TALE OF TWO STATES: USING LEAST-SQUARES k-VARIABLE ADJUDICATION METHODOLOGY (kVAM) TO INTERPRET ECONOMIC GROWTH IN TEXAS AND CALIFORNIA

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Tale of Two States: Using Least-Squares k-Variable Adjudication Methodology (kVAM) to Interpret Economic Growth In Texas and California

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Recent news reports assert that Texas is growing economically but California is not. Based on their Gross State Product, both states are growing but Texas is growing faster on a per-capita basis. To understand what drives economic growth for each state, over 50 years of annual state-level data is collected on 486 growth-related variables to build 44 regression models for each state and the U. S. over various time frames. The results and the dominant factors are compared. This research uses a new variable-reduction approach, the k-variable Adjudication Methodology (kVAM), a mixed-integer, nonlinear programming technique that optimizes classic statistical goodness-of-fit measures to identify dominant economic factors. The results provide policymakers new insights into the underpinnings of economic growth (both short-term and long-term) within each state and at the U. S. national level.

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Chapter 1

INTRODUCTION

Economic growth in the United States not only contributes to the well-being of its citizens but can buoy the standards of living in other nations. Many researchers have sought to explain the origins of such growth by identifying measurable, statistically related factors that might prove to be causal. If the key drivers and inhibitors of economic expansion were known, policies to develop and encourage positive growth could be adopted by any country and employed by international business managers to make better capital-investment and operational decisions.

Because of the U. S. A.'s unique governance structure, its component states operate with a high degree of autonomy, resulting in state-level economies with diverse characteristics and degrees of success in achieving strong growth. And since the nation's economic activity is essentially the sum of that of its member states, the study of growth factors at the state level can provide meaningful insights and value as well. Such is the goal of this research.

To uncover the sources of U. S. state-level economic success, this in-depth empirical study

- draws together a massive compendium of open-source and private data for all 50 states covering more than 50 years,
- applies modern data-mining techniques and a statistically rigorous process to analyze economic growth,
- presents an innovative new optimization-based data-analytics tool for extracting the most important factors from a large set of possibilities, and

- deploys these elements in a comparison of the two states with the largest economies, California and Texas.

The comparative case study of two long-time rivals provides new evidence of the similarities and differences in their approaches to improving the welfare of its citizens.

The study is organized into three volumes. This Volume 1 recites the details of the study and its results.

This first chapter of Volume 1 introduces the importance of studying state economic growth. The second chapter provides a summary of the economic literature understanding on the factors that can influence such growth, beginning with studies at the nation-level followed by sub-jurisdiction growth, such as states and providences. The chapter concludes with the identified gaps in the literature and the motivation for this study. The third chapter outlines the procedural steps of the research. The fourth chapter discusses the construction of STATEBASE, a multi-year, annual economic factor database for the 50 U. S. states beginning in 1960 and describes the factors, the approach for handling missing data, and the methods for preparing the data for analysis. The fifth chapter describes the issue with underdetermined systems and the dimension reduction methods for handling them. The chapter explains why traditional dimension reduction methods are unsatisfactory and introduces the reader to a new non-parametric approach: least-squares k-variable Adjudication Methodology (kVAM). The chapter concludes with a comparison of the new approach to the classical method: Least Absolute Shrinkage and Selection Operator (LASSO). Chapter 6 documents the forecasting regression models derived by the kVAM approach for California, Texas, and the nation and compares the results. The final chapter, Chapter 7, summarizes the results and conclusions and provides suggestions for further research.

The companion volumes 2 and 3, provide supporting tables, charts, and details

for each factor explored for California and Texas, and for U. S. national factors, respectively

1.1. The Role of Economic Growth

Economic growth is associated with creating jobs, expanding wealth and incomes, as well as enhancing the quality of life. Economic growth helps firms achieve economic success and allows policymakers to fund their social goals. The well-being of each state, its firms, and its citizens contribute to the overall prosperity of the nation and its ability to achieve the nation's business, defense, and social objectives. Studying the principles and factors that generate state economic growth contributes to the overall understanding that, as Marvin Bower testified before Congress in 1967, it

> "... is necessary if our citizens, officials of organizations, and lawmakers are to do their parts in encouraging enterprise, deepening our dedication to our values, and improving the performance of our economic system" [18, 19].

State economic growth is typically measured by changes in Gross State Product (GSP). GSP is a correlative to Gross Domestic Product (GDP), an economic measure of a nation's economy. GSP is defined by the Bureau of Economic Analysis (BEA) as "the sum of the GSP originating in all the industries in the state [and is derived from] ... the goods and services produced within that state" [22]. The next section will discuss the recent events regarding the U. S. economy.

1.2. Recent U. S. Economy

The 21st century United States economy began with a devastating crash beginning in 2008. (See Figure 1.1 [23].) U. S. unemployment rate was 8.2% in February of

2009 [107] and the first quarter U. S. Gross Domestic Product (GDP) was $14,049.7B, a drop of $141.5B (-1%) from the previous quarter and a drop of $278.7B (-1.95%) from the previous year [106]. While the individual state impact to the economy varied, the GSP of each state were no less devastated. (See Figure 1.2 [21].)

