Did the Great Recession Wipe Out a Decade of Economic Progress in Colorado? Assessing the State of the State's Economy

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Although the Great Recession officially ended more than 18 months ago, its impacts on Colorado remain profound and far-reaching. Since the recession's start in December 2007, the state has lost more than 126,000 jobs. In January 2011, Colorado's unemployment rate stood at 9.1 percent, up from 4.3 percent before the recession began.

And unlike the 2001 recession—which saw its damage primarily contained in the high-tech sector—the Great Recession's impact has been felt across industries, occupations and skill levels. Indeed, nearly every sector other than health care, education and government has experienced substantial job losses over the past 3 years.

Consequences of the upheaval are felt in many ways. Poverty is up. Wages are flat. Foreclosures have skyrocketed. Businesses have shuttered in nearly every industry. Government revenues have plummeted. By many indicators, Colorado's economy is no better off than it was at the start of the millennium.

But there are some signs that the economy is turning around. Consumers are starting to spend a bit more, the manufacturing sector is showing signs of recovery, and the labor market, while still mired in a slump, has slowly started to add jobs.

Yet "anemic" may best describe the recovery. While Colorado is potentially poised for great things, national and international competitive challenges are daunting and fierce. Accordingly, the state must aggressively and strategically position itself as a leader for the post-Great Recession economy. Simply put, we must use limited resources to their best possible benefit to help Colorado rebuild.

To make better decisions about Colorado's open economic path, it is important to have a sense on how the state and regional economies have evolved over the past decade. Our goals in this analysis are to help answer the question of "where are we now?" and offer encouragement as we move forward.

In the next few pages, we provide some highlights of Colorado's economic changes over the past 10 years and since the start of the Great Recession. Key indicators of interest include employment, wages, unemployment, occupations and population. We present this information for the state overall as well as 4 regions: eastern, Front Range, south central and western.[1]

Looking at different regions in Colorado reveals several interesting stories, and demonstrates some of the unique challenges facing various parts of the state. Over the last decade, the eastern region saw job losses of 2.5 percent. In that region, management and government industries grew, but that was offset by substantial manufacturing job losses.

The Front Range experienced a contraction of 4,000 jobs over this time. Like the rest of the state, the construction industry lost jobs while medical and educational industries grew. These gains were offset, however, by losses in manufacturing and telecommunications.

The south central region experienced an increase of more than 200 jobs over this time due to increases in government, health care and mining. Between the 2nd quarters of 2000 and 2010, the Western Slope was the other region in the state to experience employment growth (slightly more than 12,200 jobs) because of job increases in mining, government, and educational and medical industries.

Our work here is admittedly cursory. Colorado's economic challenges are much more nuanced, and future work will investigate these issues in greater detail. However, as the difficult, yet critical work in shaping the state's economic future proceeds, we want to provide insights to develop a common frame of reference. The analysis and context that we provide are designed to support efforts in setting strategies as Colorado rebuilds and retools.

Good Riddance to an Uninspiring Decade

The 1990s were a remarkable time in Colorado's economic history. Over the decade, the state added nearly 700,000 jobs, as high-tech companies flourished in the dawn of the information economy. The state's per capita income ranking climbed from 19th highest in the nation in 1990 to 7th in 2000. In January 2000, Colorado's unemployment rate stood at 2.7 percent.

[1] Regions are defined along workforce region boundaries. A map is provided at the end of the document.

Since that heyday, however, the U.S. has gone though 2 recessions. While the 2001 downturn was fairly mild nationally, Colorado was hit hard. This is due mostly to the “popping” of the dot-com bubble, which especially impacted the state’s computer and telecommunication sectors—driving forces behind of much of the state’s rise to prosperity.

The 2007-2009 recession was an entirely different story. The repercussions of the national financial market meltdown reverberated throughout the U.S., state and regional economies, as credit markets dried up, housing markets collapsed and unemployment soared.

Although Colorado fared less badly in the Great Recession than many other states, the compound impacts of the decade’s two recessions were substantial. Perhaps most striking is that Colorado had only about 49,000 more non-farm payroll jobs[2] in December 2010 than it did in January 2000, while the labor force grew by more than 306,000. An important consequence is that the state’s unemployment rate has climbed almost three quarters of a percentage point since August 2010. Furthermore, the state’s median household income fell $4,100 (6.9 percent) over the last decade.

Despite a struggling economy, the state’s population continues to grow. Colorado’s relatively young population means natural population growth rates are higher than many other places. And the state’s abundance of amenities and recreational opportunities, and affordable housing make it an attractive destination. This is reflected in a 575,000-person increase in the state’s working-age population over the decade. Simply put, population change has vastly outpaced job growth, resulting in higher unemployment.

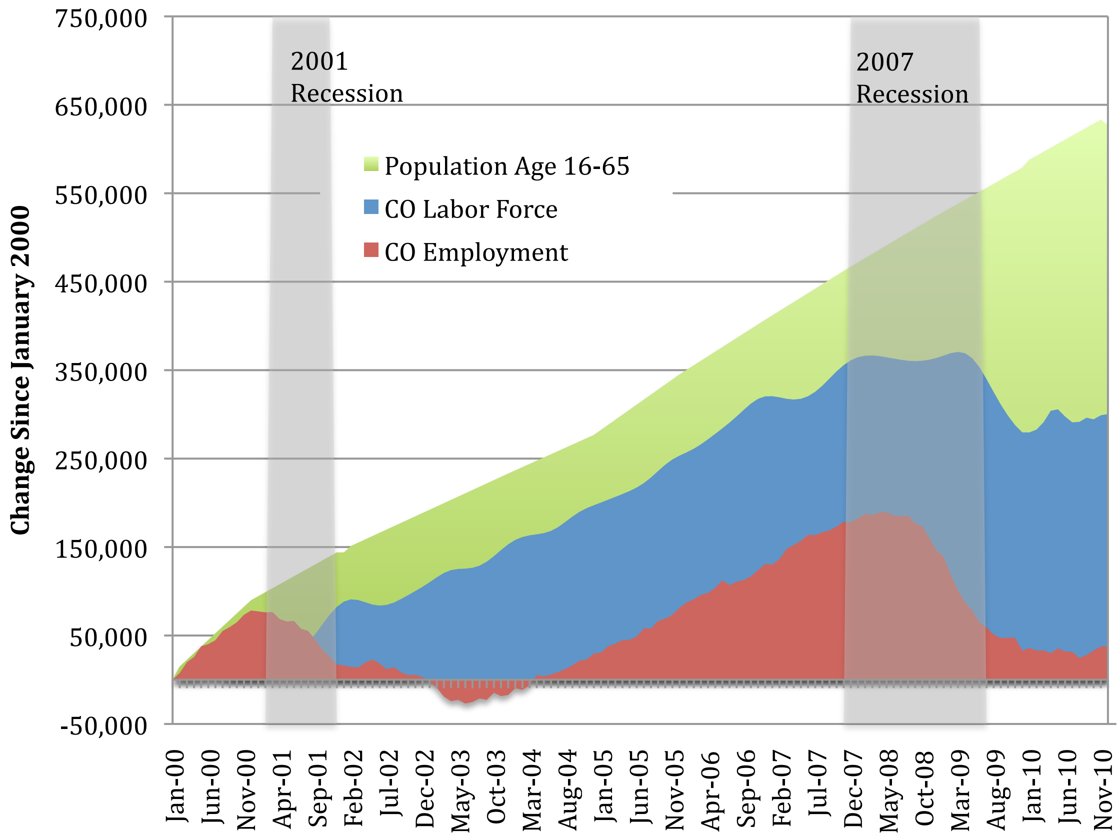
The following chart shows the cumulative change in the state’s number of jobs (red), its labor force (blue) and working-age population (green) since January 2000.[3] Between 2003 and 2008, all three grew, but the gap remained fairly constant. At the onset of the last recession, however, the labor force declined slower than the number of jobs, leading to increased unemployment, while the working aged

[2] It is important to note that both of our primary employment data sources (QCEW and CES) omit most farm employment. As a result, our analysis does not fully capture the dynamics of the state’s economy, especially in the state’s eastern and southern regions. We are conducting a detailed analysis of the state’s farm employment trends as part of a concurrent research effort, which will be made available soon. Preliminary results are available from the authors upon request.

[3] The labor force is comprised of the employed and the unemployed. It is important to understand that to be officially counted as unemployed, a person need be actively searching for work. When the economy is in a prolonged recession, it is often the case that some unemployed people eventually stop looking for work. These people are called “discouraged workers.” The Bureau of Labor Statistics drops discouraged workers from its measure of the labor force. In the chart, we can think of much of the growing gap between the labor force and the working age population as representing discouraged workers. If these discouraged workers were counted as unemployed, the state’s unemployment rate would be much higher, especially over the past 2 years.

population continued to increase. The central economic challenge the state faces is getting these gaps back to historic levels.

Colorado's gap between population changes, labor force growth and job creation is increasing



Sources: Bureau of Labor Statistics (BLS): Local Area Unemployment Statistics (LAUS) and Current Employment Survey (CES) (Seasonally adjusted), Colorado State Demography Office

Colorado's 2000s Job Growth Mixed across Regions, but Overall Unimpressive

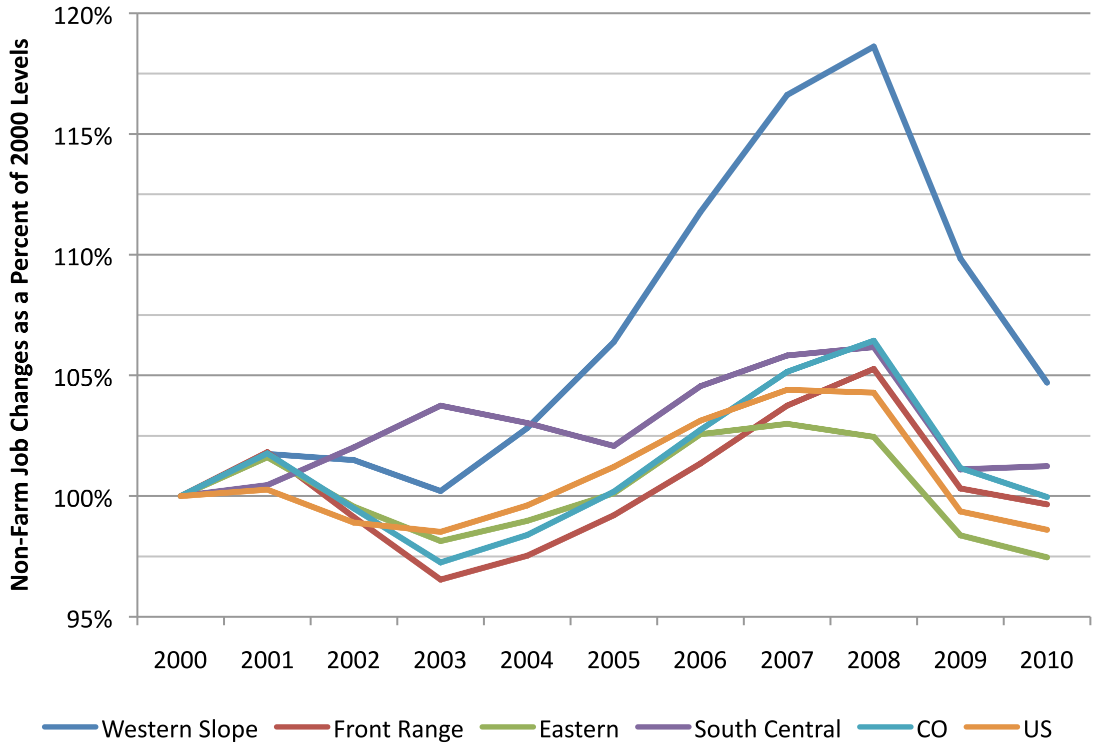
Colorado is an economically diverse state. Agriculture is critical in the East, natural resources are important to the West, and the Front Range is an international hub of advanced technology. This diversity plays out across regions, resulting in stark geographical differences in economic performance.

