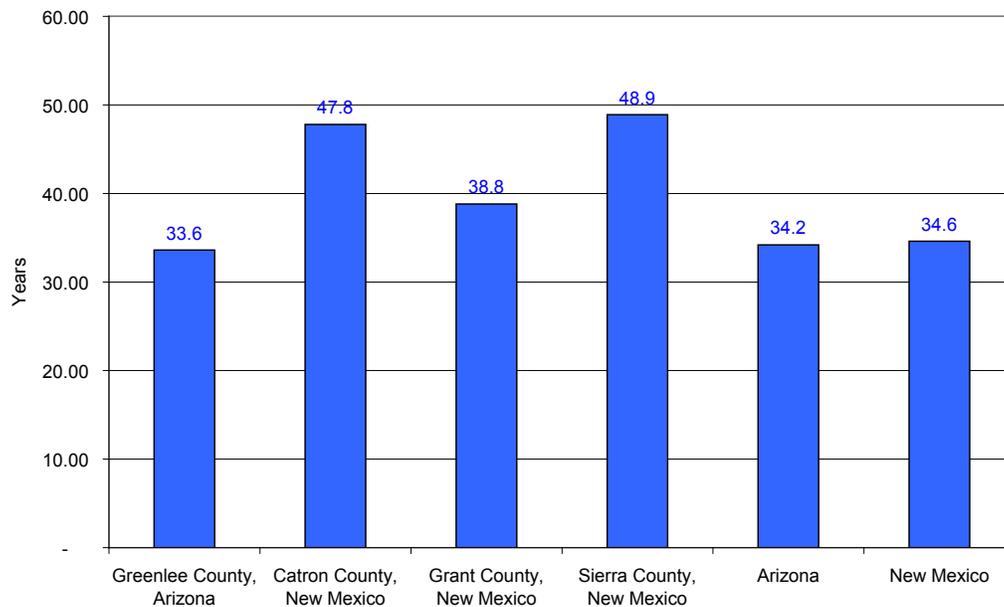
## APPENDIX B. COUNTY ECONOMIES

Catron and Sierra counties have experienced negative natural change in the population; i.e., deaths exceed births. This means the growth in these counties is from migration only, which has been too small to make up for the loss resulting from births exceeding deaths. In other words, few people are moving to these counties, and those who are, are more likely to be old. As later sections of this report illustrate, Catron and Sierra counties have the highest median age and the highest proportion of personal income (59%) from non-labor sources, such as retirement and investments.

### Age<sup>3</sup>

According to the 2000 census Catron and Sierra counties have the highest media age. Unless many young people have moved there recently, it is safe to assume that the relative age comparison in 2007 is similar. In general, with the exception of Greenlee County, the region is older than Arizona and New Mexico, which is consistent with the high proportion of income from non-labor sources.

**Figure B4. Median Age: 2000**

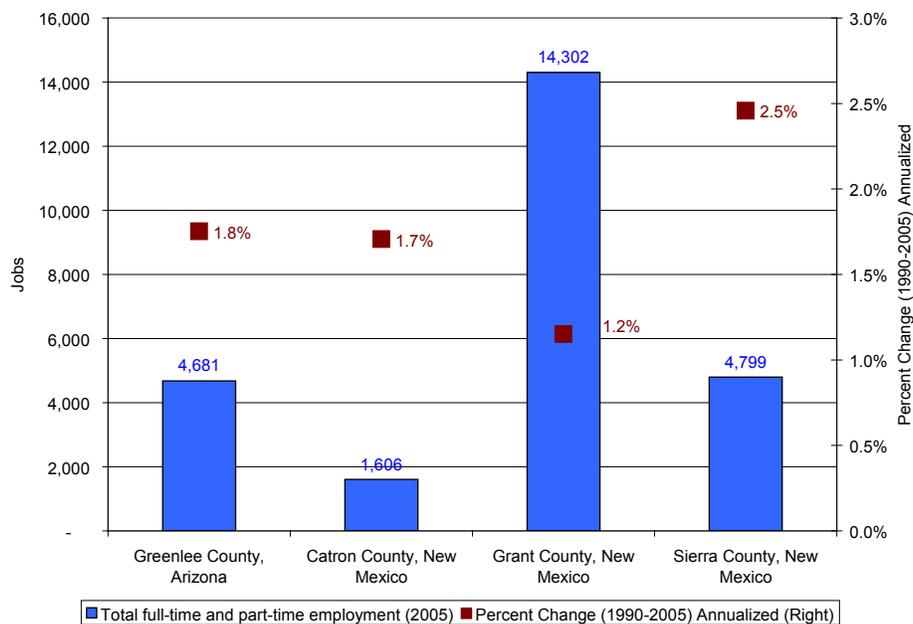


## APPENDIX B. COUNTY ECONOMIES

### Employment and Personal Income<sup>4</sup>

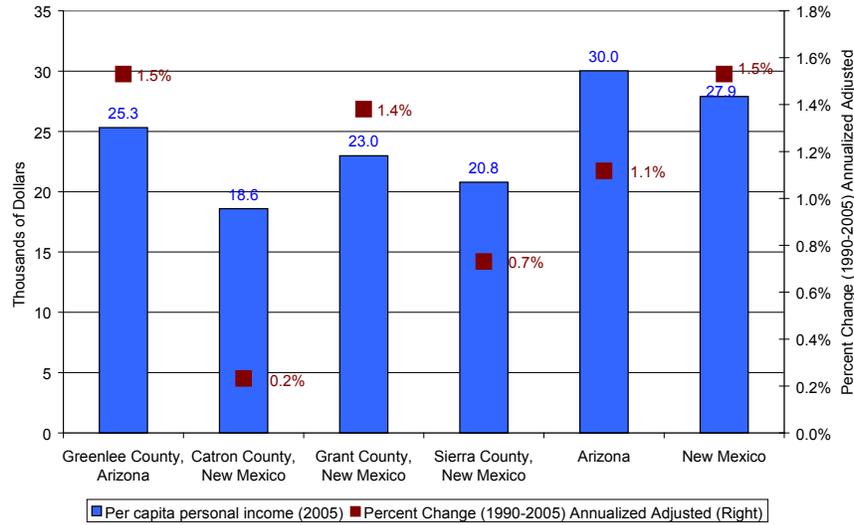
Just as Grant County has the largest population in the region, it also has the largest share (56%) of employment and income. From 1990 to 2005 the fastest growth in employment was in Sierra County (2.5% annually), followed by Greenlee (1.8%) and Catron (1.7%) counties. During the same period, the fastest growth in real personal income was in Sierra County (2.4% annually) and Catron County (2.1% annually).

**Figure B5. Total Full- and Part-Time Employment: 2005**



## APPENDIX B. COUNTY ECONOMIES

**Figure B6. Personal Income: 2005**



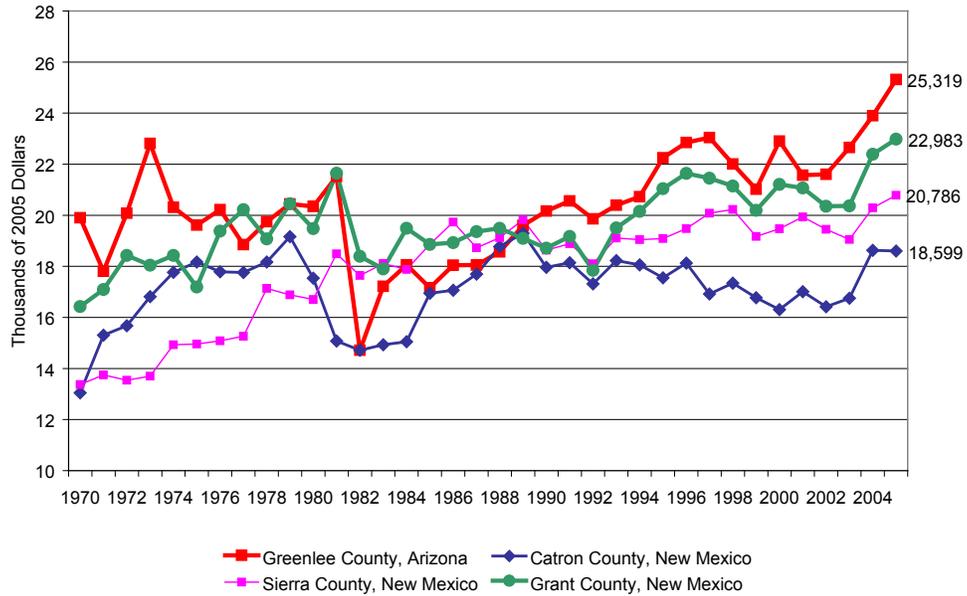
### Per Capita Income<sup>5</sup>

The figures on the following page show the changes in per capita income over time, represented in real dollar terms. Note that per capita income has risen for all counties since 1982 (the year after a national recession).

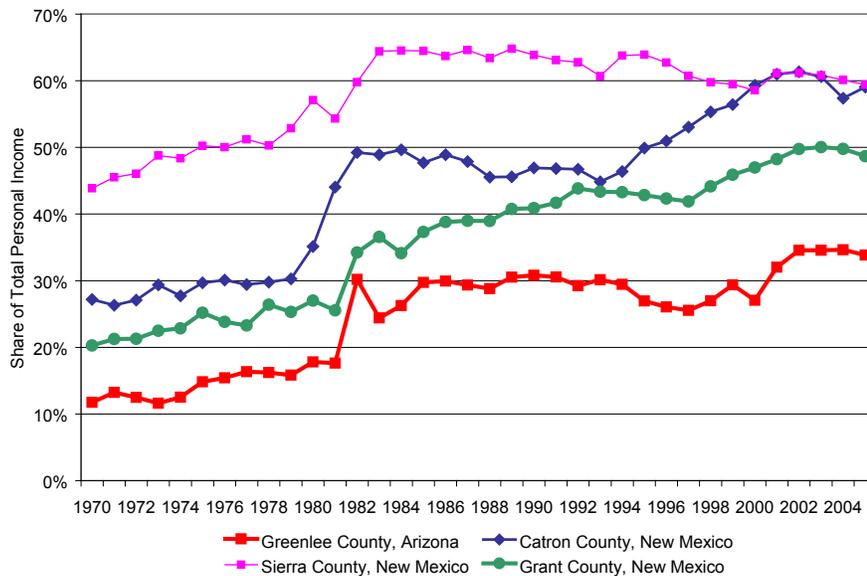
Per capita income (PCI) has shot up recently. From 2000 to 2005, PCI in Greenlee County increased from \$22,904 to \$25,319, a 10.5 percent increase. During that time, PCI for Grant County grew by eight percent, from \$21,209 to \$22,983. Meanwhile, Sierra County's PCI grew by 6.7 percent, from \$19,469 to \$20,786. Catron County's PCI grew the fastest, from \$16,306 to \$18,599, a 14 percent increase. As subsequent sections will show (Figure B7, following page), much of this is due to employment in government, and a rise in retirement and investment income.

## APPENDIX B. COUNTY ECONOMIES

**Figure B7. Per Capita Income: 2005**



**Figure B8. Non-Labor Income: 1970–2006**



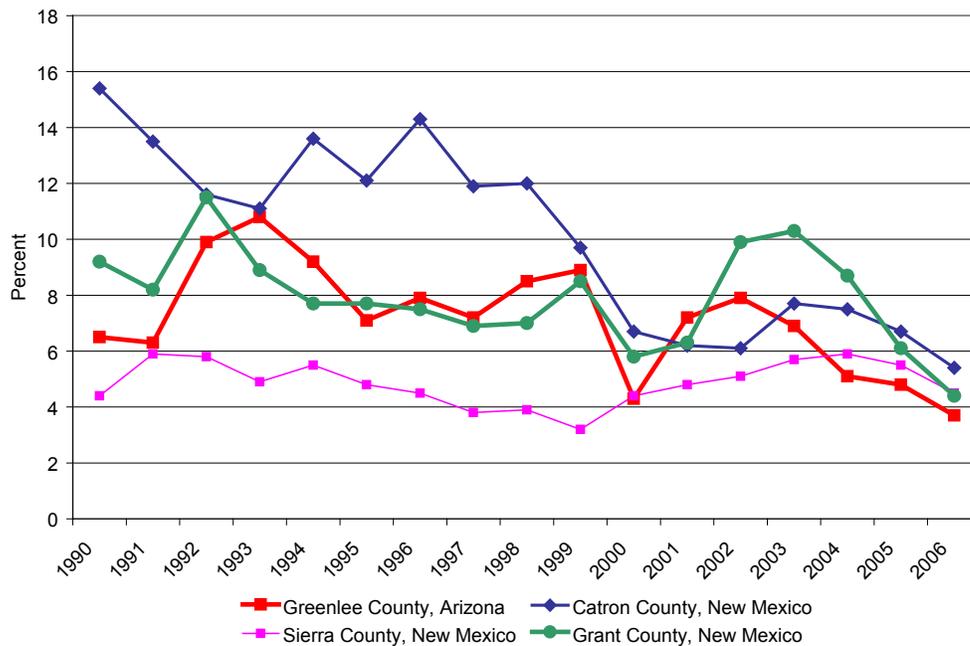
## APPENDIX B. COUNTY ECONOMIES

### Unemployment<sup>6</sup>

Greenlee County's unemployment rate dropped from 7.9 percent in 2002 to 3.7 percent in 2006. Catron County's rate dropped from 7.7 percent to 5.4 percent from 2003 to 2006. During that same period, Grant County's unemployment rate dropped the fastest, from 10.3 percent in 2003 to 4.4 percent in 2006. Sierra County's unemployment rate also dropped, from 5.9 percent in 2004 to 4.4 percent in 2006.