The 111th U. S. Congress drafted the American Recovery and Reinvestment Act of 2009 (ARRA) [105] in response to these recessionary numbers. Often referenced as the economic "stimulus" package, the legislation's lead paragraph states that its purpose to provide

> "...appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and State and local fiscal stabilization..." [105]

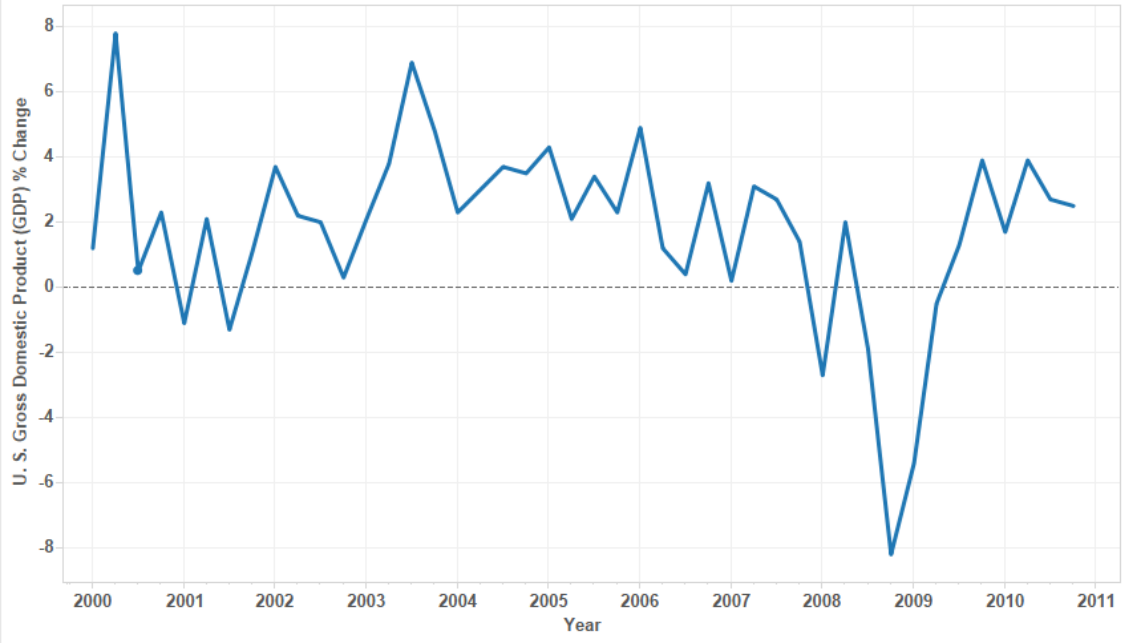

Figure 1.1. U. S. GDP Annual Growth From 2000 to 2010 As Reported by the Bureau of Economic Analysis

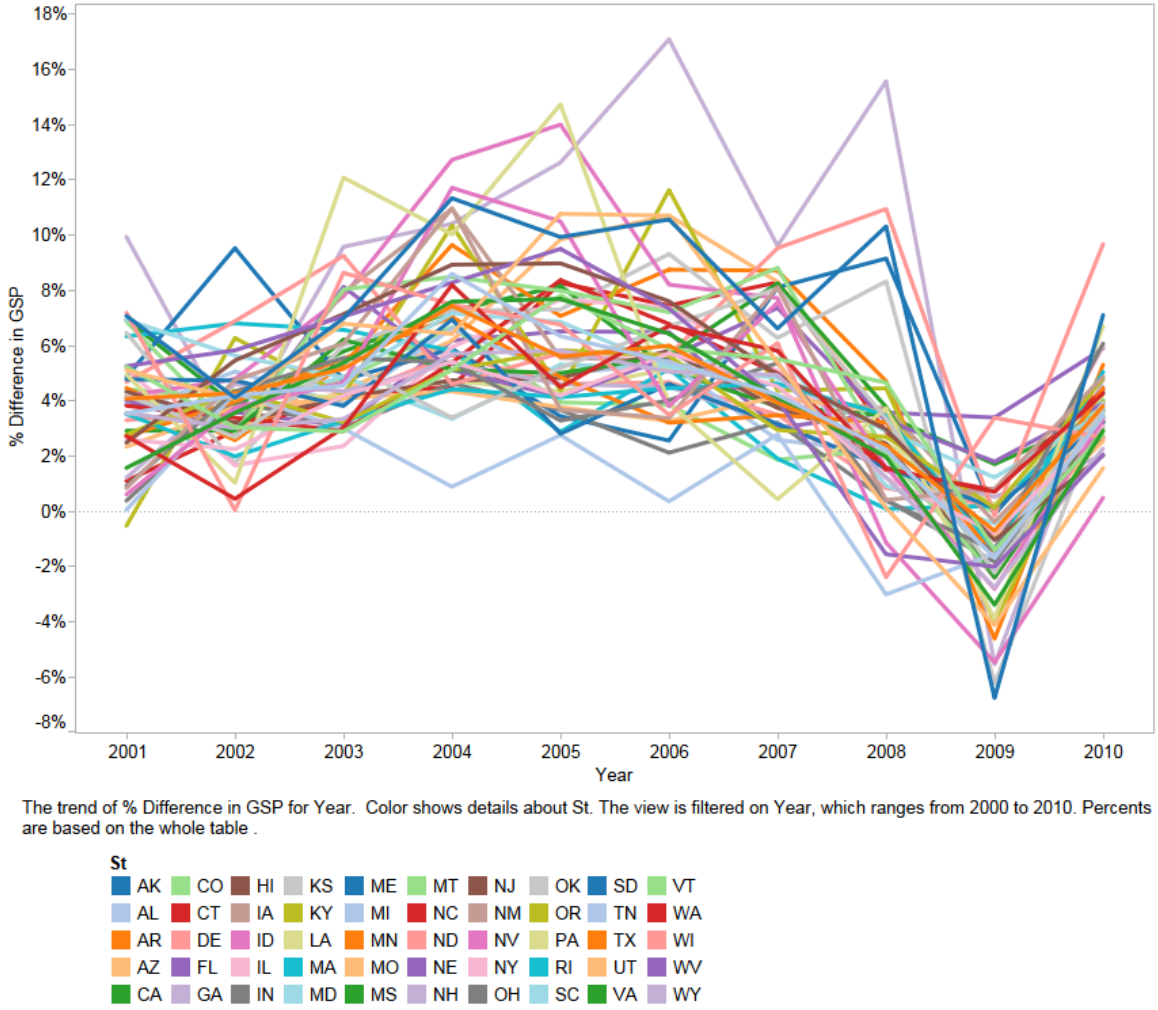

Figure 1.2. U. S. GSP Annual Growth From 2000 to 2010 As Reported by the Bureau of Economic Analysis

The newly sworn-in U. S. President signed ARRA into law on February 17, 2009. Proponents of the ARRA projected its impact would result in a 3.7% GDP increase and the creation of an additional 3,675,000 jobs by fourth quarter 2010 [93]. The legislation seemed to have reached its GDP goal by fourth quarter 2010. However, the U. S. unemployment rate had risen to over 9.4% [107]. The percent of Americans working or actively seeking work in 2014 is 62.7%, the lowest level since 1977 [24].