The following chart shows regional rates of job change over the 2000s, as a share of 2000 employment levels. The height of the line at any particular point represents the percentage change in total non-farm employment since the base year.

The state's Western Slope and south central regions enjoyed the highest job growth rate over the course of the decade, with the Western Slope exhibiting strongest growth in the middle years. Just as much of the employment growth in the first half of the decade was due to higher energy demand, the drop in natural gas prices over the last several years has led to substantial job losses in the western region.

The Front Range had a difficult decade in terms of job growth, losing 5,010 (0.3 percent) jobs from 2000 to 2010.

The Western Slope showed greatest job growth rate from 2000-10, while the eastern region suffered losses

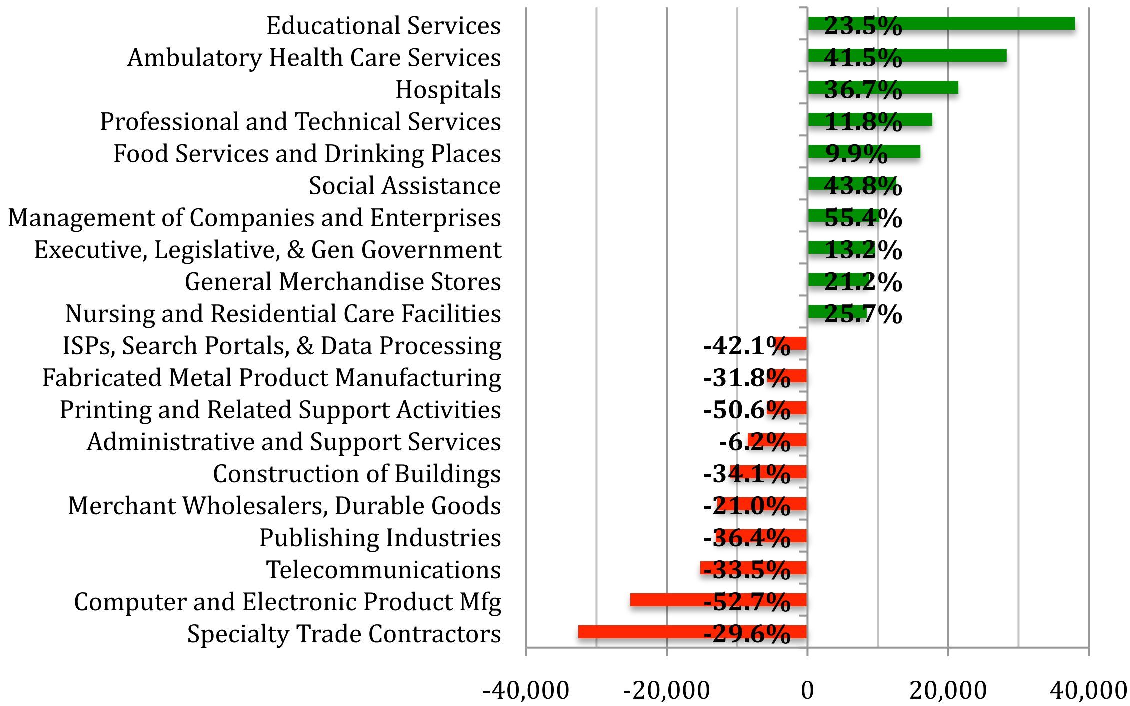


Sources: Colorado Department of Labor and Employment/Labor Market Information (CDLE/LMI) Quarterly Census of Employment and Wages (QCEW) and BLS QCEW

Although it would be an overstatement to call the past decade transformational, Colorado's economy has seen significant changes. Telecommunications and high tech remain important sectors, but less so. Clean and renewable energy and biotechnology have gained important footholds, but remain a relatively small part of the state's economic base. In a sense, we see Colorado's economic future blending traditional strengths in technology, tourism, resources and agriculture with still-emerging, "new frontier" sectors.

In the following charts, we identify those industries that have recently added and subtracted the most non-farm jobs statewide (the appendix provides analog tables for each region). The next chart shows job change between the 2nd quarters of 2000 and 2010.

Leading Industry Job Gainers and Losers: 2000q2-2010q2



Source: CDLE/QCEW

Consistent with national trends, notable growth occurred in health care-related sectors (including social assistance) and education. Given the state's population growth, these trends are not surprising, as more people leads to greater demand. Professional and technical services also had noteworthy job growth, showing the state's continued evolution to a high service economy.

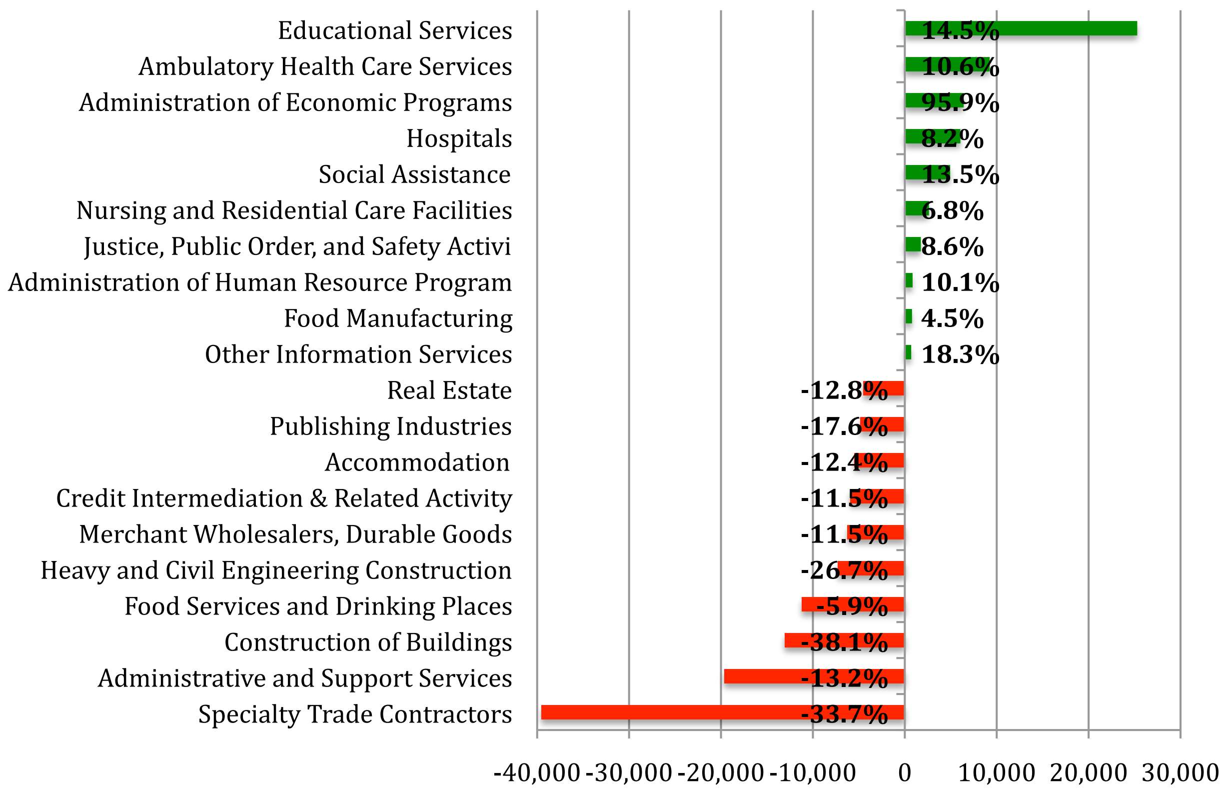
Among the industries losing the most jobs over this time frame are construction, computer manufacturing, telecommunications and publishing (which includes software).

While the Great Recession's impacts have been both deep and widespread, not all sectors have declined, and some have been more hard hit than others. The following chart shows the extent to which the Great Recession impacted different industries in the state. Here we focus on the 10 industries that gained and lost the most jobs between the *third quarter of 2007 and the second quarter of 2010*. Over this timeframe, the state lost more than 134,000 jobs, a 5.8 percent decline.

The past 3 years show some similarities with the decades' performance. Education, health care and government are among those that added jobs over the course of the recession.

Reflecting the housing market collapse, the greatest declines were experienced in construction sectors, and related real estate financial sectors. Computer manufacturing and publishing also experienced notable losses.