By comparison, in 2006 the rate of unemployment for New Mexico and Arizona was 4.2 percent and 4.1 percent, respectively. In 2006, the unemployment rate for the U.S. was 4.6 percent.

**Figure B9. Unemployment Rate: 1990–2006**



### Education<sup>7</sup>

Education is a good determinant of the economic potential in a county: the higher the level of education, the greater the opportunities to qualify for higher wage occupations, particularly in sectors associated with recent growth, such as service and professional sectors (e.g., education, engineering and management services), government and sectors associated with the rise in non-labor sources of income (e.g., health care).

The least educated county in the region is Sierra County, with 13.1 percent of the adult population with a college degree or greater, and 23.9 percent of the population with no high school diploma.

## APPENDIX B. COUNTY ECONOMIES

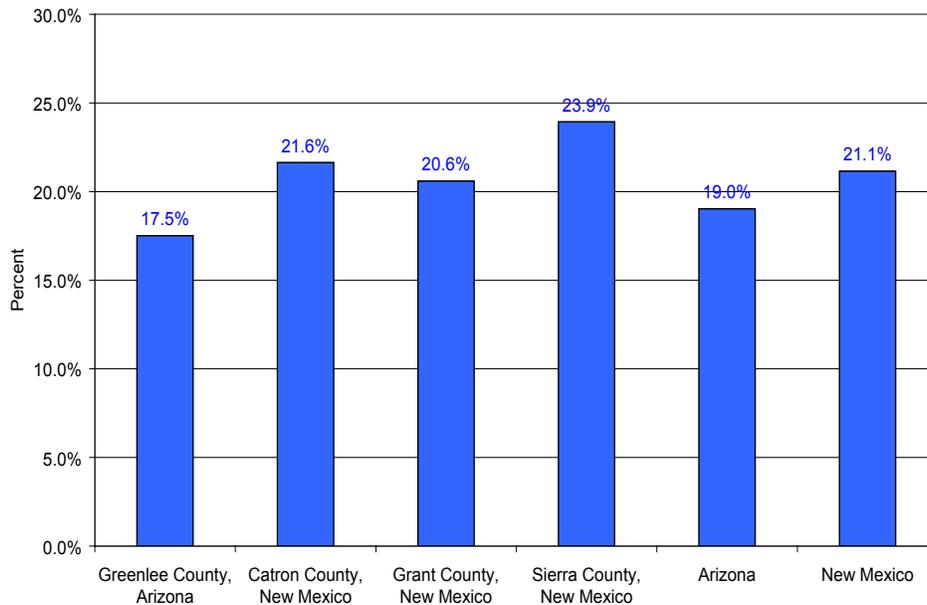
Greenlee County also has fewer residents with a college degree (12.2%), but, compared to Sierra County, has a smaller number of people with no high school education (17.5%).

Grant County has the highest proportion of the adult population with a college degree (20.5%), which is not surprising for a college town. Surprisingly, it also has a high proportion (20.6%) of the adult population without a high school education.

The second-most educated county, in terms of the percentage with a college education, is Catron County (18.4% of the adult population). However, Catron County also has a high proportion of individuals without a high school diploma (21.6%).

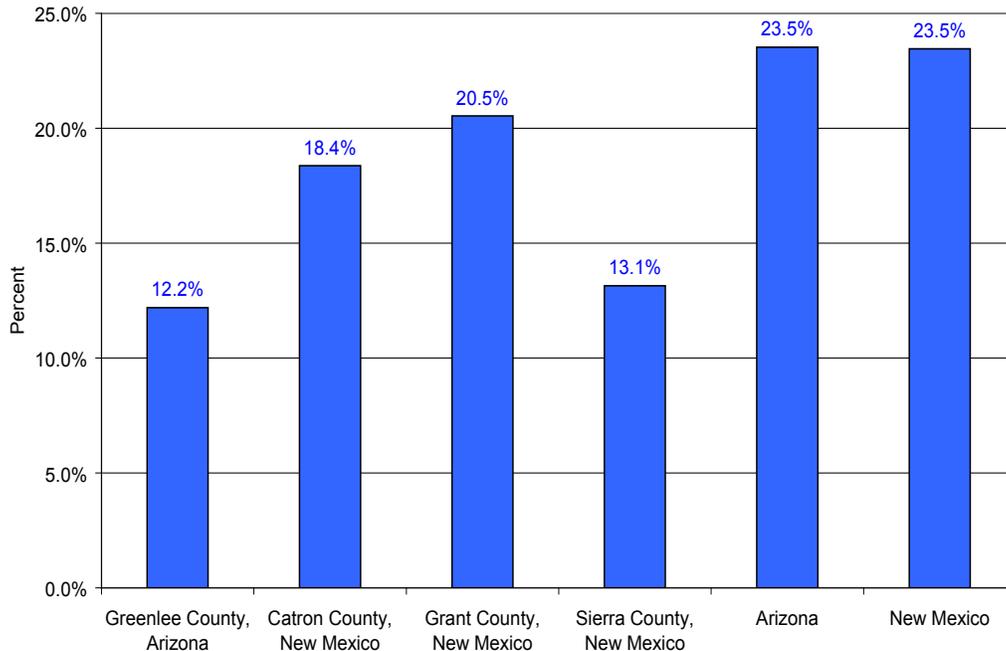
On average, 16 percent of the region has a college education, and 21 percent has less than a high school education.

**Figure B10. Education Rate (Percent of population 25-and-over without high school diploma): 2000**



## APPENDIX B. COUNTY ECONOMIES

**Figure B11. Education Rate (Percent of population 25-and-over with college degree): 2000**



### Income Distribution

One of the consequences of having educated and undereducated workers in the same community and/or overdependence on a single industry is that a gap between the “rich” and “poor” can grow. In the four-county region, for each household that made over \$100,000 per year, more than 14.5 households made less than \$30,000 per year (a “rich/poor” ratio of 14.5). By comparison, in the U.S., for every household that made over \$100,000 per year, 8.7 made less than \$30,000 per year (a ratio of 8.7).<sup>8</sup>

The rich/poor ratios for each of the counties are as follows: Greenlee 12.2; Catron 22.1; Grant 12.4 and Sierra 19.2. The highest gap between the “rich” and “poor” is in Catron County: for every household that made over \$100,000 there were, on average, 22 household that made less than \$30,000 per year.

There are several possible reasons for the inequitable distribution of wealth. As mentioned earlier, there is a gap between the proportion that is “educated” (college degree) and “uneducated” (less than high school) (e.g., 18.4% and 21.6%, respectively, in Catron County). Another reason for income disparities may be the combination of relatively high-wage occupations (e.g., government or mining) and low-wage occupations (e.g., agriculture, particularly ranching, and tourism-related services).

## APPENDIX B. COUNTY ECONOMIES

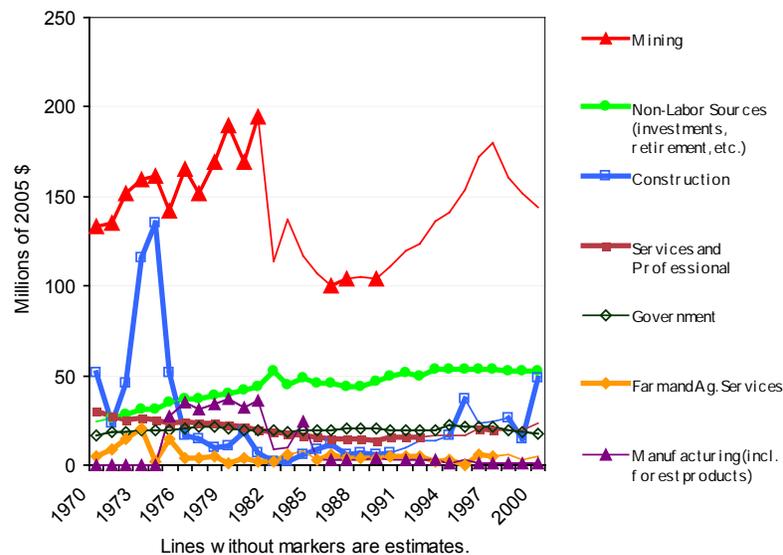
### Changing Economic Structure

#### *Greenlee County, Arizona*

From 1970 to 2000, mining has been the primary driver of Greenlee County's economy. Depending on the source of the data, estimates of the importance of mining in Greenlee County range from 74 percent of total personal income in 2000 to 75 percent of the workforce in 2005 (see following section).

Note that while non-labor income (green line) is not a large portion of the economy (a little more than a third of total personal income – see next section), it provides a stable source for the economy, free from fluctuations in mining and construction.

**Figure B12. Greenlee County Personal Income: 1970–2006**



## APPENDIX B. COUNTY ECONOMIES

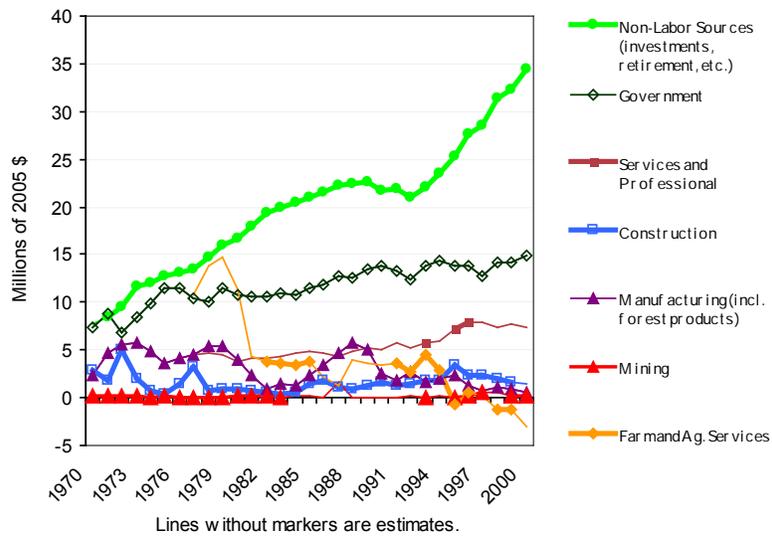
### *Catron County, New Mexico*

The two largest sources of personal income in Catron County are non-labor sources (59% of total in 2000 and 2005) and government (26% in 2000 and 25% in 2005).

Income from non-labor and government employment represents 84 percent of Catron County's economy.

The third largest sector in the county, service and professional industries (medical, engineering, management, tourism-related, etc.) accounted for another 13 percent of total personal income in 2000.

**Figure B13. Catron County Personal Income: 1970–2006**



## APPENDIX B. COUNTY ECONOMIES

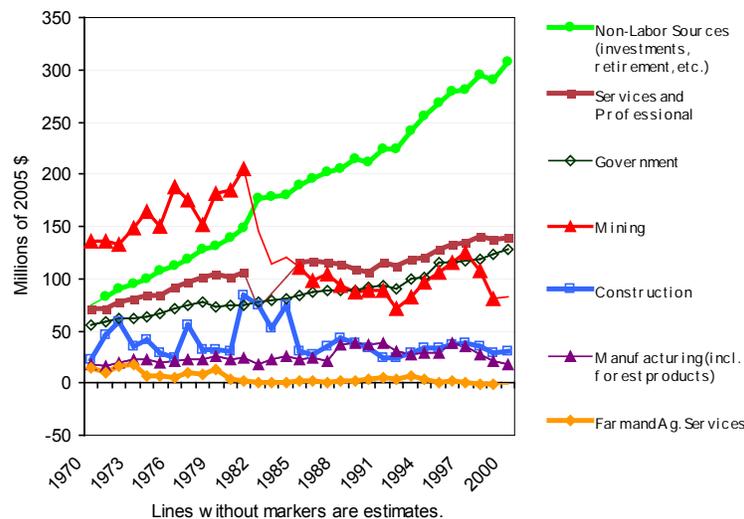
### *Grant County, New Mexico*

As with Catron County, the fastest growing and largest source of personal income in Grant County is from non-labor sources. From 1970 to 2000, non-labor sources accounted for 80 percent of real income growth. By 2005, 49 percent of total personal income in the county was from non-labor sources.

Also growing quickly in the economy of Grant County are service and professional industries and government. While recent figures on service and professional figures are not available, in 2000 they represented 21 percent of all personal income. In 2005, government – primarily state and local – represented 21 percent of total personal income.

Mining remains a significant source of personal income in Grant County, but declined in both absolute and relative terms, from 12.6 percent total in 2000 to 6.3 percent of total in 2003 (see following sections for more detail).