1.2.1. Economic Reactions

Media outlets regularly report on the turbulent economic environment. However, instead of reporting on what can be done to make the United States economy grow again, they report on the economic plight many of the states and cities are experiencing: the cuts in social services, layoffs, and bankruptcies. Some states, like Texas, are successful in growing jobs in this environment [110], while other states, like California, are struggling to remain fiscally solvent. This solvency struggle is even more apparent at the city-level which places further economic strains on the nation and states who try to help them. For example, municipal bankruptcies are rare historically, yet three out of the eight "General-Purpose Local Government Bankruptcy Filings" between January 2010 and 3 December 2013 were in California [65], deepening California's economic troubles. Further, each municipality asked the federal government for a bailout [113].

At present, all state governments find themselves in a precarious situation: sources of income are declining (taxes, subsidies, grants, debt issues, asset sales) and demands for funding are rising (pensions, debt and interest repayments, infrastructure costs, and public services). A growing economy not only funds a state's current financial obligations but allows the state to invest in improving the quality of life for its citizens. A declining economy can result in dire consequences for the state. A state can find

itself with more expenses than revenues and struggling to find ways to cover its fiscal obligations. Typical responses are to increase revenues (usually by increasing taxes and borrowing), and to prune expenses (cutting services, budgets, and staff). Between 2007 and 2012, the response to the "budget gaps ... have resulted in $290 billion in cuts to public services and $100 billion in tax and fee increases" [82].

Such changes can have a cascading effect on local governments. Municipalities receive a large portion of their revenue as an allocation from the state government and when this allocation is reduced, education, parks, and public services are often the first to feel the impact of funding cuts.

To contrast state-level responses to economic changes, this research focuses on the dissimilar approaches of California and Texas, the two largest state economies in the United States. Together, these states constitute 21.5% of the 2010 total U. S. Gross Domestic Product according to the Bureau of Economic Analysis (BEA). A short examination of these entities demonstrates the extreme conditions that many states currently face.

1.2.1.1. The California Bust

In 2014, California made up 12.16% of the U. S. population [109] and created the highest percentage of the nation's GDP at 13.4% [22]. Over one–third of this GDP is generated in the Los Angeles/Long Beach/Santa Ana metropolitan area. In 2011, California was ranked as the ninth largest economy in the world, behind Italy and ahead of Russia [101]. California's state and local tax burden on its citizens was the fourth highest among the 50 states [46]. California's share of general fund revenue raised from personal income tax has almost doubled since 1971, moving from 33% to 61% [101]. California tax collections are down 20.2%, or $2.44 billion (relative to projections in 2012) as individuals and businesses flee the state with the nation's

highest tax rates [111].

California reduced its funding for the two university systems in 2012 by more than $1 billion, resulting in an 18% tuition increase tuition in the University of California system over the previous year. This impact was equivalent to an 80% increase in tuition from the 2007–08 school year [82].

Since 2004, ChiefExecutive.Net has been surveying hundreds of CEOs on the best and worst U. S. states in which to do business. The survey asks CEOs to rank states on (1) taxes and regulations, (2) workforce quality, and (3) living environment [50]. California has consistently been at the bottom of the ChiefExecutive.Net's "Best and Worst States for Business" survey rankings [49, 51–53].

The net migration of people and businesses exiting California has not helped its unemployment. Only two other states had higher unemployment in 2010. Further, California's unemployment rate has been higher than the national average every year since 1990 [112]. California added one job for every 11 new residents in the period between 2000 to 2013 [46].

1.2.1.2. The Texas Boom

Texas had the second largest state economy in the U. S. in 2014. Its economy represents 9.3% of the nation's GDP [22] and 8.45% of the U. S. population [109]. If it were a country, Texas would have the 12th largest economy in the world [85]. Its state and local tax burden ranks 45 out of 50 in the nation [46]. Texas does not collect personal income taxes and 19.5% of the state government's revenue comes from sales taxes [103].

Where California is cutting, Texas is investing. Texas shows positive evidence that its economy is booming. In October 2012, Texas completed a new $1.3 billion toll road connecting Austin and San Antonio to attract new businesses and to further

boost its economy [39]. The ChiefExecutive.Net Survey has placed Texas on the top of the above-mentioned list every year since 2005 [49, 51–53]. Texas encourages businesses to relocate to the state through state and local incentives. The state's most recent accomplishments in persuading businesses to locate operations or headquarters in Texas include Facebook, eBay, PetCo, General Electric, Caterpillar, and Xeris Pharmaceuticals [72]. Recent data has shown that Texas added one job for every seven new residents between 2000 to 2013 [46].

1.2.1.3. State Factors of Economic Growth

The investments, expenditures, and CEO rankings are just a few of the factors that mirror the economic conditions of both states. Another factor is migration. Citizens and businesses are moving from the depressed states like California in search of economically growing states like Texas. (See Barone [9])

Cox and Alm (2011) examine 16 different factors/measures and find six significant drivers accounting for two-thirds of all state net migrations: weather, income tax rates, union power, spending growth, public schools, and home prices [38]. The list of possible contributing factors continues as other researchers have examined economic growth factors such as economic freedom, human capital, technology, and political policy.