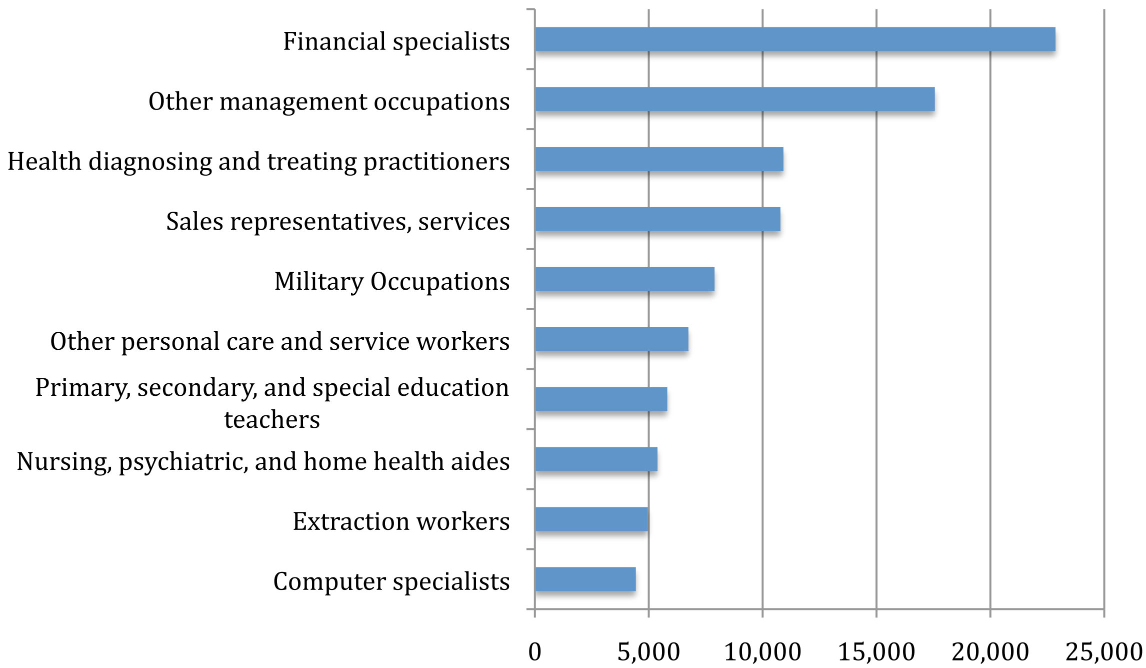
Leading Industry Job Gainers and Losers: 2007q3-2010q2
State Net Loss: 134,346 Jobs (-5.8 percent)



Source: CDLE/QCEW

The industry growth trends can be translated into occupations. Between 2005 and 2010, the occupations adding the most new positions in Colorado were financial specialists and other management. Consistent with growth in health care and education industries, the state's occupational mix has seen substantial growth in related fields such as health diagnostics, nursing, and teachers.

Colorado's Top 10 Growth Occupations: 2005-2010



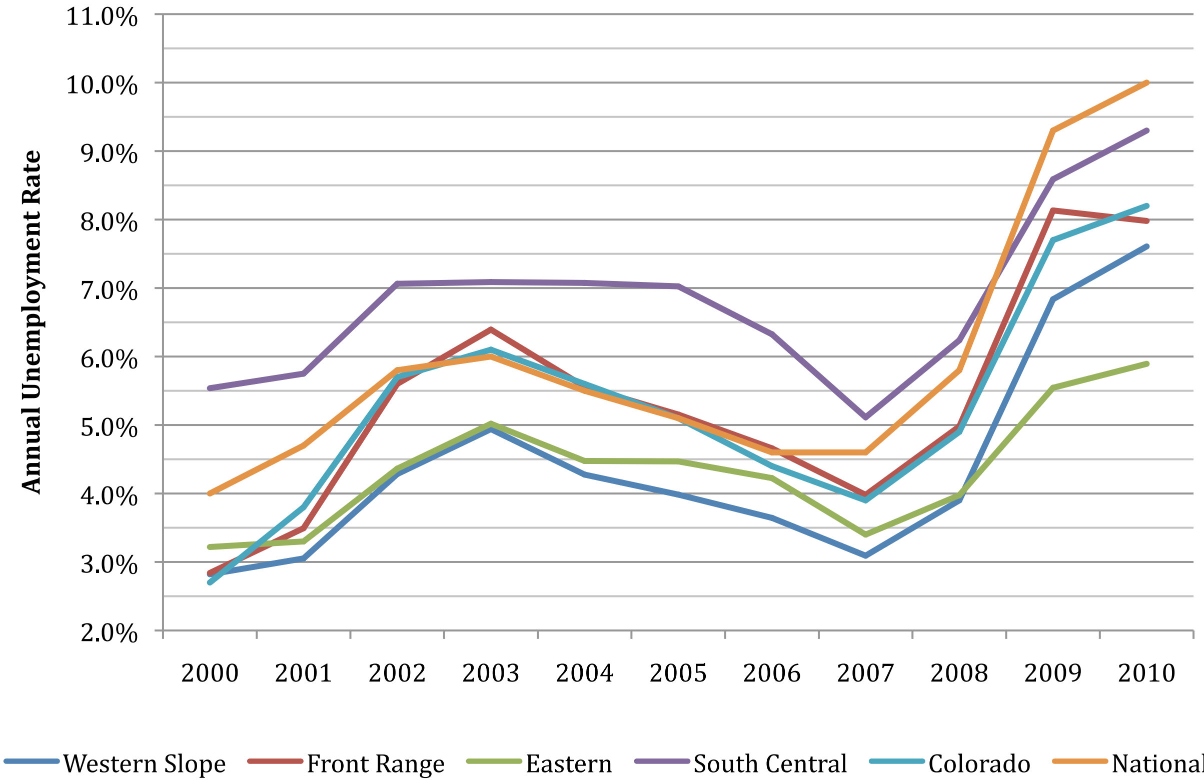
Source: Economic Modeling Specialists, Inc

Unemployment Rates: Statewide Increases, but Relative Regional Rates Essentially Unchanged

Just as regional job growth has varied across Colorado, so too has unemployment. The following chart shows the annual regional unemployment rates over the past 10 years. A striking feature is how the regional series move together, yet differences across regions remain persistent.

Over this timeframe, the south central region had the highest unemployment rate, while the western and eastern regions were well below the U.S. and state averages.

Over the past 10 years, unemployment has been highest in south central, while the rate has been lowest in the western slope and eastern regions

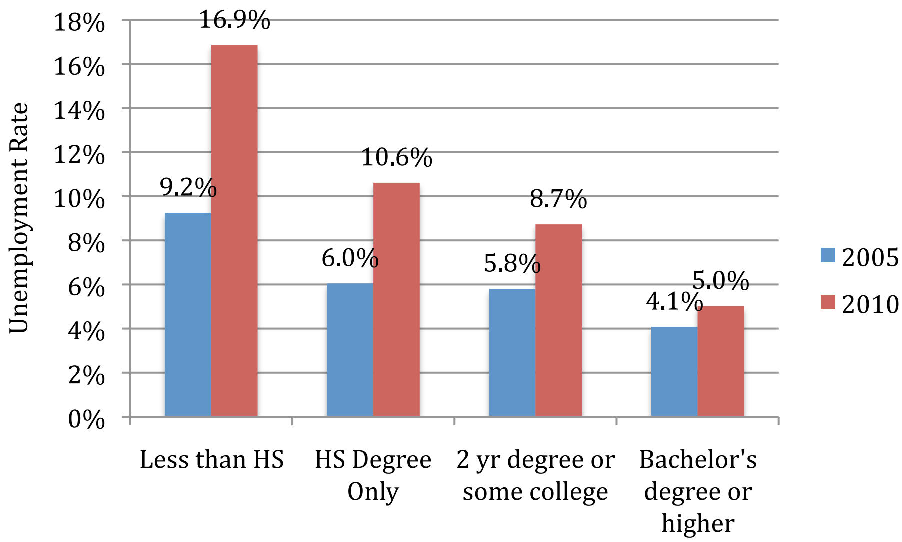


Source: Authors' calculations based on BLS/LAUS

Great Recession's Unemployment Impacts Differ by Education

Historically, the more education an individual has the less likely they are to be unemployed. This trend has continued over the course of the Great Recession. The following chart shows the Colorado unemployment rates for adults 25 years of age or older in 2000 and 2005.

Colorado unemployment rates by education attainment: 2005 and 2010



Source: BLS

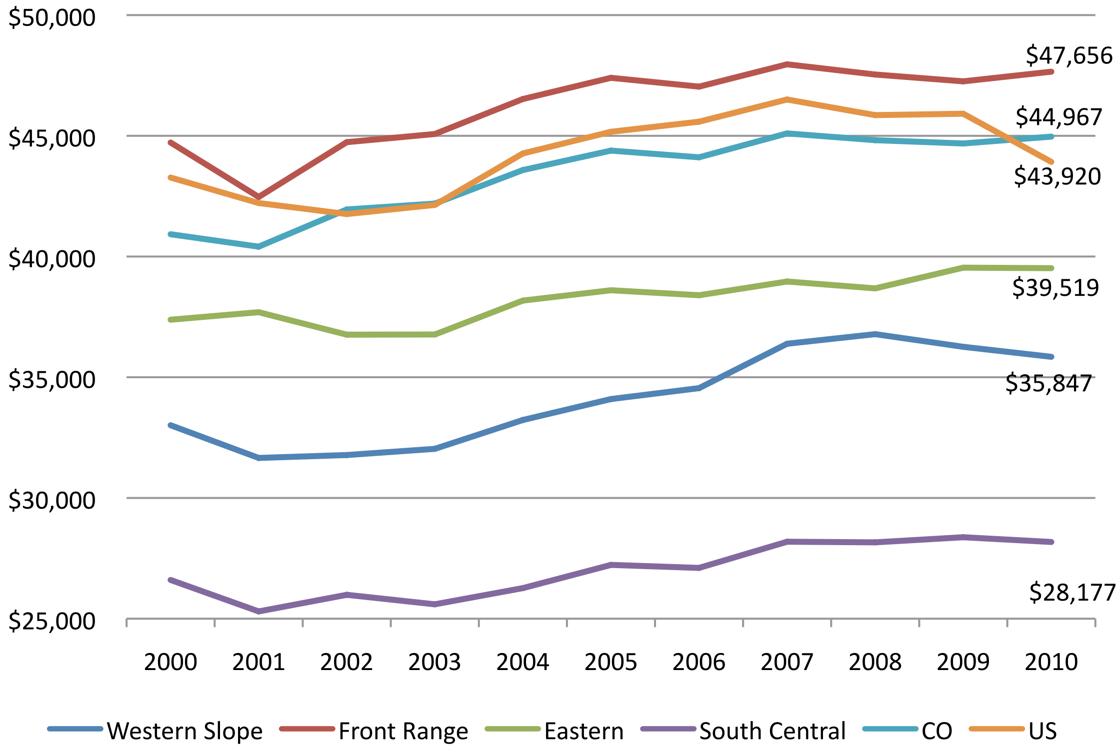
Although the unemployment rate has increased for all levels of education, the change has been most notable for those with a high school degree or less. In 2010, the unemployment rate for the age cohort without a high school degree was 16.9 percent, up from 9.2 percent 5 years earlier. While the unemployment rate is also up for those with at least a bachelor's degree, the increase was much less substantial, with the rate climbing less than 1 percentage point over this timeframe.