**Figure B14. Grant County Personal Income: 1970–2006**



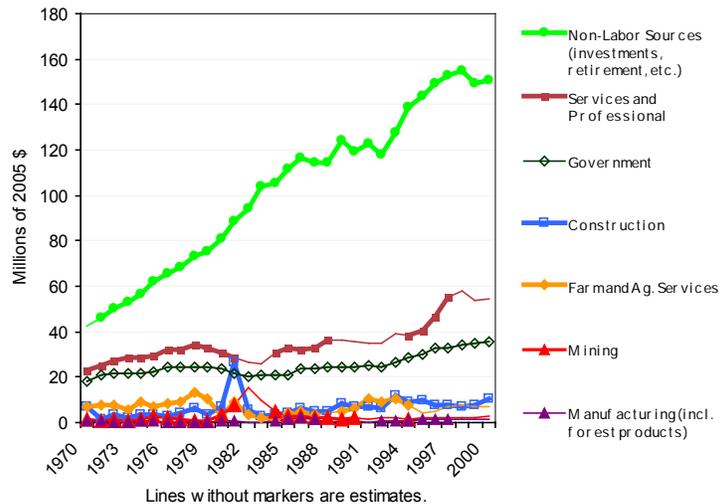
## APPENDIX B. COUNTY ECONOMIES

### *Sierra County, New Mexico*

As with Catron and Grant counties, non-labor income is a large and growing portion of total personal income in Sierra County, consisting of 67 percent of the growth from 1970 to 2000. It was 59 percent of total personal income in 2000, and in 2005.

The second largest component of total personal income in 2005 was service and professional industries (21%), followed by government (14%).

**Figure B15. Sierra County Personal Income: 1970–2006**



---

## APPENDIX B. COUNTY ECONOMIES

### ENDNOTES

<sup>1</sup> Data for this and the following page from BEA/REIS.

<sup>2</sup> Source: Bureau of the Census. Total population change = natural growth + total migration + “residual.” Residual is an adjustment the Census Bureau makes to population estimates and is not a demographic component of population change. For a description of definitions and methods, see: [http://www.census.gov/popest/topics/methodology/2006\\_st\\_char\\_meth.html](http://www.census.gov/popest/topics/methodology/2006_st_char_meth.html)

<sup>3</sup> Age data from the 2000 Decennial Census of Population and Housing, Bureau of the Census.

<sup>4</sup> Data on this page from BEA/REIS.

<sup>5</sup> Sources on this page from BEA/REIS.

<sup>6</sup> Unemployment data from Bureau of Labor Statistics.

<sup>7</sup> Bureau of the Census, 2000.

<sup>8</sup> Bureau of the Census. See page 25 of the aggregated four-county socioeconomic profile. The rich/poor ratios for each of the counties are as follows: Greenlee 12.2; Catron 22.1; Grant 12.4 and Sierra 19.2.

---

## APPENDIX C. KEY COUNTY INDICATORS<sup>1</sup>

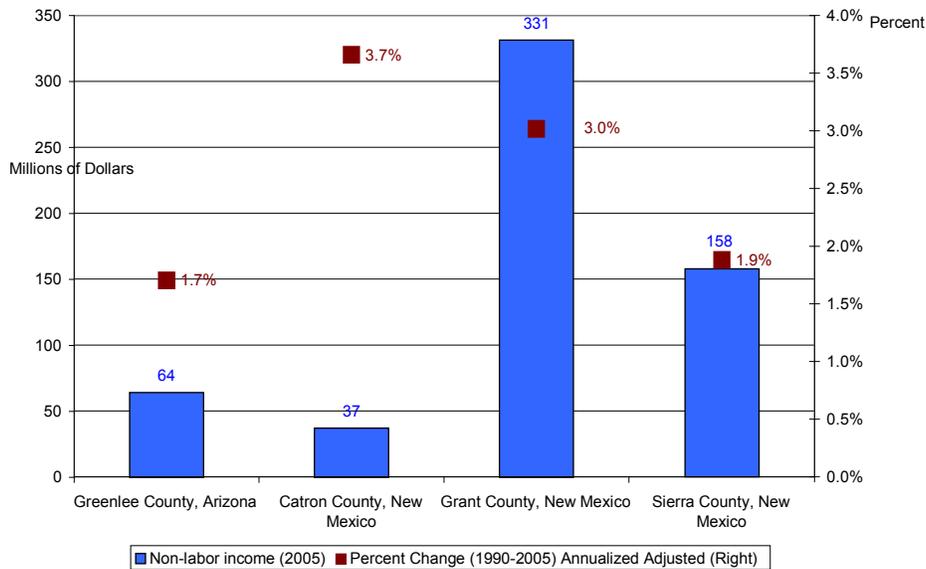
<b>TABLE OF CONTENTS</b>	Page
Non-labor Income	C2
Wages	C3
Government Employment	C6
Catron County, New Mexico	C6
Grant County, New Mexico	C7
Sierra County, New Mexico	C8
Mining	C9
Historical Trends	C10
Current Trends	C11
Are Mine-Dependent Counties Diversifying?	C13
Services	C15
Agriculture	C18
Farm and Ranch Income	C18
Farm Indebtedness	C19
Grazing Leases on Public Land	C20
Demographics	C20
Fiscal Health	C21
Methods	C21
Greenlee County, Arizona	C21
Catron County, New Mexico	C22
Grant County, New Mexico	C23
Sierra County, New Mexico	C23
Local Schools	C24
Endnotes	C28

## APPENDIX C. KEY COUNTY INDICATORS

### Non-Labor Income

As we illustrate above, non-labor income is the largest source of personal income in the region. Despite its importance, many economists do not report non-labor income, and most communities do not understand how or why to capture this wealth locally. In the Gila region, non-labor income is closely linked to retirement payments (both medical and income-based), and in most of the region non-labor income presents a clear opportunity to develop high-wage services that cater to the growing older population.

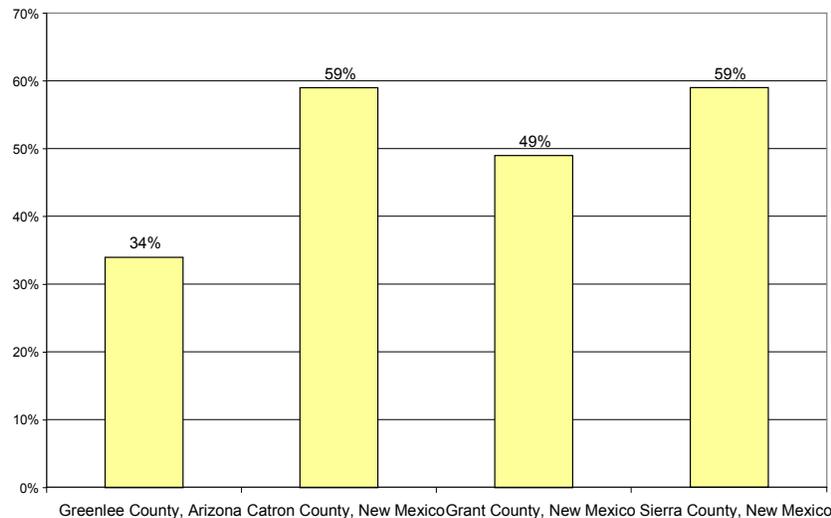
**Figure C1. Non-Labor Income by County: 2005**



Thirty-eight percent of non-labor income is in retirement payments, such as Medicare. Dividends, interest and rent – money from past investments – represent 17 percent of non-labor income, the same percentage as from government retirement payments. Very little of non-labor income is from “welfare” (2.7% of total personal income for the region).

## APPENDIX C. KEY COUNTY INDICATORS

**Figure C2. Non-Labor Income as Percent of Personal Income: 2005**



Catron County has the lowest absolute amount of non-labor income, but the fastest annual growth (3.7%, Figure C1) and (along with Sierra County) a high dependency on non-labor sources (59% of total income, Figure C2).

Because non-labor sources as reported by the U.S. Department of Commerce pertain only to government payments to individuals and do not include county private contributions to retirement, such as 401k plans, the absolute and relative size of non-labor income is likely larger than reported here.

### Wages<sup>2</sup>

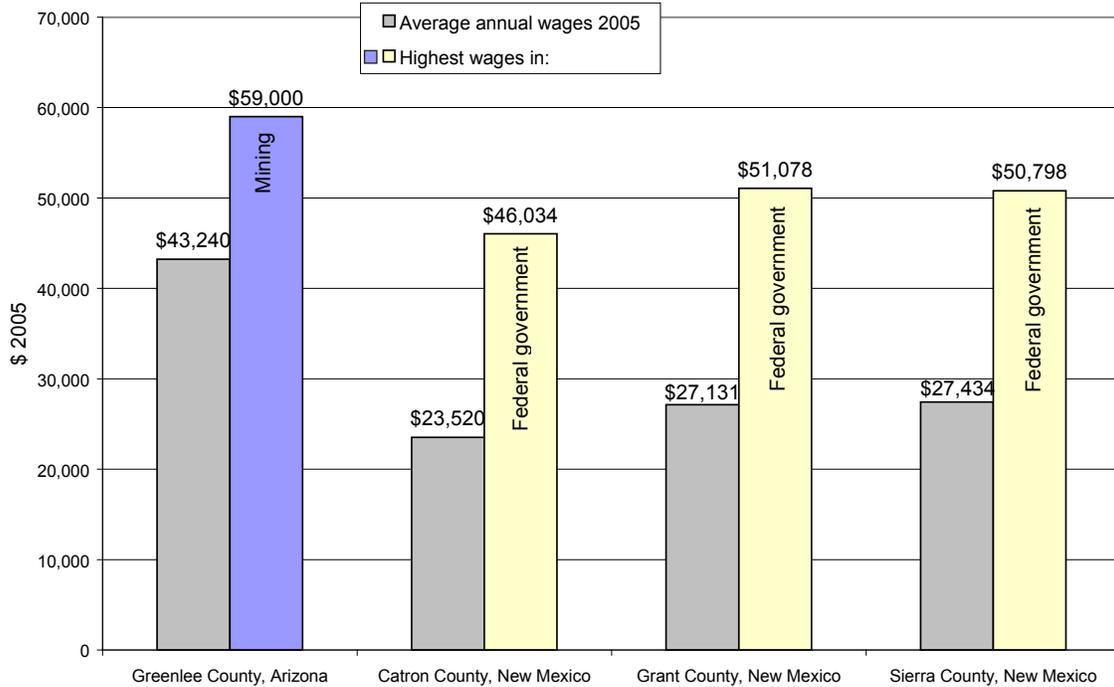
In 2005, the average annual wage for the four-county region was \$30,100, including the private and public sectors. Region-wide the highest wages are in federal government employment (\$48,867; 488 workers), followed by natural resources and mining (\$42,856; 1,208 workers), and manufacturing (\$37,373; 559 workers). The lowest wages were in leisure and hospitality services (i.e., “tourism;” \$9,625; 1,616 workers).

Relatively high-wage services sectors do exist in the region: education and health services (\$26,178, with 1,309 workers), professional and business services (\$25,294; 498 workers, and information services (\$34,268; 159 workers). (See C15: Services for more detail).

Over half of the high-wage goods-producing jobs are in Greenlee County. These are mostly workers employed in the Morenci mine.<sup>3</sup> Grant County holds the second-highest proportion of goods-producing workers, contributing another 39 percent. Most of those jobs are in construction and manufacturing.

## APPENDIX C. KEY COUNTY INDICATORS

**Figure C3. Average Annual Wages and Highest Paid Occupations: 2005**

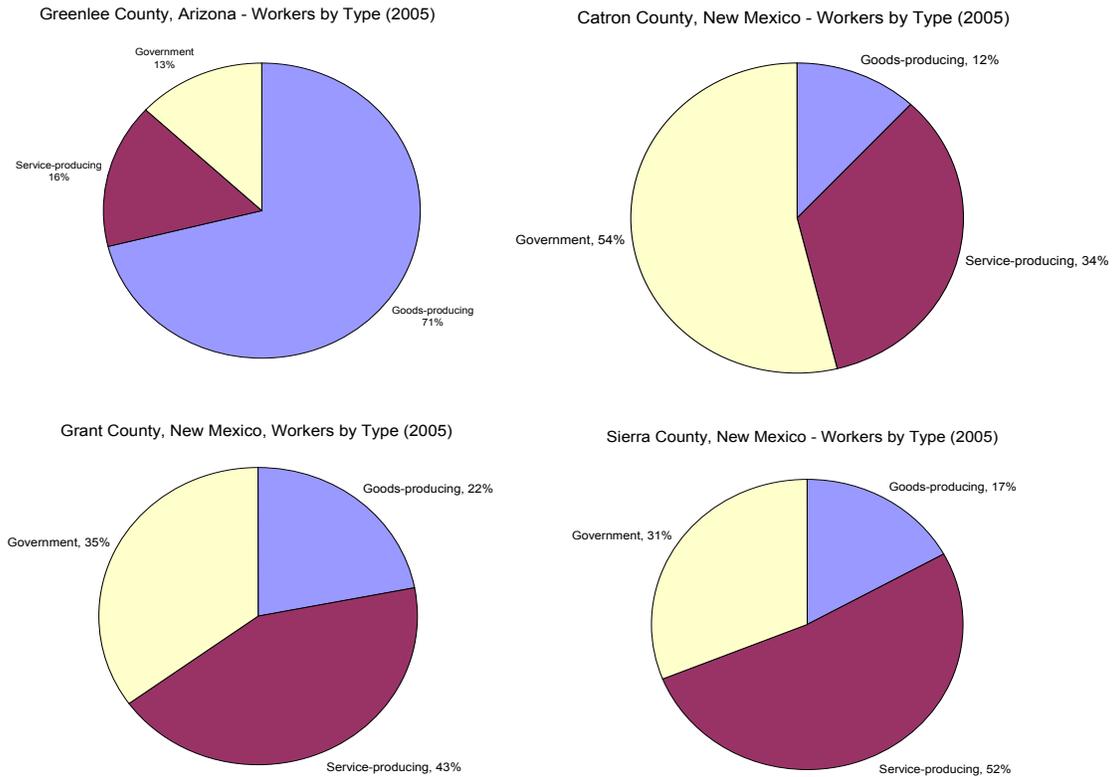


In three of the four counties, the highest paying jobs are in the federal government (i.e., employees of the USDA Forest Service, the Bureau of Land Management, and the U.S. Fish and Wildlife Service).