1.3. Problem Definition and Research Strategy

There is no shortage of opinions on the factors that drive economic growth. State practitioners and policymakers are often forced to guess which of a large array of factors will help them increase economic growth of their state. The consequence is a "tamper and wait" approach that leads to inconsistent outcomes. The objective of this research is to find a simpler method for these practitioners and policymakers to

identify and model key factors related to the state economic growth. The study results provide state policy-makers points to consider when creating policies, regulations, incentives, and other courses of action designed to generate state economic growth.

While data is collected for all 50 U. S. states, the focus of this research is to examine the two U. S. states with the largest economies and the populations: California, and Texas. Issues facing these two states are representative of issues that impact many other U. S. states.

The requirements for the study are that it:

1. Use available annual historical data
2. Identify a metric to represent state-level economic performance, from which growth can be derived
3. Using easy-to-use analytical tools, identify a small set of factors that are most strongly related to state-level growth for the focus states
4. Compare and contrast the key factors for the focus states and explore whether these factors change over time

The research strategy consists of the following activities:

1. Survey the literature on national- and state-level growth for previously employed metrics and factors
2. Assemble available annual time-series data items for all 50 U.S. states
3. Regularize the data for analysis as a set of independent factors, X
   (a) Apply statistical methods to impute missing observations
   (b) Stationaritize each time series
   (c) Remove from the study's data set any inappropriate factors

4. Select an appropriate metric for state-level economic performance, Y, and define growth as its year-over-year change, ΔY

5. For a variety of time periods, build a multiple linear regression model for each focus state to identify the X factors with strongest relationships with ΔY. If the regression's data set is under-determined:

    - Apply variable-reduction methods to reduce the number of X factors under consideration
    - Research possible methods for incorporating variable reduction into the regression model construction process

6. For each time-period selection, determine the top growth influence factors for each focus state and compare for similarities and differences

7. Compare and contrast the focus-states' key growth factors to characterize similarities and differences in their approaches to economic growth.

The next chapter will review some of the recent research on factors that influence economic growth. The chapter will begin with research on the economic growth of nations and conclude with the literature on sub-national jurisdictions: states and providences.

Chapter 2

A REVIEW OF THE ECONOMIC LITERATURE ON GROWTH FACTORS

Many attribute the origins of economic thought to Adam Smith and his manuscript *The Wealth of Nations* [96]. His work sought to expose the reasons for a nation's prosperity. More than 200 years later, economists are still searching for the cause and nature of prosperity. Economists such as Edward Denison [45], Milton Friedman [61] and most recently Thomas Garrett [63] continued this vision to seek the foundations and influences of economic growth. Economists have historically defined economic growth as the increase in productivity from the production of land, labor, and capital. The United States Federal Reserve defines economic growth as simply "an increase in the nation's capacity to produce goods and services" [108]. The U. S. Department of Commerce and the Bureau of Economic Analysis (BEA) measures U. S. economic growth in terms of the total dollar income generated from the demand or sale of all goods and services. This income is compiled as gross domestic product (GDP) and personal income. Other proxies for measuring economic growth include expansion in employment and the number of new businesses start-ups. Regardless of the measure, economists focus extensive research on what energizes economic expansion and what dampens it.

There is a large body of empirical research on the most influential factors for economic growth in the development of countries. The factors in most of this research concern: human capital, investments in business and technologies, the private economy (personal income, protection of private property, and private markets), and political influences (taxes, size of government, regulations, and governmental

aid) [11, 12, 15–17, 31, 63]. It is important to review this national economic growth literature as it is the basis for the empirical research in the "sub-national jurisdictions", such as states and providences.

2.1. National Research on Economic Growth

Researchers have focused on four areas in their search for factors related to national growth. These are: human capital, business and technology investment, economic freedom, and political measures.

Each area consists of a set of constituent topics and literature. This survey first summarizes the nation-level research, then the results of sub-national studies.

2.1.1. The Effects of Human Capital on Economic Growth

Human capital is a raw material to develop goods and services in any economy. Many studies have explored the impact of human capital accumulation on economic growth. Many studies examine how countries develop and encourage their people to influence the country's economic growth.

This section reviews human-capital development research as it related to economic growth. Specifically, the areas reviewed are education, income inequality, and other factors.

2.1.1.1. Education and Economic Growth

As early as 1962 with the work of Edward Denison, education is seen as a positive contributor to labor accumulation [45]. Robert Barro studied per capita income in over 80 countries and its association with education investment [11]. In his studies, Barro discovers high levels of secondary education and primary education of women generate economic growth. Barro complements his earlier research in 2001. Barro

finds economic growth is positively related to the quantity of education from using a database of over 100 countries with various levels of economic development from 1965–1995. Specifically, he examines the average number of years of school attainment in males at the secondary and higher education. He concludes that this higher level of education is complementary with new technologies, suggesting an important role for the diffusion of technology. He concludes growth was insignificantly related to years of school attainment of females at the secondary and higher levels. He suggests highly educated women are not being utilized well in the labor market of many countries. While the quality of education is important particularly in science test scores, the quantity of education was more significant to economic growth [12].

The research of Benahabib and Spiegel [13] and Pritchett [91] disagree with Barro. Both studies finding no or insignificant connection with economic growth. The research of Temple [102] examined these papers. Temple discovered that the positive correlation between education attainment and economic growth can be hidden by a small number of outlying, unrepresentative countries included in the dataset, and was the case in the two fore-mentioned research. Removing these outliers reveals a strong positive correlation between education attainment and economic growth in developing countries, supporting Barro's conclusions.