Household Well-being Stagnates and Wages and Income Growth Remains Flat

Regional earnings per worker followed employment trends over the decade. When job totals increased across Colorado in the middle years, average wages grew as well. However, during the years of both recessions, when unemployment increased, wages were flat.

Over all, Front Range workers earn the most on average (about $47,600 per year in 2010), while south central earnings per worker are the lowest (about $28,200 per year in 2010).

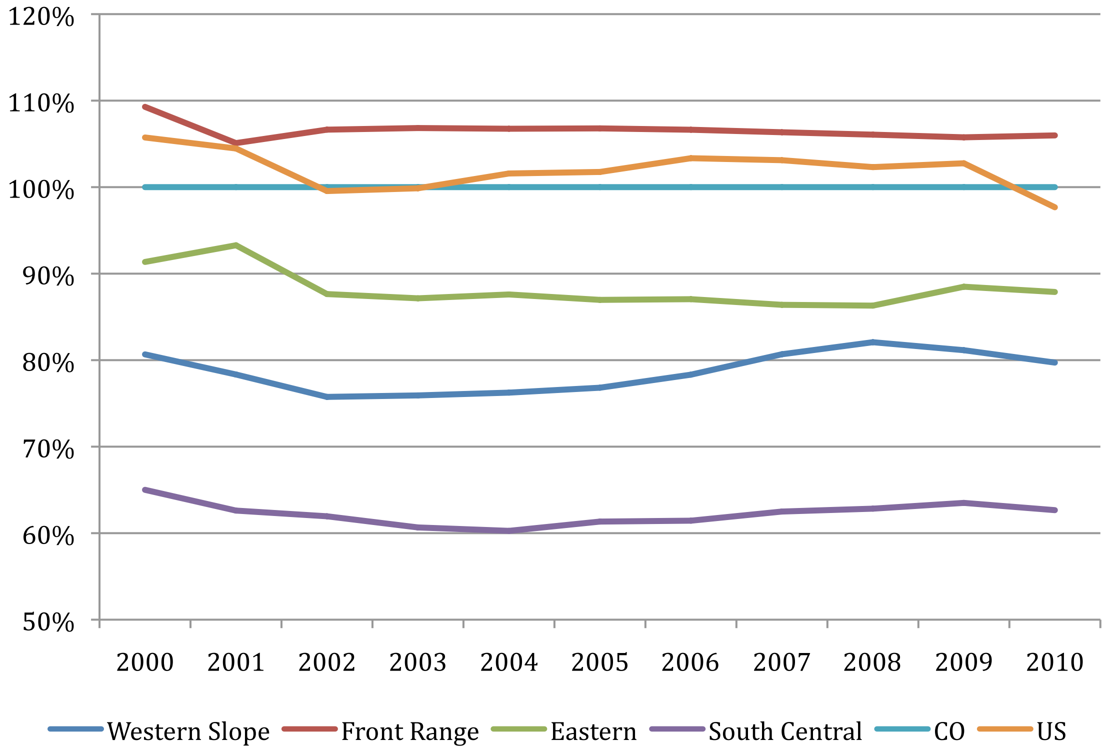
Colorado earnings per worker (inflation adjusted) relatively flat over past 10 years



Source: Authors' calculations based on LMI/QCEW

Although wages have been fairly flat, it is worth noting that earnings per worker have been growing faster in the lower-wage regions. As a result, the earnings gap between the Front Range and the rest of the state is closing, although at a slow rate. For example, the average earnings per worker in the eastern region were 84 percent of the state average in 2001. By 2010, eastern regional earnings per worker were 88 percent of the Colorado average.

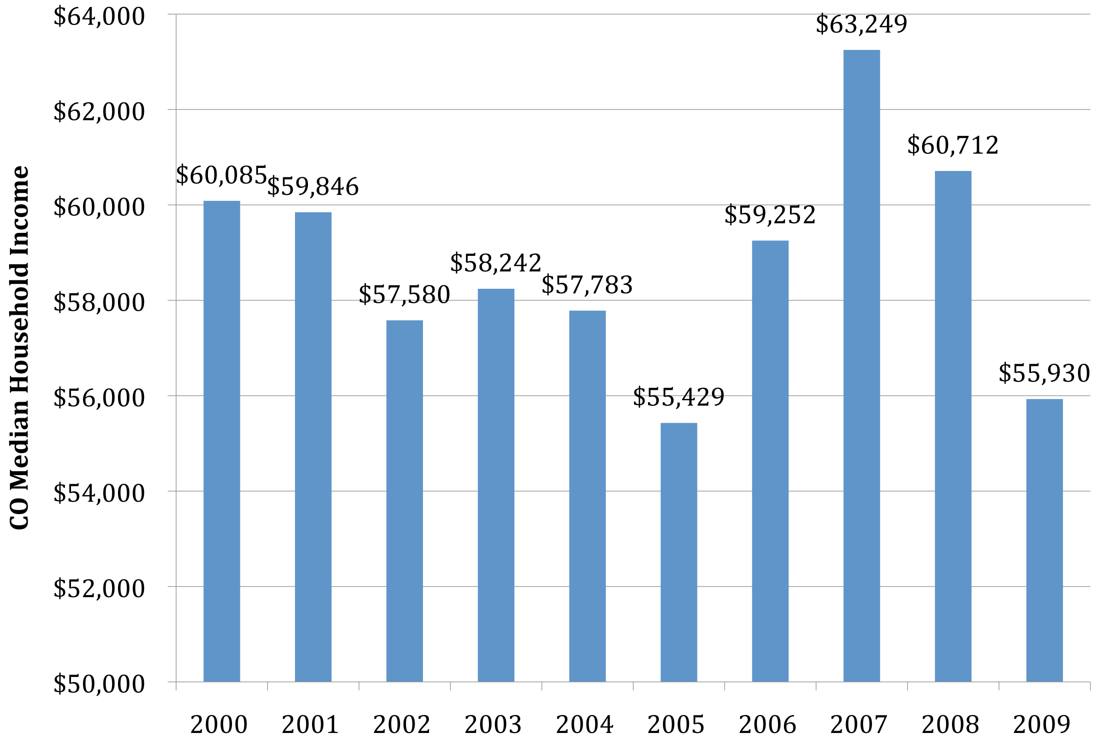
Per-worker earnings gap between Front Range and rest of state closing, but only very slowly



Source: Authors' calculations based on LMI/QCEW

The Front Range counties provide more than 85 percent of the state's total employment. Given the region's relative importance in terms of jobs and its unimpressive decade of job creation, it is not surprising that Colorado's household income has stagnated over the decade. According to the Census Bureau, the state's median household income in 2009 was $55,930. Startlingly, after adjusting for inflation, this is more than $4,100 (6.8 percent) *less* than 10 years earlier.

Median household income in Colorado has declined over the last decade (inflation adjusted)



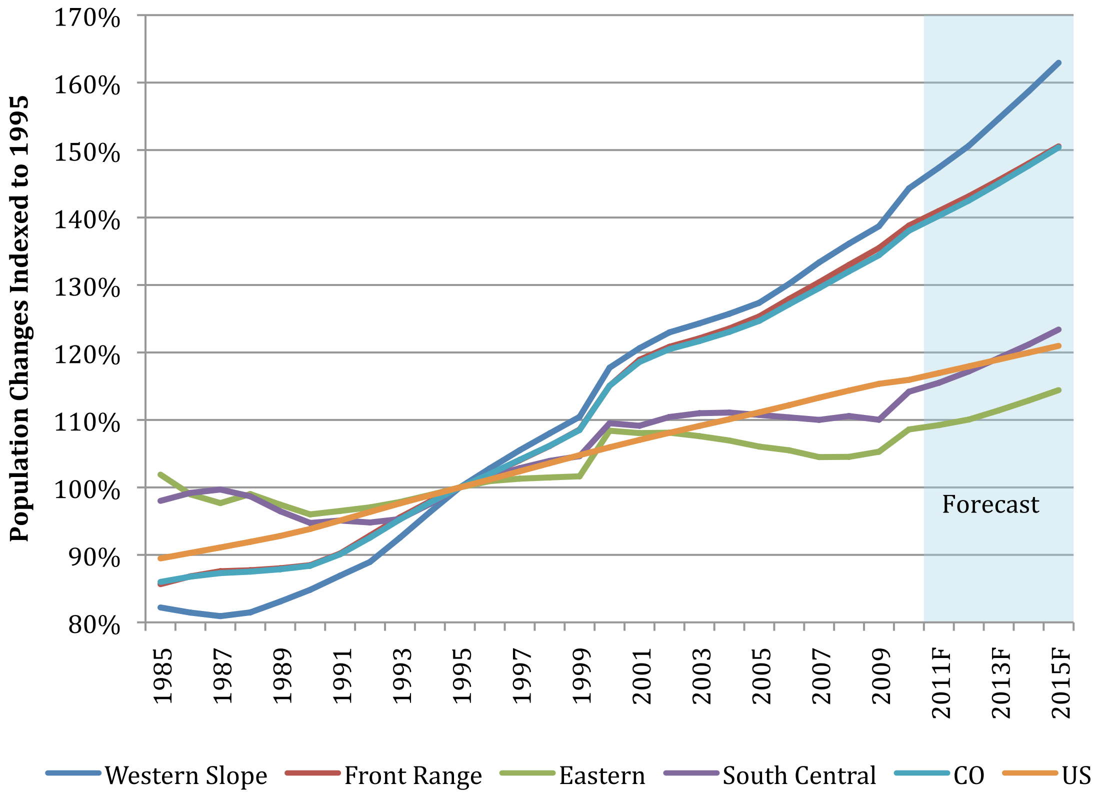
Source: US Census Bureau

Despite Mundane Economic Performance State Population Growth Continues

Population growth is our final indicator of interest. In the following chart, we show population growth for the U.S., Colorado and the 4 regions from 1985 to 2010, indexed as a share of 1995 population. Colorado's overall population has grown by more than 1.8 million people over this time. Since 1995, Colorado's 38 percent change in total population is twice as great as the U.S. change of 16 percent.

Population growth was most robust in the western and Front Range regions since 1995 – these regions have grown by 44 percent and 39 percent, respectively. By comparison, population in the south central region has grown by only 14 percent.