Grant and Sierra counties have the highest number of service workers. Greenlee, with its high dependence on mining, has the highest proportion goods-producing workers. Catron County has the highest proportion (54%) of workers employed in government.

## APPENDIX C. KEY COUNTY INDICATORS

**Figure C4. Wages by Sector: 2005**



The highest average annual wages (for private and public employment) are in Greenlee County (\$43,240). The lowest average wages are in Catron County (\$27,434), due to low average wages in the private sector (\$19,404). In comparison, wages in government in Catron County are \$34,212 (\$46,034 for federal employees). A similar pattern – higher wages in government – exists for Grant and Sierra counties.

	Greenlee County			Catron County			Grant County			Sierra County		
	Employment	% of Total	Average Annual Wages	Employment	% of Total	Average Annual Wages	Employment	% of Total	Average Annual Wages	Employment	% of Total	Average Annual Wages
Total Private & Public	3,763	100%	43,240	586	100%	27,434	9,712	100%	27,131	2,891	100%	23,520
Total Private	3,256	87%	45,761	268	46%	19,404	6,267	65%	25,978	1,993	69%	20,139
Goods-Producing	2,659	71%	49,278	68	12%	27,547	2,067	21%	39,716	482	17%	23,043
Service-Providing	597	16%	30,097	199	34%	16,620	4,200	43%	19,217	1,511	52%	19,213
Total Public (local & federal)	na	na	na	318	54%	34,212	3,445	35%	29,224	898	31%	31,011
Federal	42	1%	39,570	115	20%	46,034	223	2%	51,078	108	4%	50,798

## APPENDIX C. KEY COUNTY INDICATORS

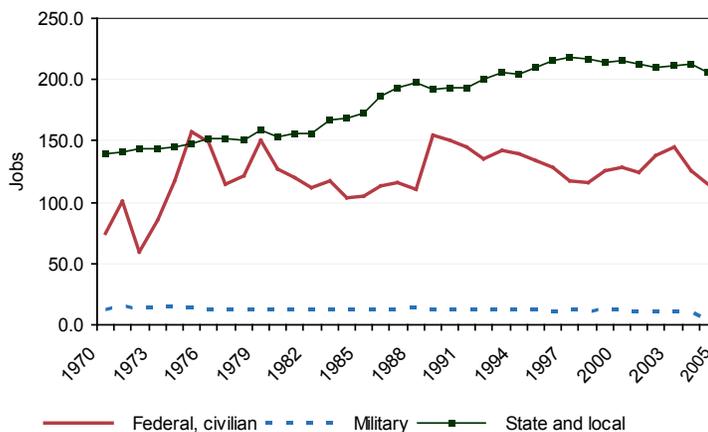
On average service sector wages are lower than the goods-producing sectors. However, as a following section of this report shows, there is considerable variability among counties in the number of high-wages and low-wage services.

### Government Employment<sup>4</sup>

Because government employment is a large component of the workforce in three of the counties, this section explores this sector in more detail. (Greenlee County was left out because government employment there is the smallest of all counties: 13% of labor and 10% of personal income).

#### *Catron County*

**Figure C5. Catron County Government Employment by Type: 1970–2005**



In Catron County, over half of the jobs in the county are in government. The federal government accounts for 36 percent of government jobs (115 workers and representing 20% of total employment).

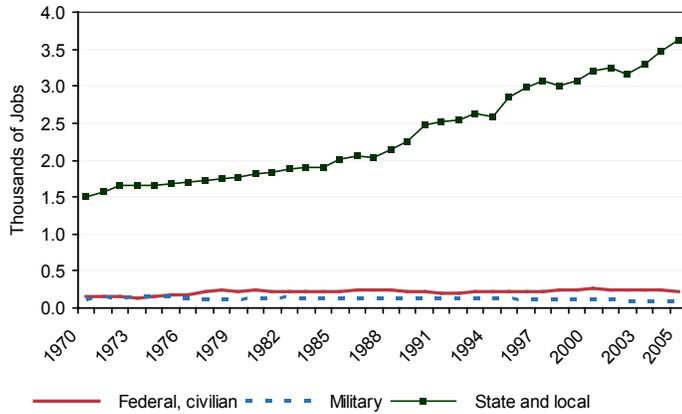
The largest government employer in the county is local government, which has grown steadily since 1970. Federal government, in contrast, has been erratic and declining (most recently, from a high of 155 in 1989 to 115 in 2005; a 25 percent decline). Military employment is very small.

Catron County, New Mexico	Jobs	% of Total	Average Annual Wages
Total Public Employment	318	54%	34,212
Federal Government	115	20%	46,034
State Government	57	10%	33,124
Local Government	146	25%	25,246

## APPENDIX C. KEY COUNTY INDICATORS

### Grant County

**Figure C6. Grant County Government Employment by Type: 1970–2005**



In 2005, Grant County government employment was 35 percent of total, with 94 percent from state and local government, reflecting the presence of Western New Mexico University.

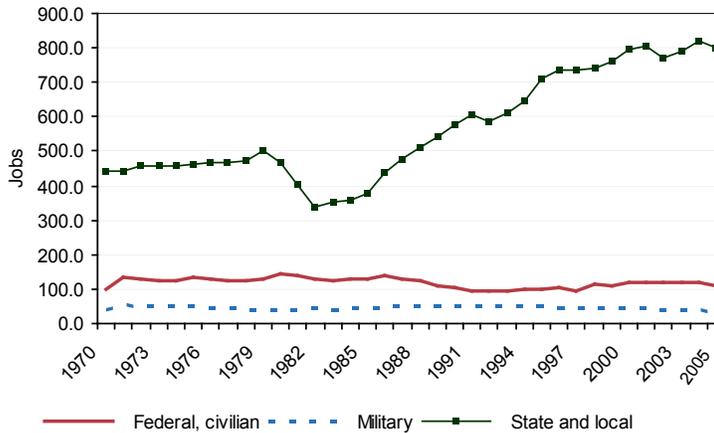
Employment in state and local government in Grant County has grown considerably, from about 1,500 jobs in 1970, to 3,200 in 2000, and rising rapidly to over 3,400 in 2005 (or 3,600, depending on the source of the data). This represents a more than 120 percent increase.

	Jobs	% of Total	Average Annual Wages
Grant County, New Mexico			
Total Public Employment	3445	35%	29,224
Federal Government	223	2%	51,078
State Government	1282	13%	25,704
Local Government	1940	20%	29,049

## APPENDIX C. KEY COUNTY INDICATORS

### Sierra County

**Figure C7. Sierra County Government Employment by Type: 1970–2005**



A little more than a third of employment in Sierra County is from government, and most of that, over 87 percent, is in state and local government.

State and local government has grown rapidly from 338 workers in 1982 to close to 900 workers in 2005—a 166-percent increase.

Sierra County, New Mexico	Jobs	% of Total	Average Annual Wages
Total Public Employment	898	31%	31,011
Federal Government	108	4%	50,798
State Government	306	11%	28,519
Local Government	484	17%	28,185

---

## APPENDIX C. KEY COUNTY INDICATORS

### Mining<sup>5</sup>

The region has a long history in mining, dominated by copper mining and the Phelps Dodge Mining Company. The majority of the copper mining takes places in Grant and Greenlee counties.<sup>6</sup> The communities most dependent on mining are Morenci in Greenlee County and Silver City and Bayar in Grant County.

In 2000, there were 2,500 mining workers in Greenlee County, generating \$144 million in personal income. In 1970, there were about the same number of mine workers. However, there have been ups and downs in employment, with a low of 1,582 in 1989.<sup>7</sup> Despite the cyclical nature of mining, this industry remains the major source of economic activity in the county. According to the Arizona Department of Commerce, in 2006, 75 percent of the workforce of the county was employed in goods production, consisting almost entirely of mining and construction (3,150 out of 4,300 total workers in a county with a population of 8,300).<sup>8</sup> According to a different source, the Bureau of Labor Statistics' County Business Patterns, mine jobs alone (not including construction), were 58 percent of total employment in 2005.<sup>9</sup>

Regardless of the data source, mining is clearly still the dominant economic engine of Greenlee County's economy and not very different from the past. In the 1980s, mine employment was, on average, 48 percent of total; in the 1990s, it was 51 percent, on average.<sup>10</sup> During the first half of the 2000s, mine employment made up, on average, 78 percent of total employment in the county.<sup>11</sup>

In contrast to Greenlee County, the absolute and relative contribution of mining in Grant County has declined, indicating both a downward trend in mining in the county and a growth in other sectors. At its peak in 1981, there were 2,848 mine workers, generating \$205 million in personal income in the county. That year, mining contributed 30.8 percent of total employment and 35.1 percent of personal income.

By 2000, there were 1,405 mine workers in Grant County, generating an estimated \$82.5 million in personal income. That year mining represented 9.5 percent of total employment (1,400 workers) and 12.6 percent of personal income (a higher proportion of income reflects higher wages). In 2003, (the latest estimate from the U.S. Department of Commerce) there were 618 mine workers in Grant County, representing 4.6 percent of total employment and 6.3 percent of total personal income. According to County Business Patterns the estimates are higher, with mine employment representing eight percent of total employment in 2003 (approximately 600 mine workers in 2003, down from 2,848 workers in 1981).

On average, from 2000 to 2005, mine employment represents about eleven percent of total employment in Grant County. This is down from an average of 17 percent in the 1980s and closer to the 12 percent in the 1990s. During the first half of the 2000s, mine employment made up 11 percent of total employment in Grant County.

## APPENDIX C. KEY COUNTY INDICATORS

A recent report on the influence of the Phelps Dodge Mining Company in Grant County points out that there may be trouble ahead for copper mining in Grant County: “One major force affecting copper prices is the volatile global copper market. The price of copper is cyclical, with up periods and down periods; the trend over the last five years has been steadily downward.”<sup>12</sup>

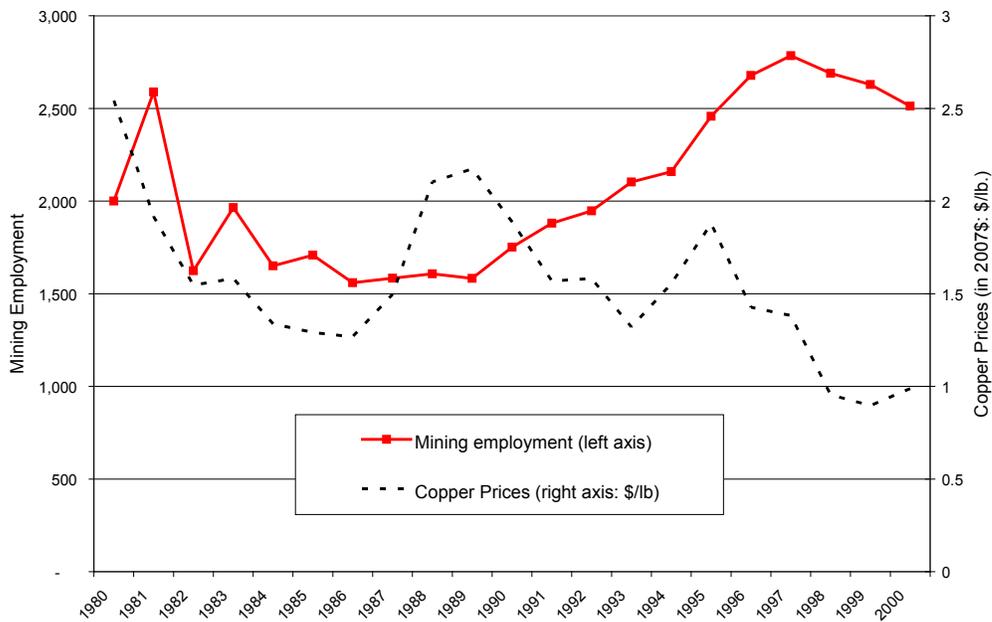
However, today’s historically high price of copper, at \$3.28 per pound tests this assertion.<sup>13</sup>

One way to test the relationship between prices and employment is to plot the two over time.