2.1.1.2. Human Capital Distribution and Economic Growth

The Barro studies have inspired many researchers to further examine human capital and its effects on economic growth. One such branch of research is in the area of capital distribution. Economists are challenged when they try to measure human capital. The data on income and wealth distribution is incomplete and often crosses into country privacy laws. Researchers have compensated for this challenge by using proxies to measure human capital. Studies and their proxies for human capital

are: income distribution [8, 33, 59, 78, 88, 89]; wealth inequality [2, 89]; distribution of human capital [62, 64, 94]; land distribution [2, 43]; and the effects of education attainment [102].

Much of the research is inconsistent in its definition of capital distribution. Income distribution, income inequity, income inequality, wealth distribution are often used interchangeably even though the terms can be very different. Frequently, these terms are used interchangeably within a study.

Kuznets poses a relationship between income "equality" and economic growth based on sample data from US, England, and Germany at the turn of the century [78]. Kuznets suggests income "inequity" is marked with early periods of rapid economic growth, however, later periods of growth tend to move towards equity. Kuznets provides no direct empirical evidence for the relationship but speculates economic growth may be attributed to other factors such as population growth [78].

Clarke's work on income inequity disagrees with Kuznets research [33]. He presents empirical evidence that demonstrates income inequality is adverse to growth throughout the growth life-cycle, which contradicts the theory that income inequality is a precondition for economic growth [33]. Deininger and Squire would concur with this conclusion as their research found a strong negative relationship between inequality and long-term economic growth [43]. Clarke defends his position by stating his findings are independent of the assumptions on the form of cross-country regressions and is indifferent to whether a country is a democracy or not [33].

However, other authors state the empirical evidence does not support the findings of Clark or Deininger and Squire. For example, Fields finds income equality is not related to growth [58]. Ahluwalia indicates income equity lags in relation to labor mobility resulting from concentrated, rapid growth [1]. Papanek and Kyn (1986) suggests that growth causes increases in income inequity as it requires rewards for

those driving growth (e.g., investors, managers, and land owners) [86].

Barro's research mentions that income inequality does not appear to have an effect on economic growth [11]. The Castelló and Doménech study focuses on the combined effects of educational attainment and the relationship between the distribution of income and economic growth as a measure human capital inequity [26]. They find human capital inequity negatively affects economic growth. They argue this negative effect on growth is mainly due to lower investment rates (e.g., education) and that these investment rates are better indicators in economic growth than income inequality measures [26].

Findings from Kristin Forbes research present a very different perspective on the influence of income inequality [59]. Forbes begins her research by utilizing an improved data set, provided by Deininger and Squire [42], to reduce measurement error. Forbes then incorporates panel estimating techniques to reduce bias as a result of variable correlation over time. Her research finds that an increase in income inequality has a significant positive effect with subsequent economic growth over the short and medium term, She suggests, however, this relationship does not apply to very poor countries [59].

One of the more intriguing studies on the relationship between inequity and economic growth is by Banerjee and Duflo [8]. They discover changes in inequality, regardless of the direction, results in lower economic growth. They suggest there is a "strong negative relationship between changes in inequality and past inequality" and that the relationship tends to lag one period. Further, they find the relationship between inequality and economic growth strongly suggests a non-linear relationship. Banerjee and Duflo conclude that, when the data is combined with the assumption that economic growth is higher when there are less distributional transfers, the relationship between inequality and growth is an inverted U-shaped relationship [8].

2.1.1.3. Other Human Capital Considerations and Economic Growth

Additional research argues there are many other characteristics of human capital one must consider when examining economic growth. Lucas acknowledges the importance of education on labor accumulation but asserts the aspect of labor mobility is critical in a country‘s economic growth as well. If a labor force does not have mobility, the wage rate will rise for every skill level with the wealth of the country. If labor mobility is introduced, labor will transfer from poorer countries to wealthier countries [81]. Barro also finds life expectancy, international openness (as measured by the ratio of imports plus exports to GDP), and the rule of law (secure property rights and a strong legal system) generate economic growth. He concludes that high fertility, government spending (with the exception of expenditure on education and defense), and high inflation rate reduces economic growth. While Barro examines the effects of democracy on economic growth, as measured by rights and civil liberties, he determines this measure had little explanatory power for economic growth when the other variables are held constant [11].

In 1966, Kuznets adds more data to support his income distribution and growth theories and recognizes the importance of employing knowledge in the workforce as a means to drive economic growth. However, Kuznets again provides no direct empirical evidence to test his theories [79].

Building on Lucas' premise that investment in human capital generates economic growth, Glomm and Ravikumar study the effects of the type of education and its impact on income as a proxy for economic growth [64]. Glomm and Ravikumar conclude that, while income inequality declines more rapidly as a country relies on public education, private education produces higher per capital income. They also find that the populaces tend to choose public education if the population's income level is below average.

2.1.2. Business and Technology Investments

Many scholars have documented the significance of investments in business as a driver for economic growth. Joseph Schumpeter famously coined the term "creative destruction" as a process entrepreneurs use to create new products and technologies to drive new markets. Policies that restrict entrepreneurship will in turn restrict markets, capitalism, and economic growth [95]. Maria Minniti supports this argument further, noting that "entrepreneurial activity tends to concentrate geographically, even across industrial sectors" [84]. While concentrated geographically, entrepreneurial activity benefits the economy as a whole by creating a network externality that spawns new markets and economic growth. She finds this process extremely efficient in that each entrepreneurial activity provides a "more than proportional" benefit to the economy. She suggests the self-enriching qualities of entrepreneurship has implications on government policies designed to encourage entrepreneurial activity; the benefits more than outweigh the costs of those policies.

Several studies demonstrate the relationship between entrepreneurial activity and economic growth. In one such study of the top 10 industrialized nations, Reynolds, Hey, and Camp [92] find that the level of entrepreneurial activity is positively correlated with gains in GDP. Further, "variation in rates of entrepreneurship may account for as much as one-third of the variation in economic growth" [92].