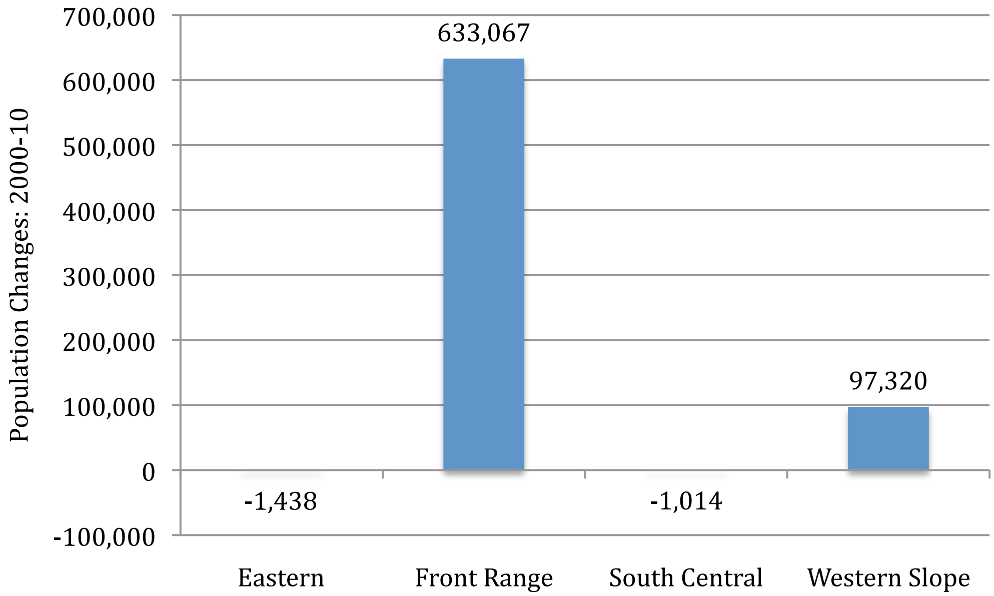
Population growth rates vary across the state



Sources: Colorado State Demography Office and U.S. Census Bureau – 2000 Census

While population growth rates vary across the state, the bottom line is that, over the past 10 years, most of the state's population growth has occurred in the Front Range. The following change shows total population change for the 4 regions. Overall, the Front Range added 633,067 people between 2000 and 2010, accounting for 87 percent of the total Colorado increase (727,935 people). The Western Slope counties added slightly more than 97,300 people during this time.

In the last decade, the greatest population growth occurred in the Front Range



Sources: Colorado State Demography Office – 2010 Census

Commentary—Separating Where We've Been from Where We're Heading

While it may sound sensational to call the 2000s a lost decade for Colorado, the fact is the state's economy today is by many measures no better off than it was at the start of the millennium. Net job creation over the past 10 years has been small. Wages have barely kept pace with inflation, while real median household income has fallen dramatically.

Despite current struggles, however, Coloradoans can create a vibrant economy. The state's skilled, creative and talented workforce, and the dynamic and entrepreneurial spirit of its business leaders are incredible assets that can be leveraged in providing new, broad-based opportunities.

But Colorado does not have a monopoly on such assets. Competition is global and increasing. Colorado cannot rely on happenstance, fortune or good luck.

A critical component to success is engaged, comprehensive and forward-thinking partnerships between businesses, government and education. The challenge is providing workers opportunities that not only enhance their livelihoods, but also contribute to the success of their employers.

But the challenges are multifaceted, and betray any one-size-fits-all solutions. Older workers in Colorado have been affected differently than younger ones - for example experiencing longer unemployment spells. While college degree holders are significantly less likely to be unemployed, their skills are increasingly underutilized. Declines in construction and manufacturing have disproportionately impacted males. Emerging companies are demanding skills that are in short supply, despite a pool of willing workers.

Our analysis shows that regions across the state have also experienced varying degrees of impact. Many of the western counties continue to undergo the boom-bust cycle associated with fluctuating energy prices. Numerous eastern and south central communities are struggling with population loss.

While we are optimistic about Colorado's economic future, nothing is predetermined. Enhanced prosperity will take vision, hard work and commitment.

About the Data

We draw our data from a variety of sources. Most important is information from Colorado's Department of Labor and Employment/Labor Market Information (CDLE/LMI). The primary data product we use is the Quarterly Census of Employment and Wages. Usually referred to as QCEW, the program derives its data from quarterly tax reports submitted to the state by employers subject to Colorado unemployment insurance (UI) laws. This includes about 99.7% of all wage and salary civilian employment. These reports provide information on the number of people employed and the wages paid to the employees each quarter. Reported on a quarterly basis, data are typically released 6-7 months after the quarter's end.

A second important data source is the Current Employment Statistics series, produced by the Bureau of Labor Statistics, in partnership with CDLE. This program draws on surveys of businesses and government agencies, in order to provide detailed industry data on employment, hours, and earnings of workers on nonfarm payrolls. While CES data is more timely than QCEW—generally reported on a 1 month lag—it provides much less industry detail than the QCEW. As a result, many key industry trends may be obscured. Also, because it is based on a survey, rather than the population of all employers, the data is subject to revision, with QCEW serving as the benchmark.

Other data sources include the Colorado State Demography Office, the U.S. Census Bureau and the Bureau of Economic Analysis-Regional Economic Information System (BEA-REIS), and Economic Modeling Systems, Inc., an Idaho-based consulting firm.

About the Authors

Dr. Martin Shields is Associate Professor of Economics at Colorado State University. His research program focuses on the factors that influence regional economic growth, emphasizing policy options that will enhance economic opportunities and quality of life for Colorado residents. Professor Shields develops economic models to identify regional competitive advantages and manners by which these advantages are reinforced and strengthened through public-private partnerships.

In related research, Dr. Shields examines the relationship between economic growth and household income. From a policy perspective, he is interested in identifying strategies for helping workers move up through career ladders, regardless of their education.

Dr. Shields has published more than 25 scholarly articles and book chapters, and has presented his findings in hundreds of public presentations. He joined Colorado State University after working for 8 years at The Pennsylvania State University.

Michael Marturana is the research economist in Colorado State University's Office of Engagement. Mr. Marturana earned his B.A. from The University of Arizona and a M.A. from Colorado State University (CSU), both in economics. He has been conducting research in his current position for CSU for more than a year. Prior to entering graduate school, Mr. Marturana developed his expertise in data management as a capacity planner for American Express.

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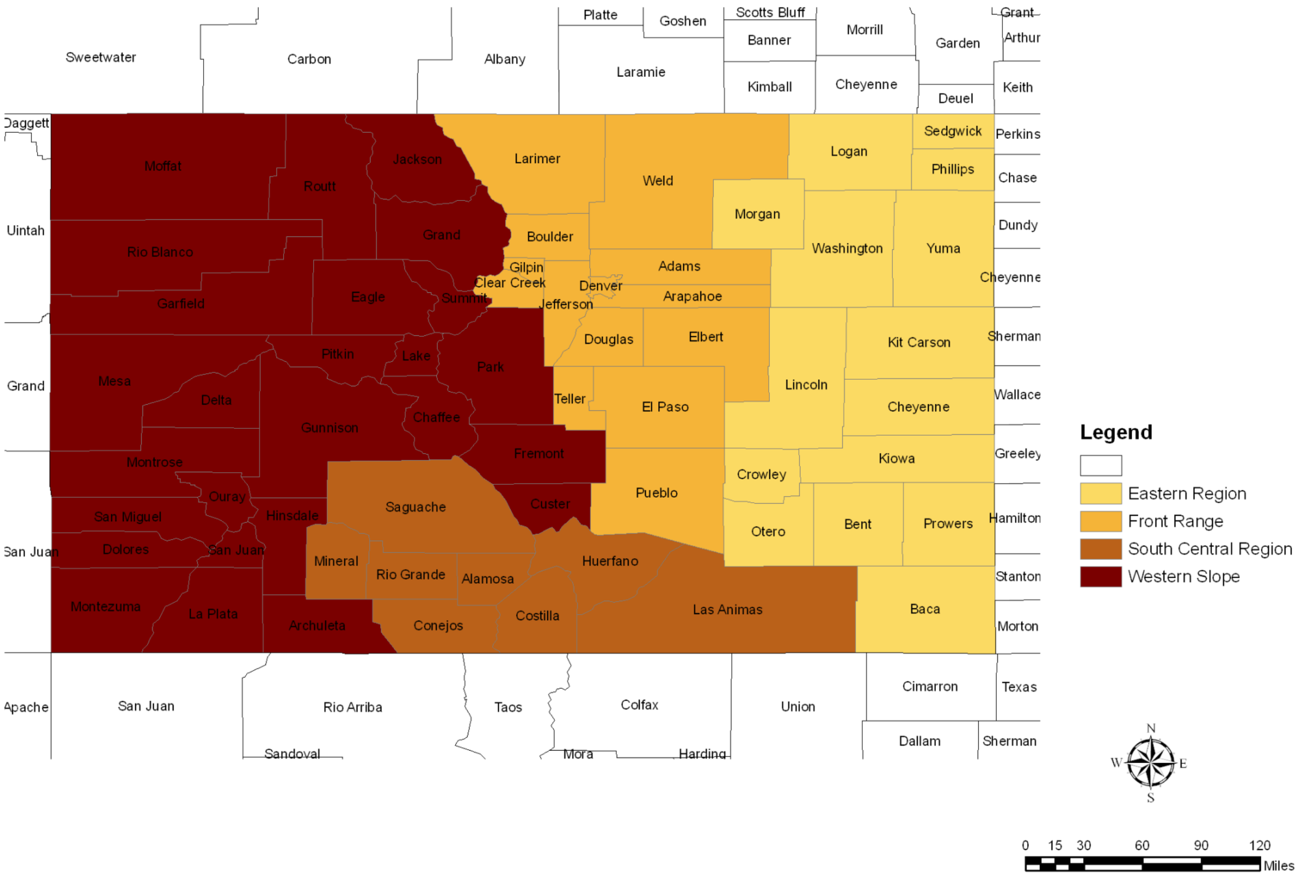
Counties by Region