### *Historical Trends*<sup>14</sup>

The figures below show mining employment in Greenlee and Grant counties, compared to copper prices.<sup>15</sup> The two track closely: as copper prices rise or decline, employment in mining also rises or declines. The exception is 1988 to 1990; where in both counties employment remained stable despite a rise in copper prices. This was a brief period of time where copper inventories were at a historic low yet world consumption was growing, resulting in a rise in prices until inventories rose again. Another exception is in the early 1990s in Greenlee County, where mining employment rose despite a brief decline in prices, resulting from stagnant world demand and rising inventories.<sup>16</sup>

**Figure C8. Mining Employment and Copper Prices, Greenlee County: 1980–2000**



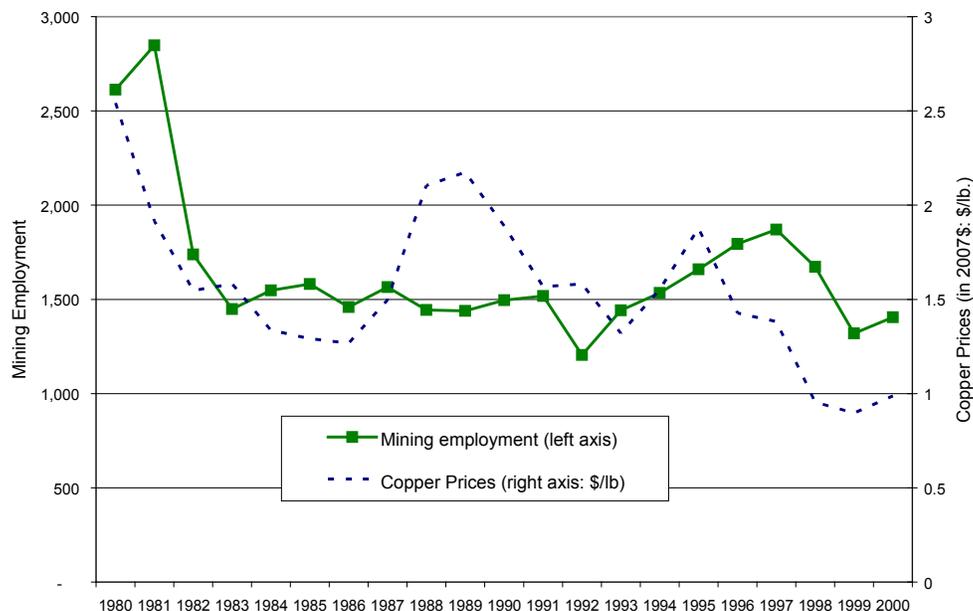
## APPENDIX C. KEY COUNTY INDICATORS

Despite these brief exceptions, the figures show that for the two most mining-dependent counties, mine employment historically has depended on international commodity prices and other factors that influence supply and demand. These factors are outside the control of the local communities.

For Greenlee County, highly dependent on one industry, the community lives and dies with copper prices.

With Grant County, this is no longer the case due to recent diversification.

**Figure C9. Mining Employment and Copper Prices, Grant County: 1980–2000**

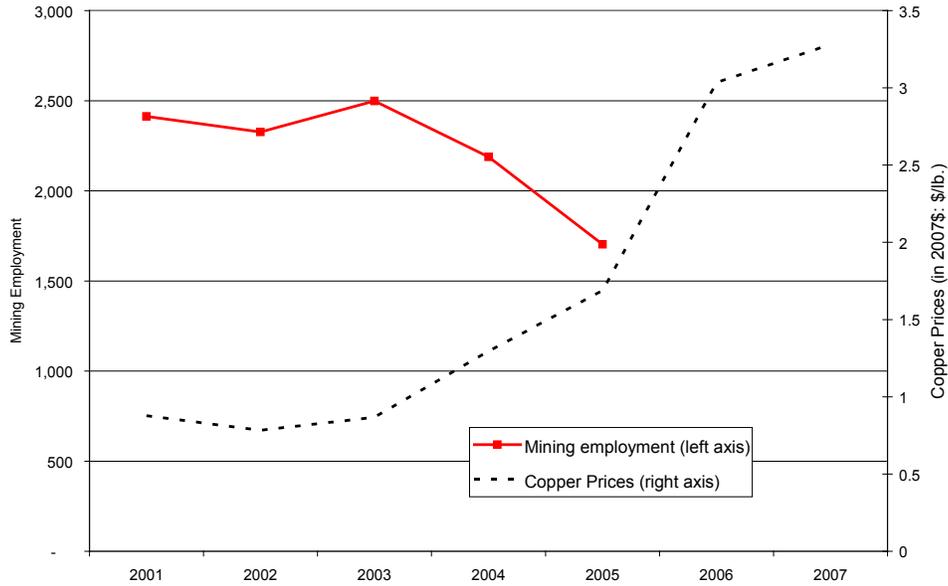


### **Current Trends<sup>17</sup>**

(See figures next page.) From 2001 to 2007 copper prices have risen dramatically, yet the relationship between prices and mine employment is not clear.<sup>18</sup> In Greenlee County, mining jobs declined while prices rose. In Grant County, mine jobs rose along with prices until 2004, after which employment dropped despite rising prices. No published data exist for mine employment

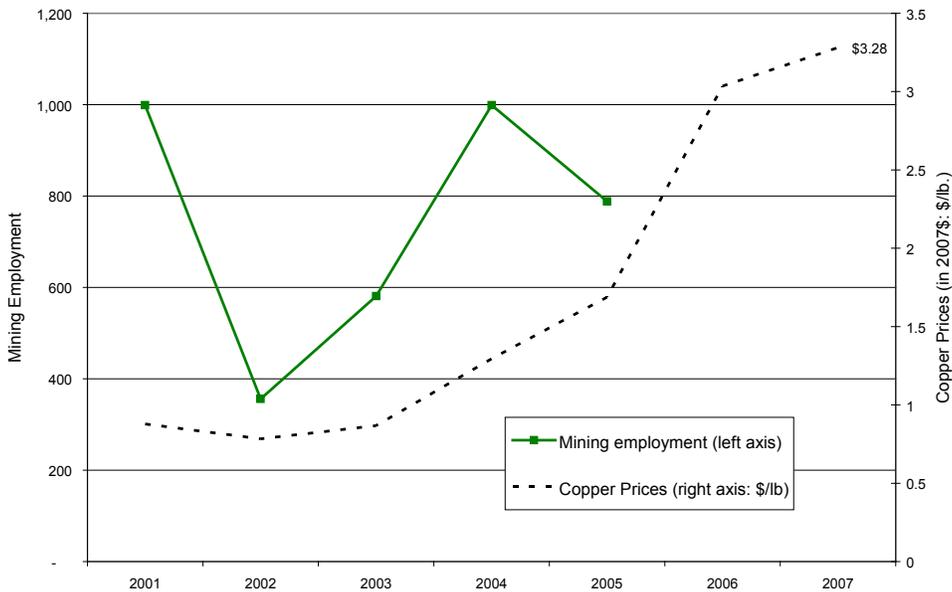
## APPENDIX C. KEY COUNTY INDICATORS

**Figure C10. Mining Employment and Copper Prices, Greenlee County: 2001–2005(7)**



beyond 2005.

**Figure C11. Mining Employment and Copper Prices, Grant County: 2001–2005(7)**



---

## APPENDIX C. KEY COUNTY INDICATORS

Will record high prices in early 2008 lead to higher mine employment? The IRC report on Phelps Dodge's role in Grant County hints that: "Even if the price of copper were to go back up, the ore that remains in Grant County's mines is lower in grade and more costly to extract than that found at many other global locations."<sup>19</sup>

### ***Are Mine-Dependent Counties Diversifying?*<sup>20</sup>**

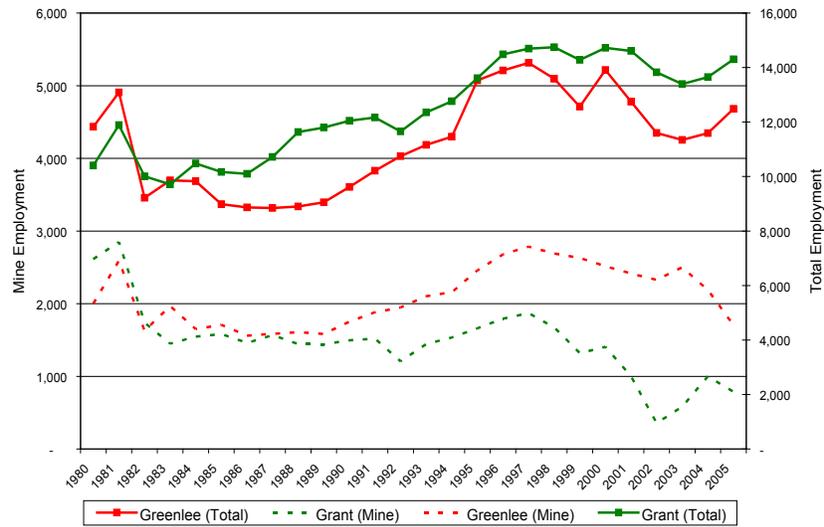
The figures on the following page test the long-term relationship between mine employment and the rest of the economy. Figure C12 shows that from 1980 to the late 1990s the relationship was clear: total employment fluctuated up and down with mine employment. Beginning in the 2000s this relationship changed: as mine employment declined, total employment rose, indicating a certain amount of diversification in the economy.

Figure C13 compares the changes in the rate of growth between total employment and mine employment. (The data was indexed to 1980=100 to compare differences in rates of growth.) The rate of growth in total employment in Grant County has been positive since the mid-1980s, while the rate of growth in mining has declined, beginning in the 1981 recession. In Greenlee County, the rate of change in total employment closely tracks that of mine employment, except for the last few years.

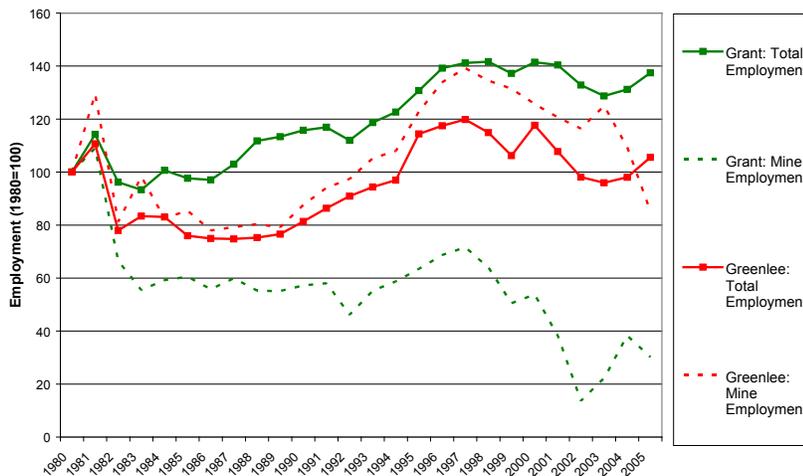
Both figures illustrate that recently, it has been possible for the overall economy to grow in spite of declines in copper prices and mine employment. This is more likely to be the case in Grant County, where mine employment has dropped from one in three workers in the early 1980s to 11 percent today, and less likely in Greenlee County where today over half of all employment is in mining.

## APPENDIX C. KEY COUNTY INDICATORS

**Figure C12. Total Employment v. Mine Employment, Grant and Greenlee Counties: 1980–2005**



**Figure C13. Total Employment v. Mine Employment, Grant and Greenlee Counties: 1980–2005 (indexed to show relative growth rates)**



---

## APPENDIX C. KEY COUNTY INDICATORS

### Services<sup>21</sup>

Services are composed of a variety of sub-sectors. Some are relatively high-wage and high-skilled (e.g., professional, business, and information services), while others are relatively lower paying (e.g., leisure and hospitality).

The highest average wage in the services is in Greenlee County (\$25,841; \$17,399 per year less than the average for all wages). In this county there are few people employed in the service sectors (16% of the workforce), with most of them in relatively high-wage Trade, Transportation and Utilities. These include the distribution of energy and the transportation of materials via truck and train, all closely associated with large-scale mining.

The lowest average service-sector wages are in Catron County (\$20,715), primarily because the largest number of service jobs are in the lowest paying service category—leisure and hospitality. There are only 10 workers in the high-wage Professional and Business Services category. A challenge for Catron County, if it wants to increase service-sector wages, will be to rely less on tourism and expand on those factors needed to attract and retain high-wage knowledge-based workers. Professional and Business Services workers include attorneys, accountants, architects, engineers and scientists. Many of these are potentially “footloose”—able to live and work in high quality of life regions of the country, as long as they have with high-speed internet, UPS, FED-EX, and the ability to travel to visit clients. However, Catron County’s isolation from transportation networks represents a significant obstacle.

The average service-sector wage in Grant County is \$22,683. The highest paying sub-sector is in Information services (\$36,000 per year: e.g., publishing, telecommunications, data processing), yet this sector contains the smallest number of service workers. The second-highest-paying service sector is in Trade, Transportation and Utilities. Like Greenlee County, it is likely many of these are associated with mining. Grant County’s reliance on tourism also makes it likely that some of the transportation is associated with tourism. Like Catron County (except on a much larger scale), a high dependence on low-wage leisure and hospitality services (tourism) pulls down the average service sector wages.

Sierra County has the smallest gap between average wages for the economy as a whole (\$23,520) and those of services (\$20,443). The largest number of service workers (and the lowest wages) are in tourism-related occupations.

In general, the region has a variety of high-wage and low-wage service based occupations. Some, like transportation and utilities, are likely to be associated to varying degrees (more so for Greenlee County) with copper mining. The largest diversity of service sectors are in Grant and Sierra counties. This is not surprising because these counties contain 80 percent of the region’s population and have the most diverse economies.