2.1.3. Economic Freedom and the Protection of Private Property and Private Markets

Socialism and capitalism are two historically competing economic systems. Advocates of capitalism and socialism tout the societal benefits of their preferred system. In actuality, economic systems lie on a continuum. One end of the continuum is high government control and regulation and while the other end is low control and regulation for a "pure laissez-fare capitalism" [6]. In 1996, James Gwartney and Robert

Lawson of the Fraser Institute, published the first of their annual *Economic Freedom of the World Index (EFWI)* [67]. Gwartney defines the "cornerstones" of economic freedom as:

- Personal Choice
- Voluntary Exchange
- Freedom To Compete
- Security Of Privately Owned Property [67]

The index is made up of 42 different metrics distributed across five general areas:

1. Size of Government: Expenditures, Taxes, and Enterprises;
2. Legal Structure and Security of Property Rights;
3. Access to Sound Money;
4. Freedom to Trade Internationally;
5. Regulation of Capital, Credit, Labor, and Business [66, 67].

Two other prominent economic freedom indexes are: Heritage Foundation/Wall Street Journal's *Index of Economic Freedom* [83], first edition created in 1995 and Freedom House' *Freedom In The World* [60], first created in 1972. Research using these economic indices show countries with more economic freedom (i.e., lower rates of government involvement in private enterprise and private markets) have greater rates of economic growth and higher per capita income than those countries with lower economic freedom [34, 57, 66, 90, 100].

Cole examines the power of the Fraser Institute's EFWI [34]. He finds the EFWI is "robust" regardless of the theoretical model used to evaluate economic growth and

has strong predictive power. Noting the EFWI highlights policy factors, Cole finds the negative effects of policy decisions such as taxes, public spending, government enterprises, state-directed investment and others, reinforced each other and were highly correlated. Continued commitment to "bad" policies has a severe consequence on economic growth. Further, improvements in policy factors in the EFWI provide significant growth to the economy [34].

Research conducted by Farr investigates the relationship between the economic freedom index, political freedom, and "economic well-being" (measured as the natural log of per capita GDP) [57]. Farr concludes that for both industrial and nonindustrial countries:

- Economic freedom causes the level of economic well-being
- The level of economic well-being causes the level of economic freedom (i.e., economic freedom and economic well-being are endogenously related)
- The level of economic well-being causes political freedom
- No evidence that political freedom causes the level of economic well-being
- No evidence of causality in either direction between economic freedom and political freedom

The use of economic indexes is not without its critics. Hanson provides criticism that the indices do not distinguish between different proxies for economic freedom and contain endogeneity bias [68]. While De Haan [41] and Sturm [100] acknowledges "greater economic freedom fosters economic growth", they criticize that many of the economic freedom studies have not done enough in regard to robustness testing or parameter heterogeneity [41, 100]. Asby suggests the indices may experience measurement error and may not measure the presence of free-market institutions [6].

Heckelman and Stroup caution that any summary metric may result is misspecification bias and recommend using all the components of any summary metric in analysis [70]. Doucouliagos argues there may even be a selection and publication bias regarding research findings [54]. Cole and Lawson [35] respond to the criticisms, however, and the debate continues. Heckelman provides an excellent review of the arguments revolving around the research use of economic indices [69].

2.1.4. The Political Hand

Milton Friedman observes that politics and economics are intrinsically linked, finding "...no essential difference between the two" [61]. He notes the "relationship between political and economic freedom is complex and by no means unilateral" [61]. As such, there has been a thread of literature on the political environment and the influence and investment of government through policies that affect economic growth.

Much of the literature on the link between politics and the economy is unresolved. Billger and Goel conclude economic freedom has no significance on the level of corruption, but give no insight on how the level of corruption influences economic growth [14]. On the topic of how government expenditures and economic drivers are linked to growth, again the literature is mixed. Often one can find mixed results within an individual author's own body of work. For example, in Blankenau's early work, he studies the relationship between public education expenditures and economic growth [16]. He finds the effects of public education expenditures "can be diminished or even negated when other determinants of growth are negatively affected by general equilibrium adjustments ... and may be non-monotonic over the relevant range" [16]. He concludes there is no empirical validation that government expenditure in public education is linked to economic growth. In a study one year later, Blankenau concludes "increased education spending is more likely to increase economic growth when

a larger share is devoted to subsidizing college education" [15]. Blankenau tempers his conclusions again two years later by stating that a "positive relationship exists between public education expenditures and growth for developed countries" but the relationship is "sensitive to the imposition of the government budget constraint" [17]. Blankenau suggests the failure to take government methods used for financing expenditures into account is a reason many studies fail to find empirical evidence that expenditure on public education increase economic growth.

Persson and Tabellini's research expands the data to include the political landscape of democracies as well as non-democratic countries [89]. Their investigation examines the income inequity and economic growth relationship. The purpose of their research is to determine how income distribution changes overall income under the political environment. They conclude "income inequity is harmful [to] growth" because it "leads to policies that do not protect property rights and do not allow full private appropriation of returns for investment." Persson and Tabellini argue income inequality slows growth by encouraging the government to tax, legislate, or regulate which results in lowering the rate of return and slowing economic growth.

Persson and Tabellini's conclusion is supported by Alesina and Rodrik [2]. Alesina and Rodrik examine the relationship between inequity of income, wealth, and its impact on economic growth. Their research uses land ownership as a proxy for wealth and they examine the distribution of both land ownership and labor income. They develop a political-economic model to conclude that inequality in income and wealth drives a country to engage in policies adverse to economic growth.