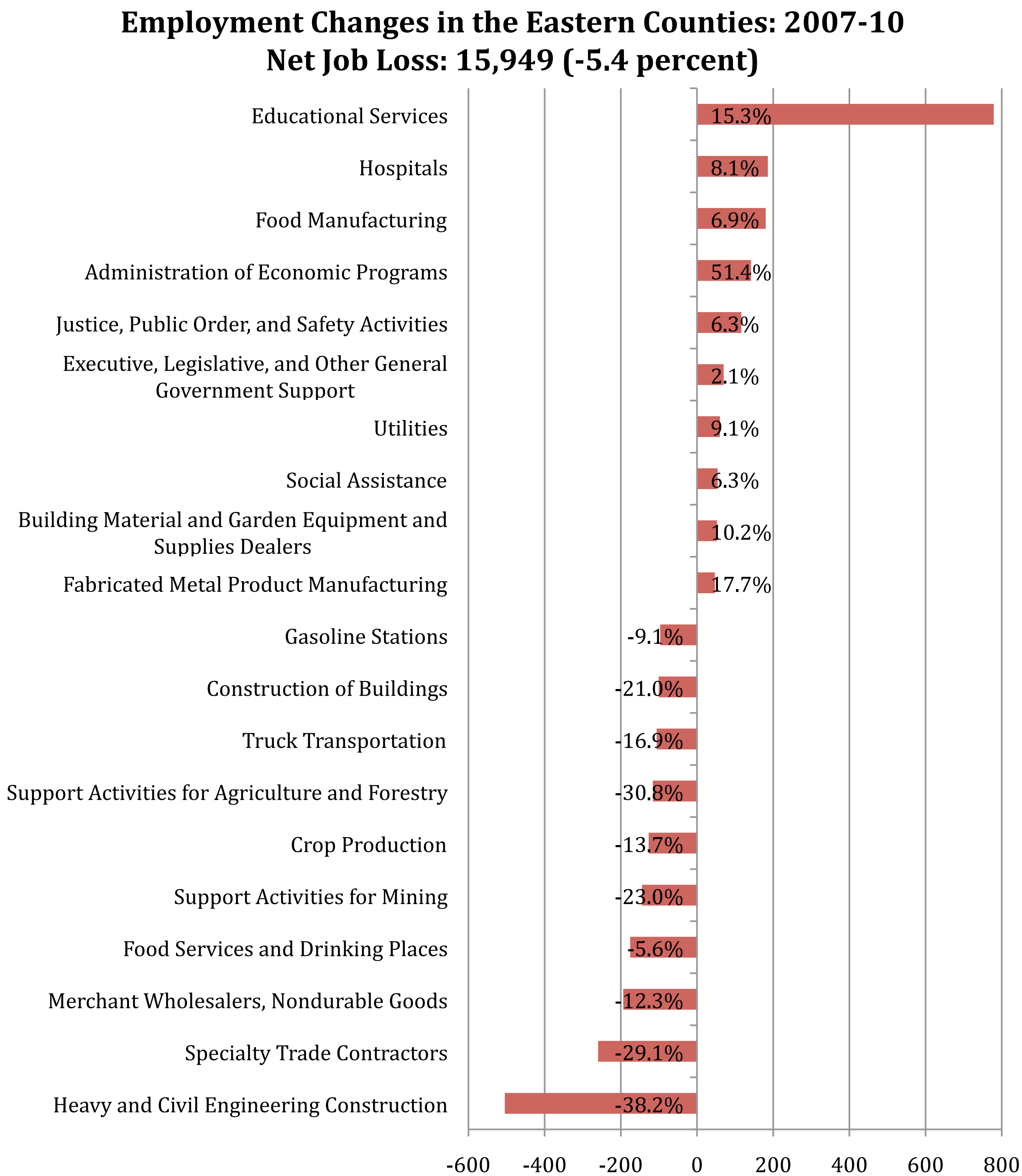
Map 1: Colorado Counties by Economic Region



Appendix: Detailed Regional Industry Employment Tabulations

Industry employment growth by region 2007q3-10q2

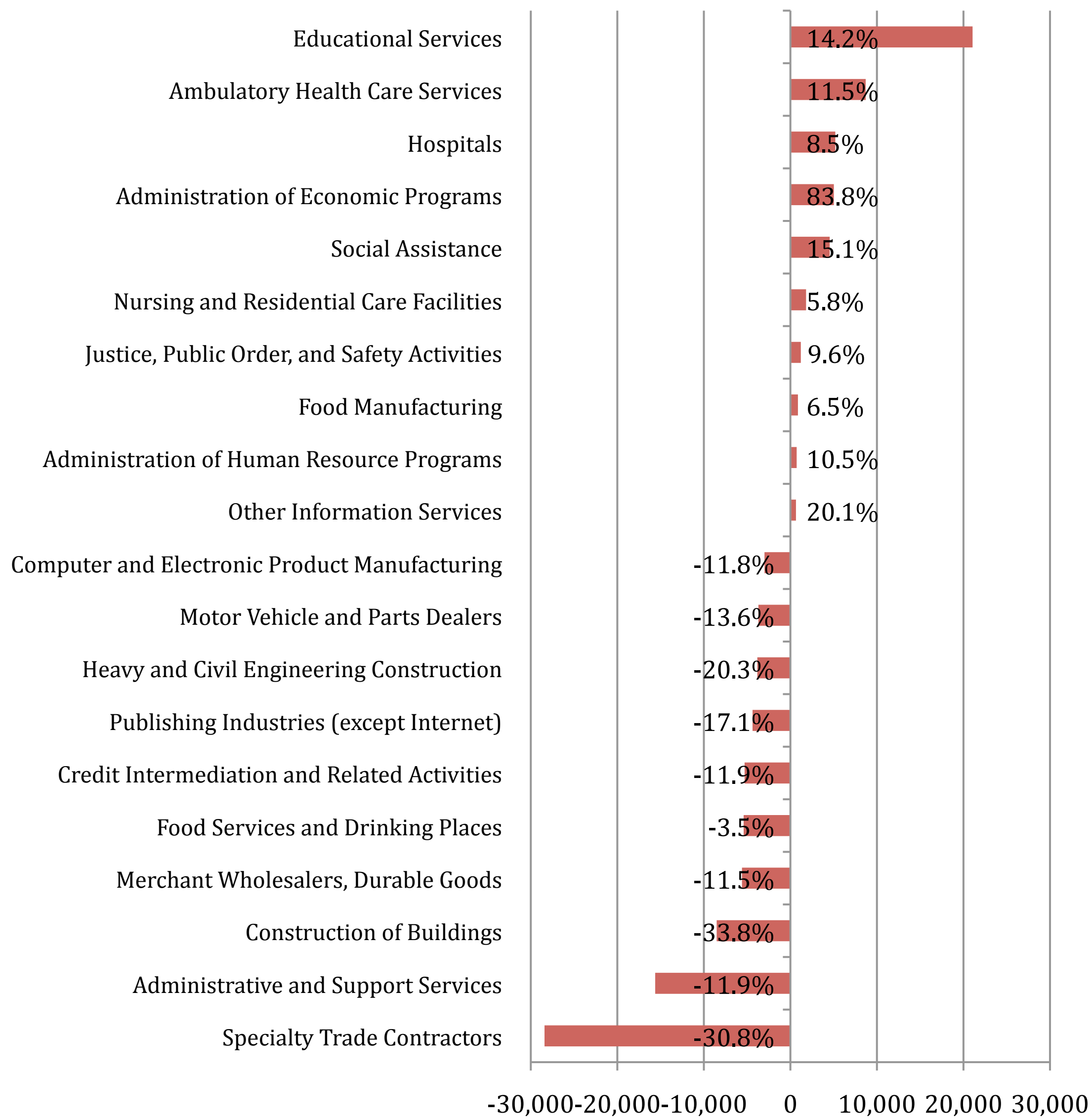
Consistent with the great recession, construction was hardest hit, but retail also lost jobs, while the greatest growth occurred in education.



Source: Authors' calculations based on LMI/QCEW

The impacts of the last recession were widespread across the Front Range: from construction to finance and management to restaurants and manufacturing. The region also had the same three major growth industries of education, health care, and government.

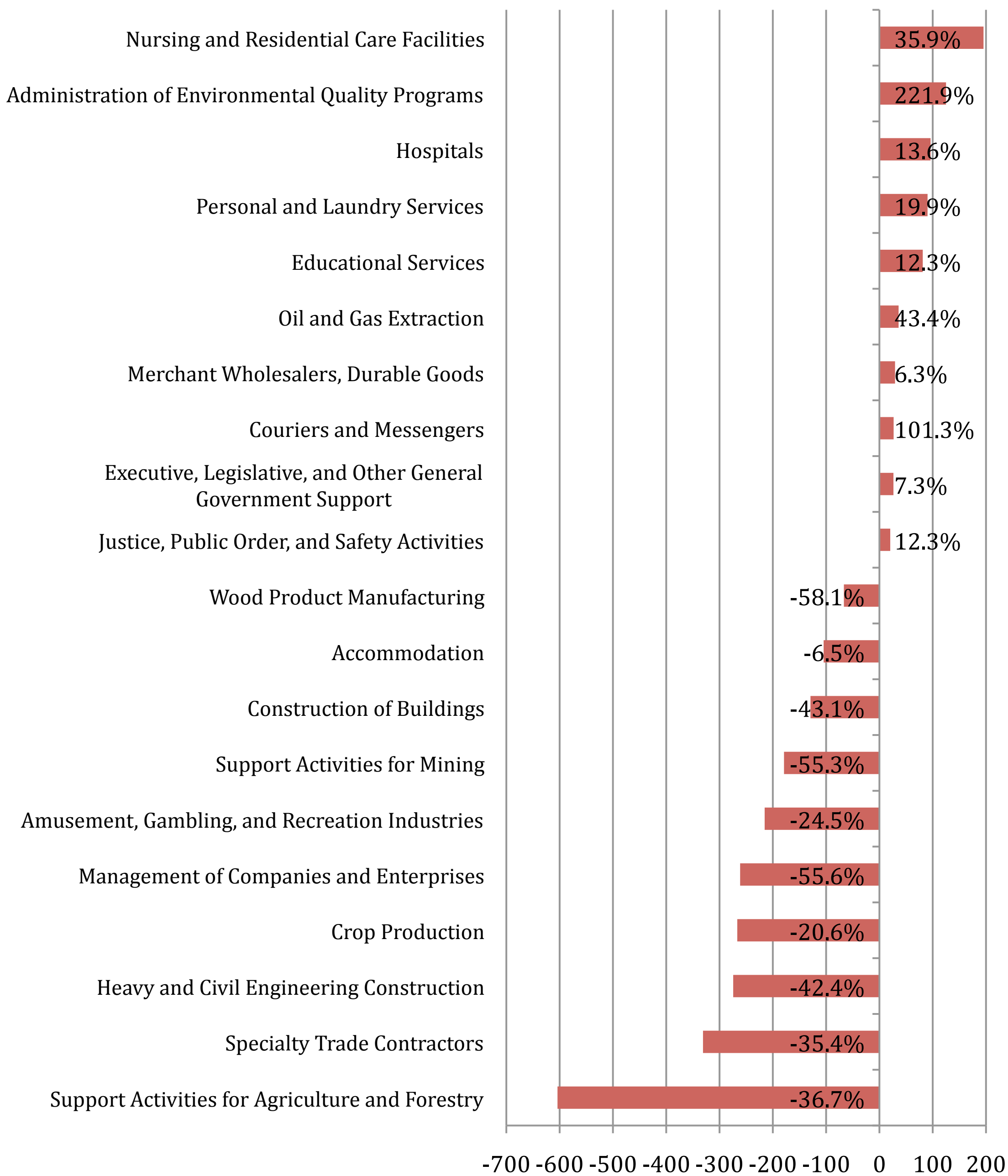
Employment Changes in the Front Range for 2007-10
Net Job Loss: 65,650 (-3.9 percent)



Source: Authors' calculations based on LMI/QCEW

The south central region's job losses were concentrated in construction, agriculture and management industries. The region experienced growth in the "typical three" industries of health care, government and education, while personal services also had notable growth.