---

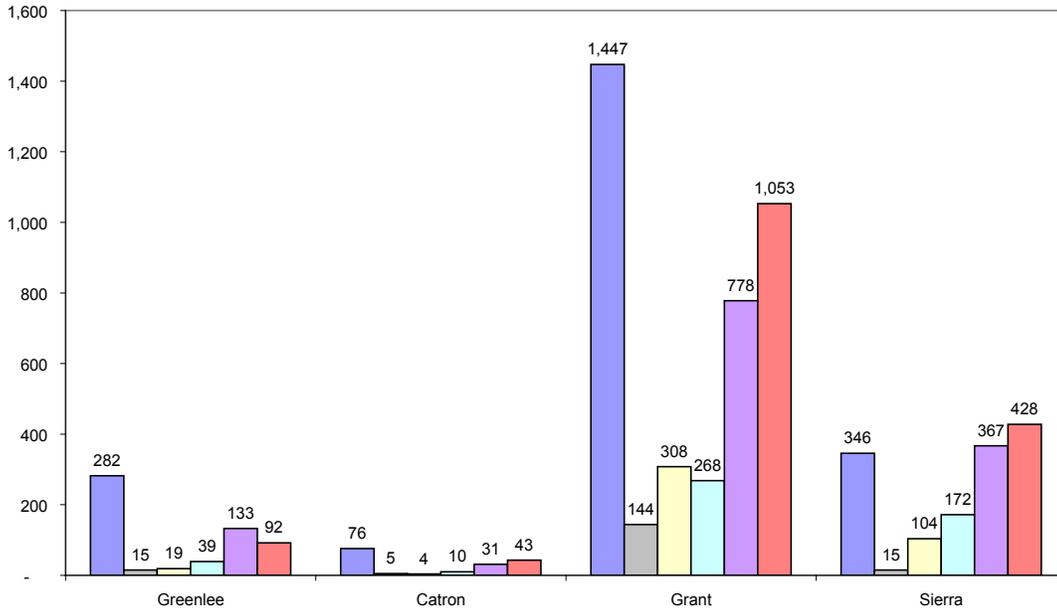
## APPENDIX C. KEY COUNTY INDICATORS

There are several lessons to derive from these figures:

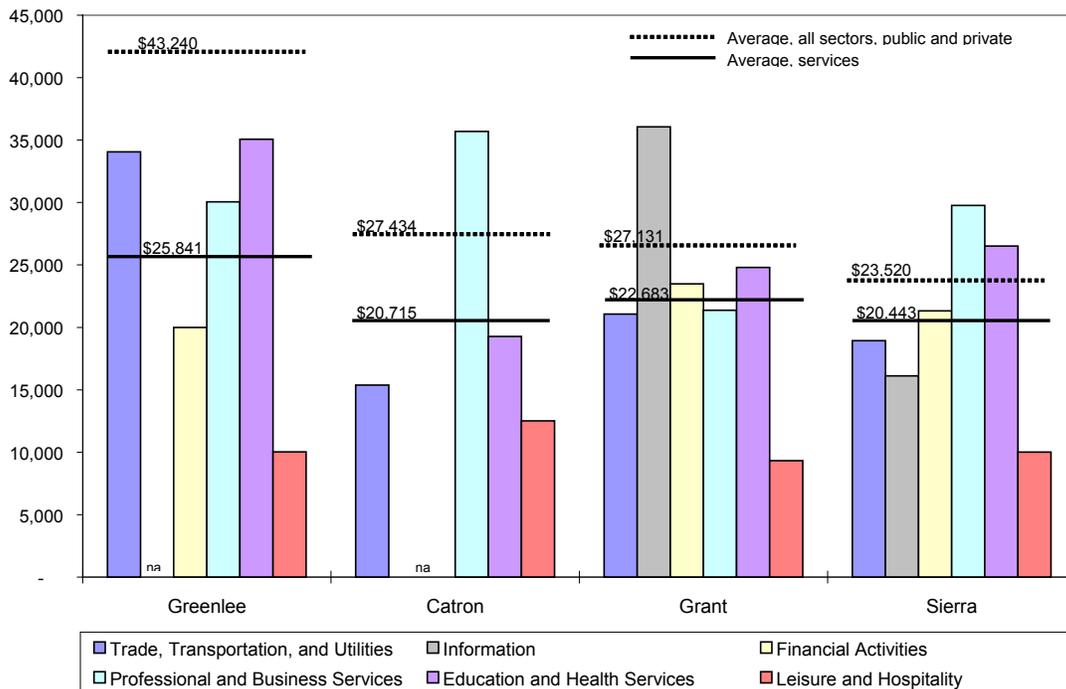
1. A high dependence on tourism leads to low average wages.
2. Services closely related to mining will fluctuate with internationally set copper prices.
3. There are three areas for increased potential to add high-wage services:
  - Friendly communities with a high quality of life attract knowledge-based workers (in finance, engineering, design, science, health and education).
  - Educational facilities pay relatively high wages.
  - An aging population (current retirees and upcoming retiring baby boomers) creates demand for high-wage health services.

## APPENDIX C. KEY COUNTY INDICATORS

**Figure C14. Service Sector Employment: 2005**



**Figure C15. Service Sector Wages: 2005 (in 2005 dollars)**



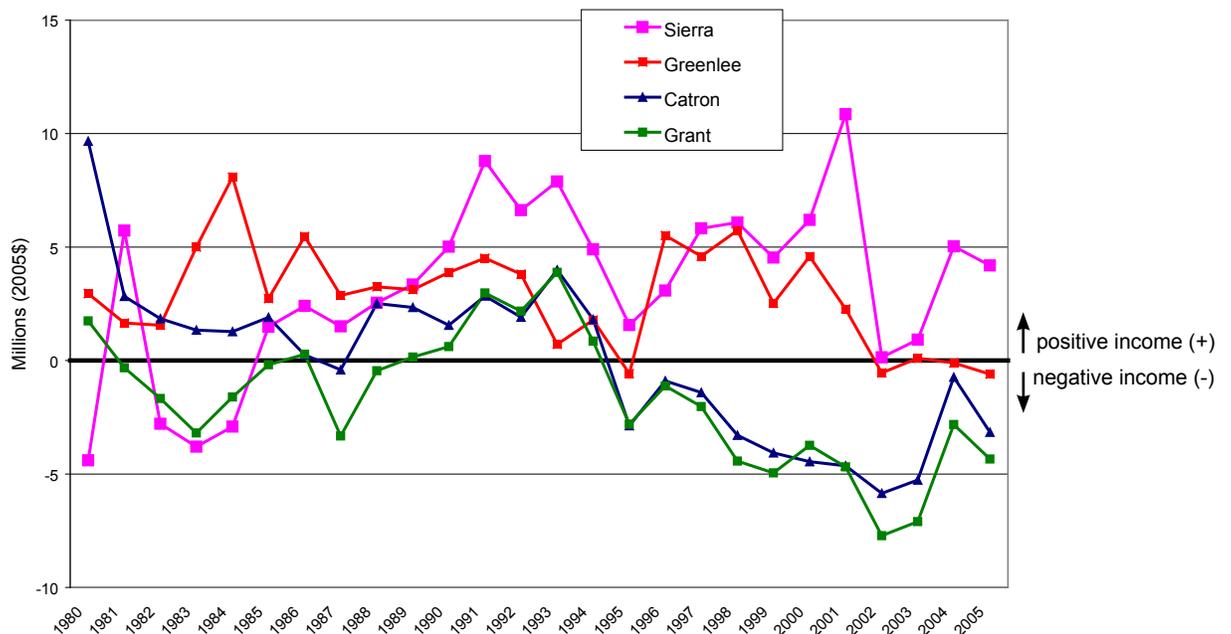
## APPENDIX C. KEY COUNTY INDICATORS

### Agriculture<sup>22</sup>

#### *Farm and Ranch Income*

Despite being the dominant visible land uses in the region, farming and ranching contribute little to the regional economy, in terms of percent of total personal income. In 2005 income from agriculture was less than 1.0 percent for the region as a whole. At most, for Sierra County, agricultural income was 2.2 percent of total, on average since 1990. In Catron and Grant counties, net farm and ranch income has been negative since 1995.<sup>23</sup>

**Figure C16. Net Farm and Ranch Income: 1980–2005**



The two counties that have seen the worst declines in net farm and ranch income also have the highest proportion of gross agricultural income from livestock (i.e., ranching): Catron (91%) and Grant (85%). The two counties with positive income in agriculture are less reliant on livestock: Greenlee (38%) and Sierra (72%, although largely dairy farming).

## APPENDIX C. KEY COUNTY INDICATORS

County	Income in millions (2005\$)	1980	1985	1990	1995	2000	2005	Average 1990-2005
Greenlee	Total personal income	\$ 232.36	\$ 155.35	\$ 161.88	\$ 198.46	\$ 195.81	189.866	
	Farm and ranch income	\$ 2.95	\$ 2.73	\$ 3.88	\$ (0.58)	\$ 4.59	\$ (0.60)	
	Percent of total	1.3%	1.8%	2.4%	-0.3%	2.3%	-0.3%	1.3%
Catron	Total personal income	\$ 47.61	\$ 43.96	\$ 46.34	\$ 50.85	\$ 58.10	63.144	
	Farm and ranch income	\$ 9.67	\$ 1.90	\$ 1.55	\$ (2.87)	\$ (4.45)	\$ (3.16)	
	Percent of total	20.3%	4.3%	3.3%	-5.7%	-7.7%	-5.0%	<0
Grant	Total personal income	\$ 513.44	\$ 506.34	\$ 518.64	\$ 626.79	\$ 655.85	680.518	
	Farm and ranch income	\$ 1.75	\$ (0.19)	\$ 0.61	\$ (2.81)	\$ (3.74)	\$ (4.34)	
	Percent of total	0.3%	0.0%	0.1%	-0.4%	-0.6%	-0.6%	<0
Sierra	Total personal income	\$ 142.36	\$ 173.36	\$ 186.91	\$ 224.52	\$ 257.94	265.586	
	Farm and ranch income	\$ (4.40)	\$ 1.49	\$ 5.01	\$ 1.56	\$ 6.20	\$ 4.19	
	Percent of total	-3.1%	0.9%	2.7%	0.7%	2.4%	1.6%	2.2%

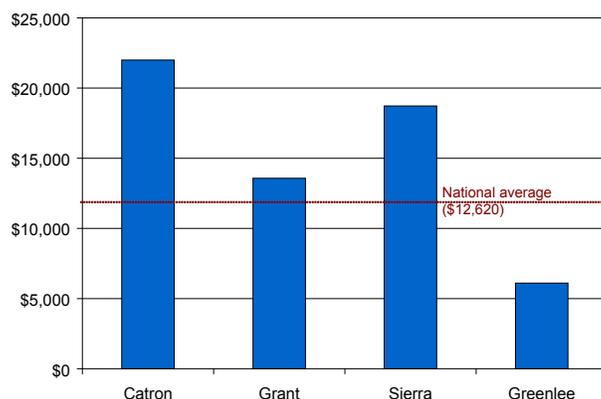
A recent analysis of the Apache-Sitgreaves National Forest similarly finds agriculture is relatively small in the region. Forest Service analysts estimated the contribution of grazing on the forest, expressed in terms of percent of labor income in 2003 (not counting non-labor sources, the largest source of income in two of the three counties). In Catron County, grazing on the Apache Sitgreaves National Forest was estimated to contribute 3.05 percent of total labor income. Grazing on the forest was also estimated to contribute 0.3 percent of labor income in Grant County, and 0.2 percent of total in Greenlee County. Sierra County was not analyzed.<sup>24</sup>

### Farm Indebtedness

The federal Census of Agriculture maintains statistics on farm operating expenses. The category of interest payments—a proxy for farm indebtedness—helps to evaluate how groups of farmers are faring relative to their peers in the nation. According to the 2002 Census of Agriculture, the average farm in the United States paid \$12,620 in interest as part of

its operating expenses (average operating expenses per farm: \$81,362). In the Gila region, the average per farm interest payment, \$16,380, is higher than the national average. Catron and

**Figure C17. Average Farm Interest Payments**



## APPENDIX C. KEY COUNTY INDICATORS

Sierra counties stand out as having significantly above-average-per-farm interest payments, both relative to the region and the nation. Grant County tracks closest to the national average, while Greenlee County has significantly lower per farm interest burdens. Their higher debt loads suggest that farmers and ranchers in Catron and Sierra counties are facing particularly hard times.<sup>25</sup>

### *Grazing Leases on Public Lands*

The most recent year for which the census kept figures on grazing permits was 1997. At that time, the importance of Forest Service grazing permits to farm operators was highest in Greenlee and Catron counties where roughly three in ten farms hold forest grazing permits, and was least significant (proportionally) in Grant and Sierra counties where fewer than one in ten farms held permits. Forest Service and BLM permits were equally important in each county, with the exception of Sierra County, where BLM and “Other” (typically state lands) grazing permits were more numerous than Forest Service allotments. This distribution reflects a typical permitting arrangement throughout the arid Southwest in which BLM lands serve as winter pasture and Forest Service as summer, with the permittee having very little privately-owned pasture on the base ranch.<sup>26</sup>

County	Total Census Farms	Farms with Grazing Permits	Source of Permit			
			USFS	Taylor (BLM)	Tribal Lands	Other (State)
Catron County, NM	206	127	65	64	2	23
Grant County, NM	272	83	20	19	-	13
Greenlee County, AZ	124	114	43	63	-	44
Sierra County, NM	223	89	18	73	2	31

### *Demographics*

Farmers and ranchers in the Gila region are not unlike farmers nationally in the sense that they are an aging population and many work off the farm to make ends meet. According to 2002 census figures, regionally, about 60 percent of farms reported farming as the operator’s primary occupation. This is close to the national average of 58 percent. Farmers in the four-county region, with an average age of 57.4, are somewhat older than the national average, and on average have been on their farms slightly fewer years than their national peers. Sierra County reveals a distinct age and tenure profile relative to the rest of the region, suggesting that more young farmers are filling the ranks in this county than in the other three; this may be linked to the prevalence of dairy farming there.<sup>27</sup>

	Average Age	Average Tenure on Present Farm
Greenlee County, AZ	57.1	18.3
Catron County, NM	59.6	19.8
Grant County, NM	58.4	20.9
Sierra County, NM	54.5	15.9
Regional Average	57.4	18.7
National Average	55.3	20.7

---

## APPENDIX C. KEY COUNTY INDICATORS

### Fiscal Health

A county's fiscal health affects its ability provide high quality essential infrastructure and services, and invest in "nonessential" services, including arts, recreation, and economic development, all of which can add to long-term economic competitiveness.