Saint-Paul and Verdier [94] examined the working papers of Persson and Tabellini [89] and Alesina and Rodrik [2]. Saint-Paul and Verdier disagreed that inequity in poorer (Persson) and less capital rich (Alesina) countries create unfavorable incentives for investment resulting in damage to economic growth [2, 89]. Saint-Paul and

Verdier present a model to demonstrate "... voting, education, growth, and income distribution all evolve endogenously." Further, "... in democratic societies, increased inequalities may well be good for growth, provided they imply more support for public education." They concede, however, the contrary maybe be true if poverty is correlated to not participating in the voting process. In such cases, Saint-Paul and Verdier believe that, due to the reduced political rights, increased inequity may produce less support for education [94].

Other researchers focus on the effects of foreign aid on economic growth. The Chatterjee and Turnovsky empirical studies demonstrate that foreign aid depresses the recipient's economic growth by affecting the countries resource allocation decisions and relative prices [31].

2.1.5. Final Comments on National Economic Growth Factors

This review of literature on what drives economic growth of nations is by no means exhaustive. Cătăneţ and Cătăneţ took the Barro model of comparing the annual real GDP per capita growth rate with two variables types: initial state variables and environmental variables [40]. The panel of data includes 23 factors for 167 countries between the years 1961–2000. With over 30 regressions, Cătăneţ and Cătăneţ conclude:

> "... economic growth is positively correlated with a higher level of health and education, and an increase in: savings, openness of the economy, development of the financial system, capital formation, FDI, and real interest rate. There with economic growth is negatively correlated with a higher level of GDP per capita, and an increase in: government consumption, inflation rate, budget deficit, fertility and population growth, unemployment, and current account deficit" [40].

The research on determinants of state economic growth is much more limited than that focused on international or national growth factors. This work on sub-national economies is summarized in the following section.

2.2. Research on the Sub-National Jurisdictions: The States and Providences

Only recently institutions and scholars have begun to collect and analyze state economic data. The U. S. Census, Bureau of Economic Analysis, Department of Labor and the regional Federal Reserve Banks have begun to store more data at the state level. Some scholars continue to suggest that any differences in sub-national jurisdiction economic data are temporary or responses to economic disturbances. For example, Carlino and Mills [25] and other authors note a convergence of state and regional per capita earnings for nearly a hundred years between 1880 and 1978. This trend appears to diverge between 1978 and 1988. Carlino and Mills' time series analysis concludes that state-specific economic "shocks" are "highly persistent." However, "shocks" relating to state and regional per capita earnings were concluded to be temporary. Carlino and Mills suggest that, with regard to state per capita earnings, differences between states are diminishing [25].

A majority of researchers believe that differences between the individual states and providences have significant impact on each jurisdiction's economic growth. Scholars and think-tanks on both sides of the political spectrum have created indexes on selected state data to support their political agenda (e.g., Economic Freedom of North America Index [6]; State New Economy Index [7]; State of States [20]; Development Report Card for the States [37]; Index of Personal and Economic Freedom [98], Alec-Laffer State Economic Competitiveness Index [80] and North American Economic Freedom Index [75]) The recent availability of these indexes and other sub-national

data has produced a line of literature examining the factors that drive sub-national or state economic growth.

2.2.1. The Effects of Human Capital on Economic Growth

Galor and Tsiddon examine the association between the distribution of human capital, technological progress, and economic growth [62]. While they do not research sub-national jurisdictions directly, they study the relationship between local home environment, a larger political entity termed "dynasty," and the global technological externality. Galor and Tsiddon find that in the early development of human capital, the local home environment externality dominates and "polarizes" the distribution of income. In later stages of human capital development, the global technological externality takes precedent and income distribution narrows.

Galor and Tsiddon conclude that the "polarization" of income distribution during the commencement of human capital development may be necessary for future economic growth. Further, they assert that undeveloped economies that embrace both income equality and prosperity implement policies designed to increase short-term income equality, may find themselves stuck in long-term economic stagnation. Galor and Tsiddon find long-term equality and economic growth follows short-term income inequality in developing economies [62].

2.2.2. Business and Technology Investments

In 1999, two-thirds of all venture capital went to five states. In addition, 78% of U. S. venture capital invested went to the information technology industry [114]. The total U. S. early-stage entrepreneurial activity rate (i.e., new business start-up to 3.5 years of business life) in 2010 was the fourth highest among innovation-driven economies. However, entrepreneurial activity in the U. S. has been in decline over

recent years [3]. Minniti outlines the importance of entrepreneurial activity on the development of state economic growth [84]. She observes entrepreneurial activity tends to cluster geographically, across industry sectors and implies state policymakers can implement policies to attract entrepreneurs to their state, thereby benefiting the state's economy as a whole.

In research by Henderson, he demonstrates that entrepreneurs impact local economic activity by creating jobs, increasing wealth and incomes, increasing the local quality of life, and linking the local economies to the global economy [71]. Henderson stresses these localities must 1) help entrepreneurs secure financing, 2) gain access to knowledge and innovation outside of their communities, and 3) attain technical and managerial skills in order to develop more of these "high growth entrepreneurs." Henderson cautions policymakers that, as they respond to these challenges with policies and programs, they must assess the costs and benefits of such programs [71].

Federal and state governments are also turning to funding technology. Recent programs in Maryland, Ohio, Pennsylvania, Kansas, and Virginia have seen marked improvement in creating jobs and new businesses in these states [48].

The Kreft and Sobel study attempts to determine the utility of some of these policies by determining the direction of these policies effectiveness [77]. Specifically, to determine in a locality whether more venture capital causes more entrepreneurial activity or whether more entrepreneurial activity causes more venture capital to be infused in the region. Their conclusion is the latter: entrepreneurial activity draws venture capital into the jurisdiction.

Kreft and Sobel's findings have interesting implications on state and local policymakers. Their research would imply public policies designed to make more funding available (e.g., loan guarantees, subsidies, and grants) are not effective in spurring entrepreneurial activity and its associated benefit of economic growth. Kreft and

Sobel's research suggests state policymakers would better serve the goal of economic growth by implementing policies that remove barriers and entice entrepreneurs to the state. This enticement, Kreft and Sobel find, is economic freedom. They observe a high correlation between a state's entrepreneurial activity and economic freedom.