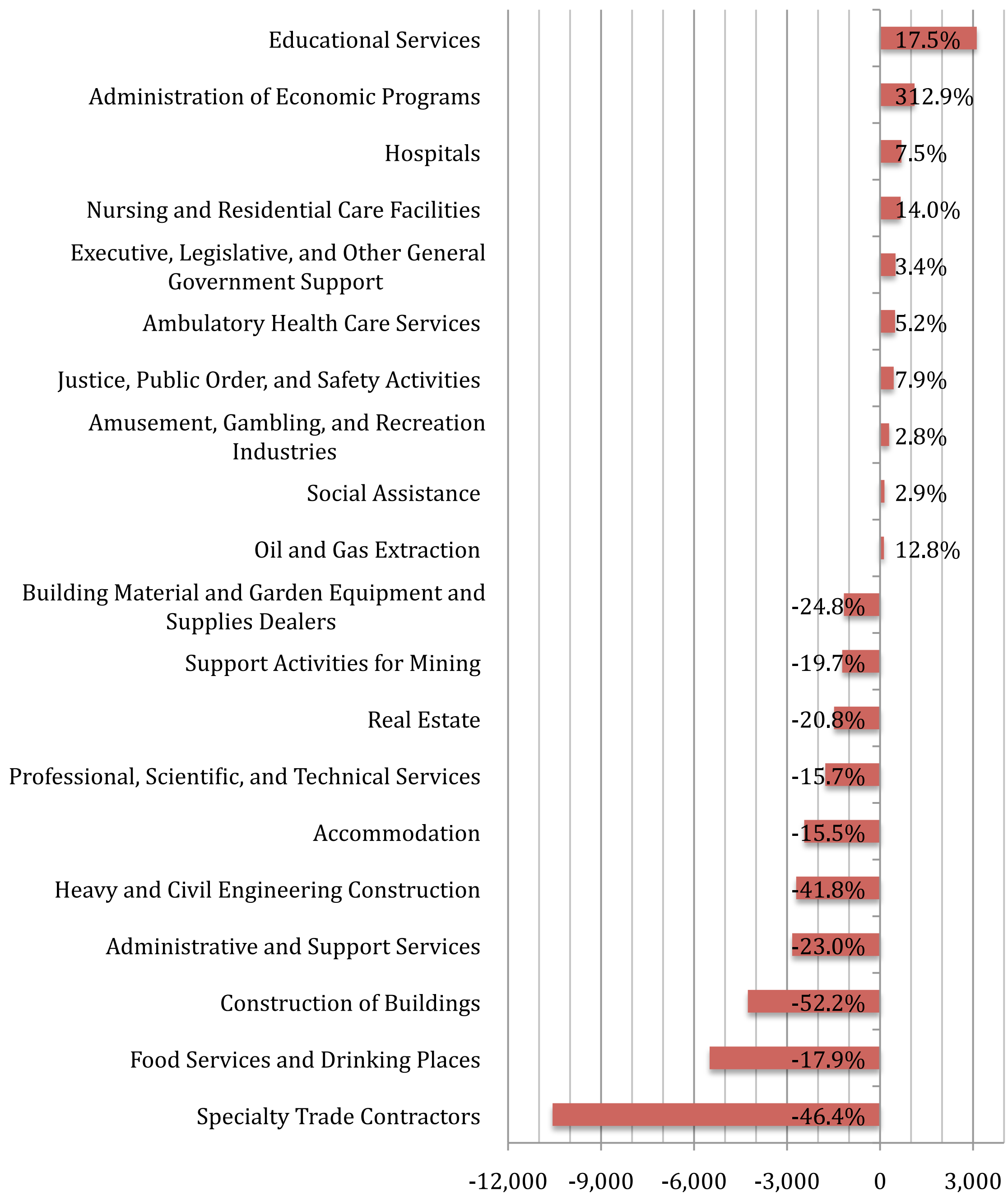
2007-10 South Central Employment Changes
Net Job Loss: 1,057 (-4.3 percent)



Source: Authors' calculations based on LMI/QCEW

The construction industry was hit especially hard on the Western Slope as the mining sector declined. At the same time, the region saw fewer visitors as restaurant and hotel industries shed jobs. Like the other regions, education, government and health care industries added jobs.

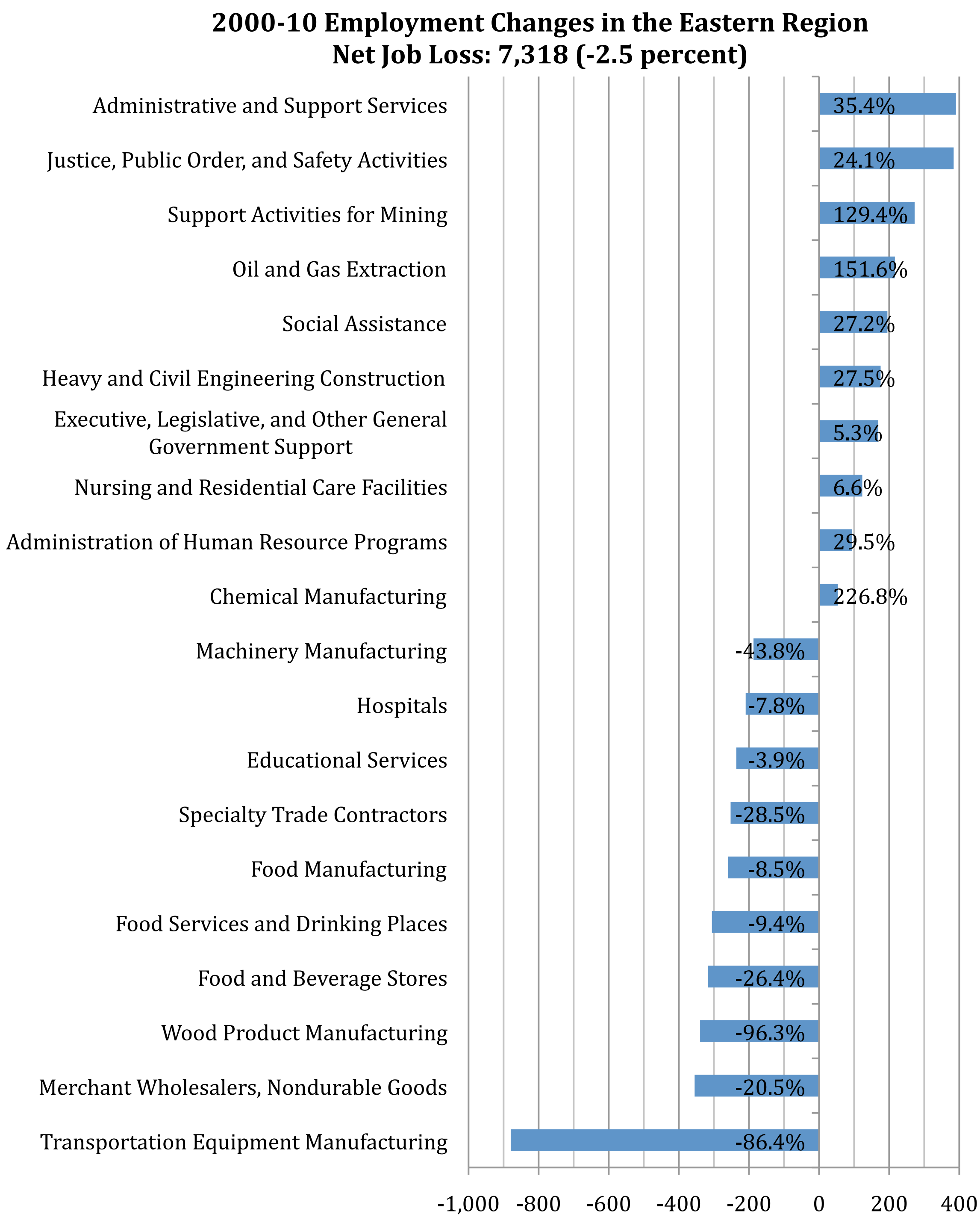
Employment Changes In the Western Slope: 2007-10
Net Job Loss: 29,674 (-10.2 percent)



Source: Authors' calculations based on LMI/QCEW

Industry Employment Growth by Region 2000q2-2010q2:

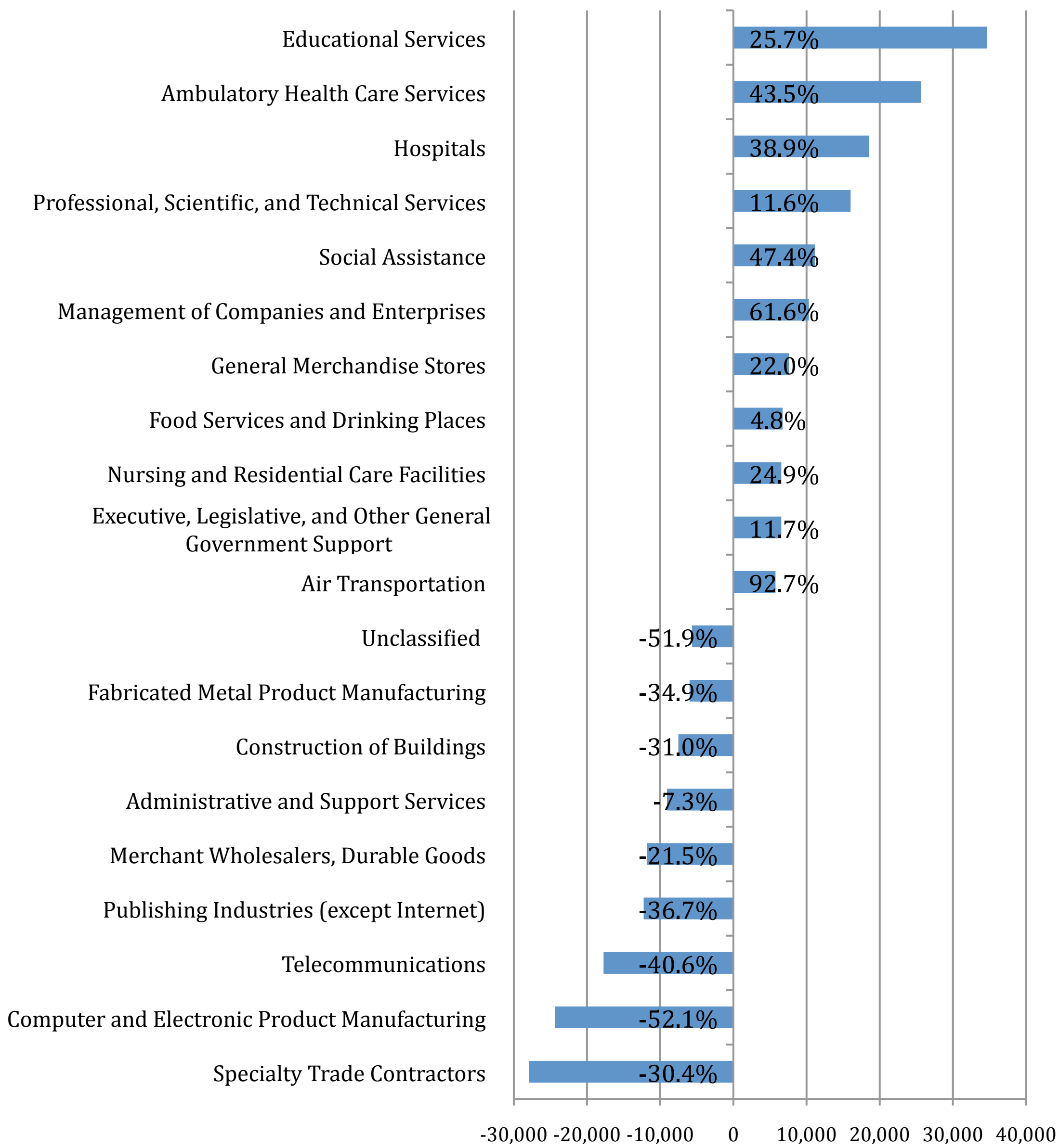
Major job losses in manufacturing and retail overshadowed constructions losses over during the last decade, while mining and government added jobs.



Source: Authors' calculations based on LMI/QCEW

The Front Range shed jobs over the last 10 years. Job gains in education and health care industries could not compensate for the losses in construction and high-tech industries.

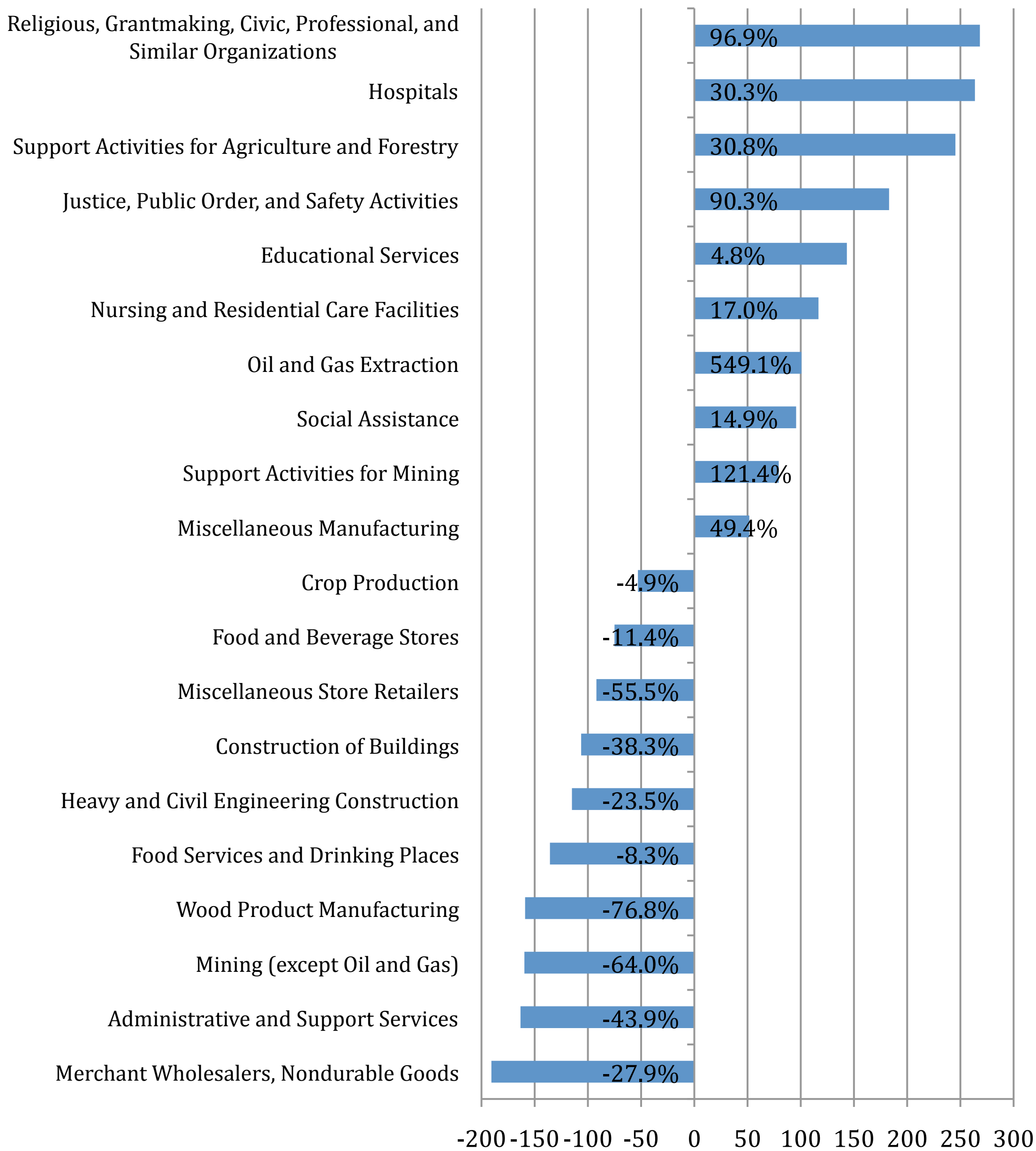
Front Range Industry Changes: 2000-10
Net Job Loss: 5,505 (-0.3 percent)



Source: Authors' calculations based on LMI/QCEW

Compared with the other areas, south central region experienced the second greatest percentage employment gain. Jobs expanded in non-profit organizations, health care, agriculture and government. Job losses were not localized to one industry, but in retail, management, mining and manufacturing.

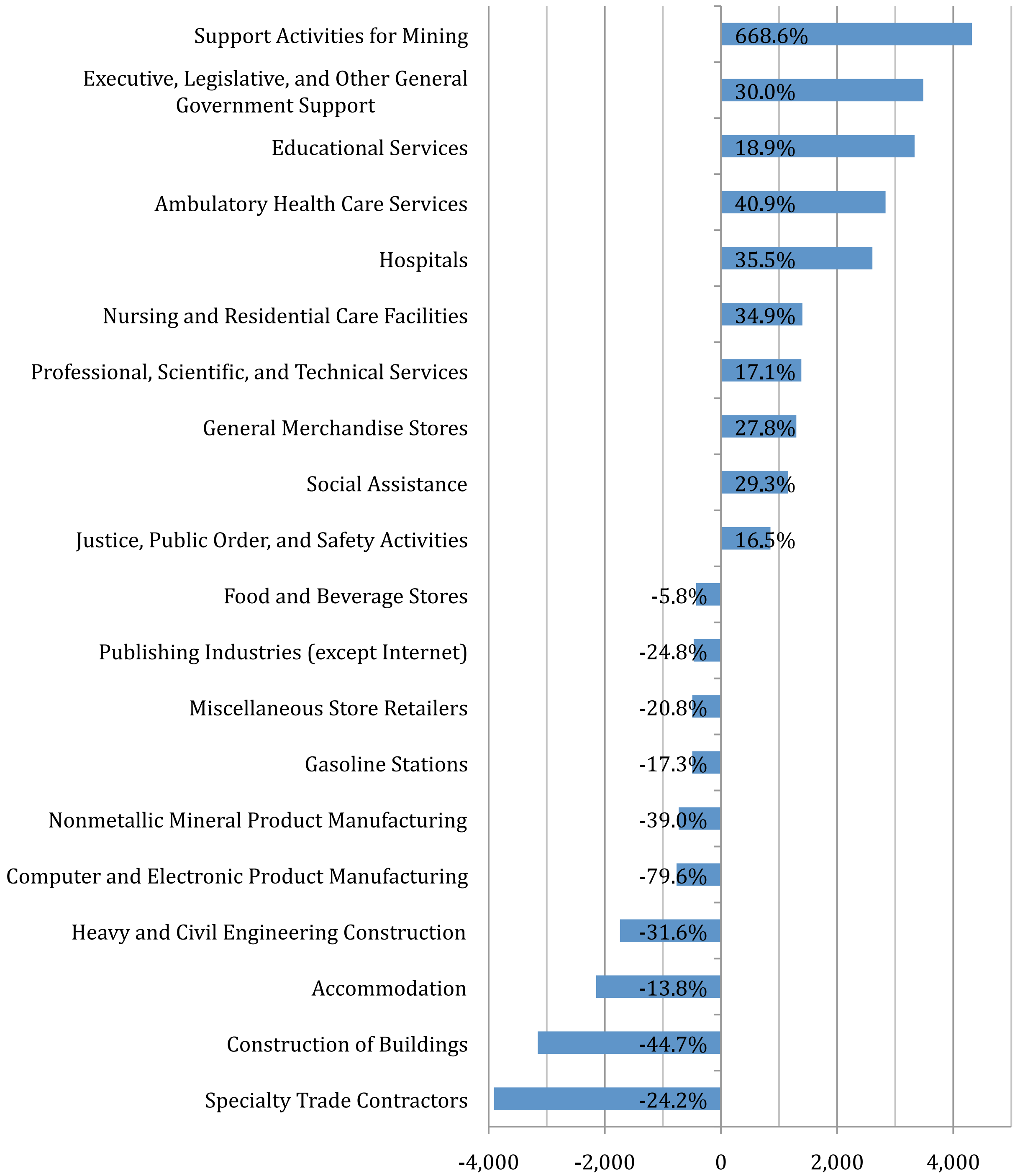
2000-10 South Central Industry Changes
Net Job Gain: 286 (1.2 percent)



Source: Authors' calculations based on LMI/QCEW

The Western Slope added a substantial number of jobs in mining support government, education, and health care in the last decade. Job losses were relatively concentrated in construction and hotel industries.

Employment Changes in the Western Slope from 2000-10
Net Job Gain: 11,700 (4.7 percent)



Source: Authors' calculations based on LMI/QCEW