#### *Methods*

We use local financial data for the four counties in the Gila Region from the 2002 and 2005 Census of Governments and from the New Mexico and Arizona departments of revenue and taxation to calculate a set of ratios of fiscal condition. Ratios are commonly used to assess fiscal condition because they allow for comparison between counties with different populations, budgets and service obligations. A ratio can involve comparing the size of expenditures to the size of the population, or the relative importance of one category of revenue or expense to total budgets. Taken together, the six ratios we calculated provide a snapshot of fiscal condition in three primary areas—revenues, expenditures and debt structure. For an example of this type of analysis elsewhere, see Brown's Ten-Point Test of Fiscal Condition.<sup>28</sup>

The counties in the Gila Region could then be ranked among their peers in each state for each of the six ratios. The rankings, in the context of the local and regional economy, highlight areas of fiscal strength and point to issues that may raise concerns.

Figures C18 and C19 on page C25 show the revenues and expenditures of the four counties. Please note that the total revenues and expenditures are different for each county: For purposes of comparison, the categories of collection and outlay are shown as percentages of total. Original data regarding property tax collections and ratios of fiscal condition are reported in the tables on pages C26 and C27.

#### *Greenlee County, AZ*

Greenlee County had the highest ratio of total revenues to population of all Arizona counties in both 2002 and 2005. Transfers from the state and federal government made up the largest single source of revenue in both years in Greenlee County, ranking the county eighth in the ratio of state and federal transfers to total revenue (out of 11 counties reporting in Arizona in 2005). The largest source of local (own source) revenue is reported as interest earnings, followed by property and sales taxes. Sales tax revenue exceeded property tax collections in 2002, and that relationships flipped in 2005. Greenlee County's property tax base is mostly dependent on copper mining (85% of assessed value in 2007), and tax revenues rise and fall with copper prices and production (see table, p. C26). Greenlee County's challenge will be to capture fair value of one-time mineral wealth, and invest the proceeds in such a way that reduces the county's exposure to the

---

## APPENDIX C. KEY COUNTY INDICATORS

volatility of a single funding source and helps the county diversify its economy in the long-term.

Another concern is that Greenlee County carried the highest ratio of long-term debt to population of any county in the state. Fully one-third of all spending goes to debt service annually (payment required over a given period of time to retire interest and principal on long-term debt), and this has not changed significantly between 2002 and 2005. Given the relative dependence on mining for both jobs, income and property taxes, such a high debt load may carry a high risk if the mine slows production and revenues drop.

### ***Catron County, NM***

Catron County's revenue base is strong, ranking seventh of 31 New Mexico counties in ratio of total revenues to population in 2002 and fifth in 2005.<sup>29</sup> However, more than two-thirds of these revenues come from the state and federal government, and that percentage grew from 66 to 70 between 2002 and 2005. Catron ranks as the most dependent on intergovernmental transfers (ratio of state and federal transfers to total revenues) among New Mexico counties, meaning Catron County is highly exposed to changes in state and federal spending and policies. For example, Catron County received \$281,000 in Secure Rural Schools payments in 2002 and \$326,000 in 2005, constituting over eight percent of the county's budget.<sup>30</sup> These payments have not been reauthorized for 2008 at the time of writing, signaling the uncertainty of federal transfers to counties.<sup>31</sup>

Property taxes are the most important "own source revenue" in Catron County (own source revenues are monies generated within the county as opposed to grants and payments from other governments). Of the four counties in the Gila Region, Catron County's property tax base is the least dependent on residential property taxes (37% of total in 2007 compared to an average of 56% for the state) and the county has seen rapid growth in commercial property taxes (63% between 2003 and 2007).<sup>32</sup> Commercial and industrial property taxes are generally considered "good rateables" because they tend to have a positive fiscal balance (commercial and industrial properties contribute more revenue to local governments than they demand in services). Residential property on average tends not to pay its way, requiring more money to provide services than it generates in property taxes (although there are ways to develop land for residential purposes that can yield a positive tax return).<sup>33</sup> Unfortunately, because New Mexico only reports a single category for non-residential property, it is impossible to know what kinds of commercial, agricultural and industrial businesses make up the growth.<sup>34</sup>

On the expenditure side, Catron County appears to be managing its finances well, spending less in 2002 than it took in (the county's ratio of total revenues to total expenditures in 2002 is 103.9 percent, ranking 15<sup>th</sup> in the state) and carrying no long-term debt. In the same year, the county spent all its funds on operating expenses, and no money was allocated to capital improvements (including building, road, and equipment purchase and maintenance). The literature on fiscal

---

## APPENDIX C. KEY COUNTY INDICATORS

health suggests this should raise red flags for the fiscal analyst as it may indicate the county is not maintaining infrastructure adequately.<sup>35</sup> By 2005, however, these ratios had changed: the county spent slightly more than it took in (ranking 17<sup>th</sup> in the state in the ratio of total revenues to total expenditures), and nearly 18 percent of all revenue went to capital facilities. Over the long-term then, the ratios do not seem to signal anything more than the normal ups and downs of capital facilities planning and maintenance—while regular maintenance is good policy, larger construction and maintenance expenses can be infrequent and not entirely predictable. In 2005, Catron County still had no outstanding long-term debt.

### ***Grant County, NM***

Grant County collects among the highest levels of total per capita revenue (ratio of total revenue to population) in New Mexico (\$1,415 in 2002 dollars and \$2,043 in 2005) and is the least dependent on intergovernmental transfers of the four Gila Region counties, with only 18 percent of total revenue coming from state transfers in 2002 (falling to 9% in 2005).<sup>36</sup> But the strong revenue base may be misleading—more than 60 percent of county revenue came in the form of local hospital user charges (charges for services are fees paid for the use of a specific service). If these charges are removed from the overall revenue picture, Grant County's revenue capacity looks less robust. The ratio of total revenues to population falls from third compared to the New Mexico counties reporting to fifteenth (\$520 in 2002 dollars) and the ratio of state and federal transfers to total revenue rises to 40 percent. These ratios are not as desirable, but they are average for the state.

Property taxes are the second largest source of local revenue after hospital charges. Residential property taxes make up the largest proportion of the tax base (52% in 2007, compared to 22% from copper mining). The taxable value of the minerals sector is highly volatile, dropping more than 50 percent between 2000 and 2003, then rising 82 percent between 2003 and 2007. As a result, Grant County should be wary of placing too much stake in short-term increases in mineral revenues. If minerals decline in the long-run, the County may be at risk from relying too much on residential property taxes if population growth continues and the job base does not grow with it.

In 2002 and 2005, Grant County took in more revenue than it spent (the ratio of total revenues to total expenditures was 102% in 2005). The ratio of debt service to total revenues was 4 percent of spending in 2002, ranking the county near the bottom in the state in terms of liability, and by 2005 Grant County had paid off its long-term debt.

### ***Sierra County, NM***

2005 Census of Governments data was not available for Sierra County. The snapshot of 2002

---

## APPENDIX C. KEY COUNTY INDICATORS

shows the county has a relatively weak revenue base, ranking 23<sup>rd</sup> in the state in ratio of total revenue to population. However, the ratios taken in sum do not indicate the county is in fiscal distress. The only ratio that puts Sierra County in the bottom five in rankings of all New Mexico counties reporting in Operating Expenditures to Capital Outlay. With only one year of data it is impossible to say if infrastructure maintenance is an issue in the County. Sierra County's property tax base (measured by total assessed value) has not grown over time, and a high proportion of assessed value is in residential property. This may signal the biggest fiscal (and economic) concern for the county in the future—a real need for commercial and industrial activity in the County to diversify and grow the economy and the tax base.

### ***Local Schools***

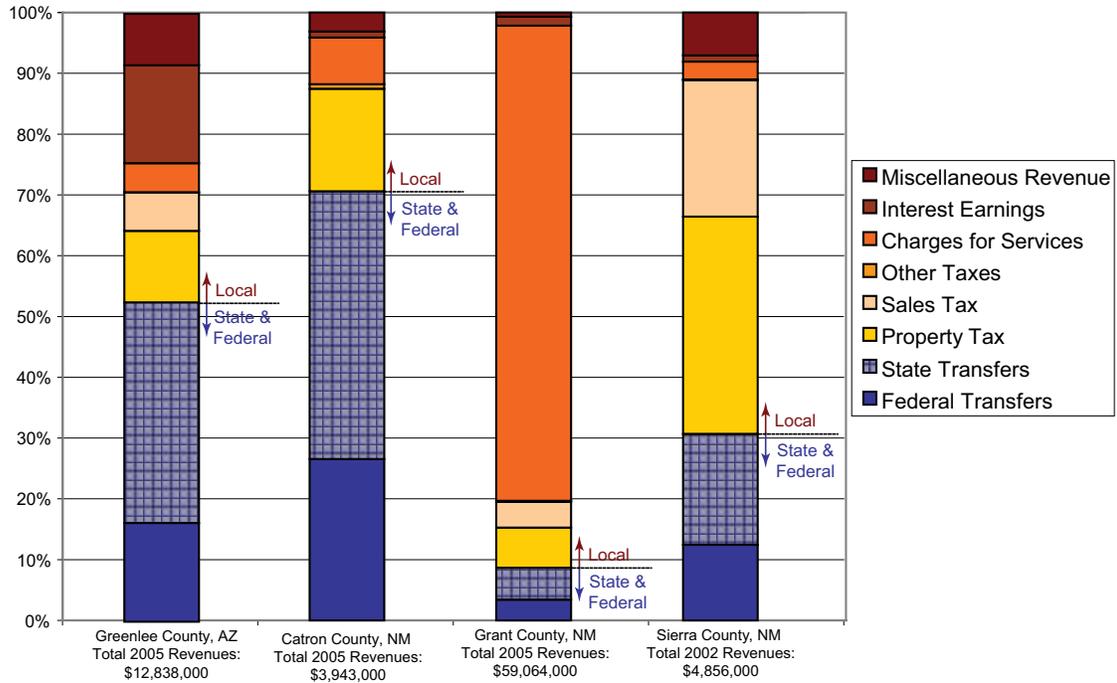
Public schools are run by local government school districts, which are autonomous from county governments. Funding generally comes from the same sources as counties, mainly in the form of assistance from state and federal grants and local property taxes. Rural schools in New Mexico are on better fiscal footing than their peers in other states because of the state's school equalization funding program. New Mexico's school funding formula places more emphasis on state spending, meaning schools are less dependent on local property taxes, essentially ensuring that schools in poor districts have financial resources equivalent to those in the rest of the state.<sup>37</sup>

The 1974 Public School Finance Act states its intent is to “guarantee each New Mexico public school student equal access to programs and services appropriate to his or her educational needs regardless of geographic location or local economic conditions.”<sup>38</sup> Catron, Grant and Sierra counties should be able to provide quality education that can be an important factor in the local economic development mix.

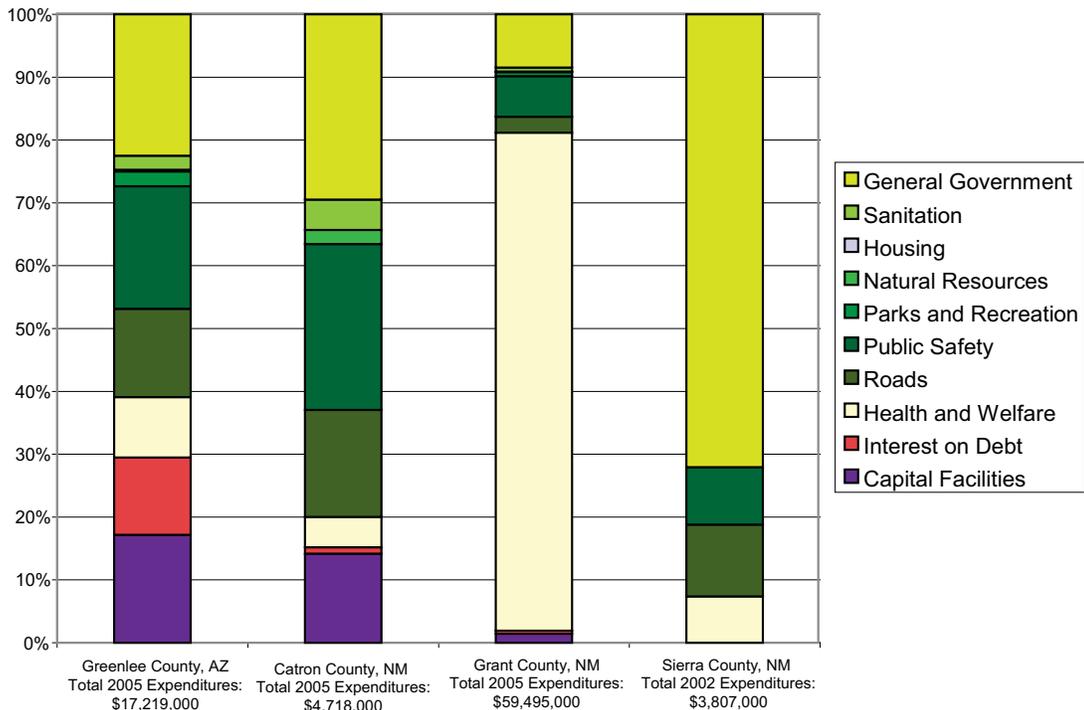
Arizona provides state funding for local schools as well, but not to the same extent as New Mexico. Recently, Arizona has ranked near the bottom in per capita school funding nationally.<sup>39</sup> This places more emphasis on the need to diversify the tax base in Greenlee County to ensure quality public education that will attract new businesses and families to the County.

## APPENDIX C. KEY COUNTY INDICATORS

**Figure C18. County Revenue Sources**



**Figure C19. County Expenditures**



## APPENDIX C. KEY COUNTY INDICATORS

### Property Tax Assessed Values by Category

Tax category	2003	2004	2005	2006	2007	% Change (2003- 2007)	
Catron County, NM	<b>Residential</b>	34,685	29,081	30,729	32,628	35,239	1.6%
	% of Total	46%	37%	37%	37%	37%	
	<b>Commercial/Industrial</b>	40,452	50,459	51,622	54,826	60,760	50.2%
	% of Total	54%	63%	63%	63%	63%	
	<b>Mining</b>	0	0	0	0	0	NA
	% of Total	0%	0%	0%	0%	0%	
<b>Total</b>	<b>75,137</b>	<b>79,540</b>	<b>82,350</b>	<b>87,454</b>	<b>95,999</b>	<b>27.8%</b>	
Grant County, NM	<b>Residential</b>	261,397	273,781	282,583	310,791	312,788	19.7%
	% of Total	49%	52%	54%	55%	52%	
	<b>Commercial/Industrial</b>	198,862	182,165	159,792	177,246	161,385	-18.8%
	% of Total	37%	35%	31%	32%	27%	
	<b>Mining</b>	71,866	69,538	80,739	73,879	130,521	81.6%
	% of Total	14%	13%	15%	13%	22%	
<b>Total</b>	<b>532,126</b>	<b>525,484</b>	<b>523,113</b>	<b>561,917</b>	<b>604,694</b>	<b>13.6%</b>	
Greenlee County, AZ	<b>Residential</b>	11,465	10,747	10,404	10,643	11,487	0.2%
	% of Total	8%	3%	5%	5%	4%	
	<b>Commercial/Industrial</b>	7,120	25,911	24,163	30,587	29,895	319.9%
	% of Total	5%	8%	12%	13%	11%	
	<b>Mining</b>	133,872	285,718	162,760	185,678	242,079	80.8%
	% of Total	88%	89%	82%	82%	85%	
<b>Total</b>	<b>152,457</b>	<b>322,376</b>	<b>197,327</b>	<b>226,908</b>	<b>283,461</b>	<b>85.9%</b>	
Sierra County, NM	<b>Residential</b>	128,814	124,399	127,801	127,179	128,604	-0.2%
	% of Total	60%	61%	62%	60%	59%	
	<b>Commercial/Industrial</b>	84,138	80,766	79,910	83,816	88,482	5.2%
	% of Total	40%	39%	38%	40%	41%	
	<b>Mining</b>	0	0	0	0	0	NA
	% of Total	0%	0%	0%	0%	0%	
<b>Total</b>	<b>212,952</b>	<b>205,165</b>	<b>207,711</b>	<b>210,995</b>	<b>217,086</b>	<b>1.9%</b>	

Source: State of New Mexico Department of Taxation and Revenue, Tax Research and Statistics, Property Tax Facts and County Rate Certificates, 2003 to 2007. Arizona Department of Revenue Annual Reports, 2003 to 2007

## APPENDIX C. KEY COUNTY INDICATORS

Ratios of Fiscal Condition and State-wide Rank

County	Year	Total Revenues/ Population		State and Federal Transfers/ Total Revenues		Operating Expenditures/ Total Expenditures		Total Revenues/ Total Expenditures		Long-term Debt/ Population		Debt Service/ Total Revenues	
		Ratio	Rank	Ratio	Rank	Ratio	Rank	Ratio	Rank	Ratio	Rank	Ratio	Rank
Greenlee County, AZ	2002	1,986	1	49%	2	61%	2	105%	10	8,372	13	33%	12
	2005	1,764	1	53%	10	65%	10	89%	11	6,619	11	28%	10
Catron County, NM	2002	942	7	60%	27	100%	31	115%	13	n/a	n/a	n/a	n/a
	2005	1,192	5	71%	23	82%	12	97%	17	n/a	n/a	n/a	n/a
Grant County, NM	2002	1,415	3	18%	5	98%	26	121%	9	358	25	4%	28
	2005	2,043	2	9%	2	98%	22	102%	14	n/a	n/a	n/a	n/a
Sierra County, NM	2002	377	23	31%	15	100%	31	128%	4	n/a	n/a	n/a	n/a

Note: Rankings are based on the number of counties from the state that reported data to the Census of Governments in each census year, not necessarily the total number of counties in the state. In 2002, the total number of counties reporting in Arizona was 13. In 2005, the total number of counties reporting in Arizona was 11. In 2002, the total number of counties reporting in New Mexico was 31. In 2005, the total number of counties reporting in New Mexico was 23.

---

## APPENDIX C. KEY COUNTY INDICATORS

### Endnotes

- <sup>1</sup> Data from BEA/REIS.
- <sup>2</sup> Wages and worker data from Bureau of Labor Statistics, 2007. Quarterly Census of Employment and Wages.
- <sup>3</sup> According to the U.S. Geological Survey, the Phelps Dodge Morenci mine in Greenlee County is the largest producer of copper in the nation, with a capacity of 390 metric tons, which is 26 percent of the nation's copper mining capacity. <http://minerals.usgs.gov/minerals/pubs/commodity/copper/index.html>
- <sup>4</sup> Wages and worker data for the tables from Bureau of Labor Statistics, 2007. Quarterly Census of Employment and Wages. Long-term trend data from U.S. Department of Commerce. Note: the databases are close in their estimates, but sometimes not exact.
- <sup>5</sup> Copper price data from: Interhemispheric Resource Center (IRC). 2001. "Copper, Phelps Dodge and the Future of Grant County's Mining District." Silver City, New Mexico. Page 4; U.S. Geological Survey [http://minerals.usgs.gov/minerals/pubs/metal\\_prices/](http://minerals.usgs.gov/minerals/pubs/metal_prices/); and KitCo Metals [http://www.kitcometals.com/charts/copper\\_historical.html](http://www.kitcometals.com/charts/copper_historical.html)
- <sup>6</sup> In 2000, mining employment was 2.3% of total in Sierra County and 5% of total in Catron County. Source: BEA/REIS.
- <sup>7</sup> BEA/REIS. Income and employment data beyond 2000 is not available from this source because of data suppressions, which often happen when there is only one employer in a particular industry in the county; the Phelps Dodge Mining Company in this case.
- <sup>8</sup> Arizona Department of Commerce. 2007. Profile, Greenlee County, Arizona. Data used for employment estimates by this source include the Bureau of Labor Statistics and the State of Arizona Economic Security Administration. <http://www.azcommerce.com/doclib/COMMUNE/Greenlee%20County.pdf>
- <sup>9</sup> This figure is likely and underestimate since County Business Patterns does not count the self-employed. Despite that, CBP is a useful source for viewing long-term trends, and for comparing between counties.
- <sup>10</sup> Source: BEA/REIS.
- <sup>11</sup> Source: County Business Patterns.
- <sup>12</sup> Interhemispheric Resource Center (IRC). 2001. "Copper, Phelps Dodge and the Future of Grant County's Mining District." Silver City, New Mexico. Page 4.
- <sup>13</sup> As of January 29, 2008. Source: KitCo Metals [http://www.kitcometals.com/charts/copper\\_historical.html](http://www.kitcometals.com/charts/copper_historical.html)
- <sup>14</sup> Employment data from BEA/REIS.
- <sup>15</sup> Mining employment and copper prices may not tract exactly year to year due to a lag period: when copper prices rise or decline, it may not be until the following year that this translates into rises or declines in mine workers.
- <sup>16</sup> U.S. Geological Survey <http://minerals.usgs.gov/minerals/pubs/commodity/copper/240798.pdf>
- <sup>17</sup> Employment data from County Business Patterns (does not include the self-employed).
- <sup>18</sup> Regression equations were produced to test the relationship between mining employment and copper prices. At the 95% confidence level there no statistical relationship between copper prices and mine employment for Greenlee County, from 2001 to 2005 (the R-squared value is 0.61). For Grant County, the relationship is significant, at the 98% confidence level (the R-squared value is 0.016).
- <sup>19</sup> Ibid, page 4.
- <sup>20</sup> Employment data from BEA/REIS and County Business Patterns.
- <sup>21</sup> Source for this page: Bureau of Labor Statistics.
- <sup>22</sup> Source for this page: BEA/REIS. Employment number for Information in Greenlee County, Information and Financial Activities for Catron County are estimates based on subtracting missing values from total employment.

---

## APPENDIX C. KEY COUNTY INDICATORS

- <sup>23</sup> A recent analysis of the Sitgreaves National Forest had similar findings on the relative size of agriculture, although expressed in terms of percent of private sector labor income (i.e., not counting government and non-labor, the two largest sources of income in two of the three counties).
- <sup>24</sup> Apache-Sitgreaves National Forest: Economic Conditions and Trends. February 9, 2007. Prepared by Barbara Ott, Social Scientist, TEAMS Planning enterprise. USDA Forest Service.
- <sup>25</sup> USDA Census of Agriculture 2002. Vol II: State and County Series: Table 3, Farm Production Expenses.
- <sup>26</sup> USDA Census of Agriculture 1997. Vol II: State and County Series: Table 39, Farms with Grazing Permits.
- <sup>27</sup> USDA Census of Agriculture 2002, Vol II: State and County Series: Table 40. Tenure, Number of Operators, Type of Organization, and Principal Operator Characteristics.
- <sup>28</sup> Kenneth W. Brown, 1996. *Ten-Point Test of Financial Condition with Comparative Ratios for Counties*. Springfield, MO: Solstice Productions. A good review of tools for analyzing fiscal health can be found in B.W. Honadle, J.M. Costa, and B.A. Cigler. 2004. *Fiscal Health for Local Governments: An Introduction to Concepts, Practical Analysis and Strategies*. Elsevier Academic Press, San Diego, CA.
- <sup>29</sup> 2002 Census of Governments, State and Local Government Finances, US Census Bureau. <http://www.census.gov/govs/www/estimate02.html> Accessed on May, 28 2008.
- <sup>30</sup> Department of the Interior, Payments in Lieu of Taxes (PILT). <http://www.nbc.gov/pilt/pilt/search.cfm#search>. Accessed on May 28, 2008.
- <sup>31</sup> Senate Approves County Payments Extension. Salem-News.com, May 23, 2008. [http://www.salem-news.com/articles/may232008/county\\_payments\\_5-23-08.php](http://www.salem-news.com/articles/may232008/county_payments_5-23-08.php) Accessed on May 28, 2008.
- <sup>32</sup> State of New Mexico Department of Taxation and Revenue.. Tax Research and Statistics, Property Tax Facts and County Rate Certificates, 2003 to 2007.
- <sup>33</sup> For a good overview of Fiscal Impact Analysis and land use, see the Transit Cooperative Research Program Report: The Costs of Sprawl – 2000 by Robert Burchell [http://onlinepubs.trb.org/Onlinepubs/tcrp/tcrp\\_rpt\\_74-a.pdf](http://onlinepubs.trb.org/Onlinepubs/tcrp/tcrp_rpt_74-a.pdf). The report was sponsored by the Federal Transit Administration, Transportation Research Board and National Research Council includes an extensive literature review. The American Farmland Trust has completed numerous “Cost of Community Services Studies” [http://www.farmlandinfo.org/documents/27757/FS\\_COCS\\_11-02.pdf](http://www.farmlandinfo.org/documents/27757/FS_COCS_11-02.pdf) and there is a growing literature on these studies and their findings. For example, see T.W. Kelsey, 1996. “The Fiscal Impacts of Alternative Land Uses: What do Cost of Community Services Studies Really Tell Us?” *Journal of the Community Development Society* 27(1): 78-89.
- <sup>34</sup> In a phone inquiry, the Catron County Assessor’s Office reported that further breakdowns of the non-residential land use category into smaller categories, such as agriculture, commercial and industrial property, is not possible. Personal Contact, April 15, 2008.
- <sup>35</sup> B.W. Honadle, 2004. *Fiscal Health for Local Governments*.
- <sup>36</sup> 2002 Census of Governments, State and Local Government Finances.
- <sup>37</sup> New Mexico’s School Funding Formula, the New Rules project: <http://www.newrules.org>
- <sup>38</sup> How New Mexico’s Schools are Funded New Mexico Public Education Department School Budget and Finance Analysis Bureau [http://ped.state.nm.us/div/fin/school.budget/how.nm.schools.are.fundedfy0806\\_files/How%20NM%20schools%20are%20fundedFY0806.pdf](http://ped.state.nm.us/div/fin/school.budget/how.nm.schools.are.fundedfy0806_files/How%20NM%20schools%20are%20fundedFY0806.pdf)
- <sup>39</sup> Richard L. Wigall, Charles Essigs, and William Wright. 2004. The Condition of School Funding in Arizona. Arizona State University <http://epsl.asu.edu/aepi/EPSSL-0405-114-AEPI.pdf> Accessed on May 28, 2008.