2.2.3. Economic Freedom and the Protection of Private Property and Private Markets

The degree of economic freedom between states and providences is not as dramatic as between countries. However, economic freedom does have a variance in different state policy, tax, subsidies, as well as the amount of involvement the federal, state, and local governments have in economic policy.

The Fraser Institute released the first of its annual *Economic Freedom of North America Index (EFNAI)* in 2005. Based on the initial work of the Institute's Amela Karabegovic, the EFNAI is made up of two indices: 1) sub-national index and 2) *all-government index*, which measures the impact of all levels of government (e.g., federal, provincial/state, and municipal/local). EFWI focuses on three major components: (1) size of government; (2) takings and discriminatory taxation; and (3) labor market freedom. The EFNAI does not include items such as military interference in the rule of law and freedom to own foreign currency bank accounts, both of which are included in the EFWI and are not relevant to the study of state economic growth.

The research using the EFNAI echoes the findings in the international empirical literature. The Karabegovic Foundation research finds a strong correlation between sub-national jurisdiction economic freedom and both the level of economic activity and the growth of economic activity in those jurisdictions [75]. Compton, Giedeman, and Hoover add investment data (as measured by gross private investment per capita) to the EFNAI to find a strong positive relationship between state economic freedom

and state economic growth between 1981 and 2004. However, they caution not all of the components of the EFNAI influence economic growth equally [36].

Garrett and Rhine demonstrate "states with greater economic freedom—as defined as the protection of private property and private markets operating with minimal government inference—experience greater rates of employment growth" [63]. Nathen Ashby's most recent findings are more explicit [4]:

- National Level
  - One-point improvement in economic freedom (EF) at the all-government level increases per-capita GDP by US$6,340 for U. S. states
  - 1.00% increase in the growth rate of EF at the all-government level will induce an increase of 0.96% in the growth rate of per-capita GDP for U. S. states
- State Level
  - One-point improvement in EF increases per capita GDP by US$5,551 for U. S. states
  - 1.00% increase in the growth rate of EF will induce an increase of 0.76% in the growth rate of per-capita GDP for U. S. states [4]

2.2.4. The Political Hand

State and local governments have increasingly sought to try to exert influence over their own economic growth. By 1998, more than 40 states extended tax concessions, credits, and low-interest loans for equipment, inventories, expansions, and for increasing employment [32]. In the five years between 1995 and 2000, 32 states increased the number of offered business incentive programs [32]. There is considerable debate

around the effectiveness of state economic incentive programs. Chi [32] lists some of the arguments for and against such programs:

- Arguments For State Business Incentives
  - Incentives have a positive affect on business location decisions
  - Incentives finance job creation
  - Incentives are cost-effective
  - Incentives help foster competitiveness
  - Incentives have a political element as officials are under pressure to offer them due to the perception that other states are offering such incentives
- Arguments Against State Business Incentives]
  - Tax and financial incentives are not the only factors considered in business-location decisions
  - Incentives raise questions of inequity as government is picking winners and losers
  - Empirical studies show business incentives are not cost-effective
  - Incentives pull dollars away from the improvement of public services and infrastructure
  - Incentives become a self-defeating when every state begins to offer them

Deller, Stallmann, and Amiel [44] used a Tax and Expenditure Limitation Index economic state growth model for the period 1969 to 2005 to study the impacts of taxation and spending policies. They concluded that those states that had more restrictive tax and expenditure limitations have a "dampening effect on state economic growth" and a have a "weak negative impact" on local growth. Regardless of the

academic debate, political state business incentives and tax policies continue to be an important factor to consider in state economic growth.

2.3. Summary

Research in this field has identified a significant number of factors related to economic growth at the national and sub-national levels. An objective of this study is to bring together all available factors into an integrated empirical model so as to determine which are the most influential in different state-level settings.

The process by which this integration and evaluation is accomplished requires rigor and a variety of statistical and optimization methods. The next chapter provides the motivation for the study and an overview of the steps required and the analysis to be performed.

Chapter 3

STUDY MOTIVATION AND PROCEDURAL OVERVIEW

Much has been accomplished and many insights have been gleaned by the previous studies and research is only beginning to examine the economic growth of a nation's sub-jurisdictions. However, this research addresses the gaps in the literature, particularly in the areas of specific variables or factors that state policymakers can adjust to fuel state economic growth. Further, no study could be found that provides a parsimonious tool to assist policymakers in determining the effects of these factors on their economy. To this end,

1. a large new database of key state-level factors has been constructed to enable policymakers and researchers to conduct analysis of any of the 50 U. S. states during the years 1960 to 2013

2. two prominent states are economic factors are compared and contrasted to each other and the nation as a whole

3. a new research tool is developed and applied

The primary goal of this research is to identify the factors that are important for economic growth in the two U. S. states with the largest economies, California, and Texas, and to compare generated models.

While the study's advisory board has members highly skilled in the dynamics of economic theory and research, the author is not an economist, but rather an engineer. Therefore, the author has chosen to analyze the socioeconomic problem of economic

growth using both traditional and non-traditional approaches by applying a blend of statistical, engineering, and operations research optimization modeling methods.

The study uses regression analysis to assess relationships between economic growth metrics and other factors. A research database of relevant factors is established from publicly available sources. The most important factors are isolated using both traditional statistical methods and a novel optimization-based approach. The resulting regression models for each state and the United States are compared for similarities and differences.

Solving system of equations works best when there are equal number of variables (factors) and equations (observations). Over 460 factors were collected for 50 years of observations for each state. Further, state policymakers and researchers often prefer to identify a small number of key factors regardless of the number of observations. This study employs variable-reduction techniques to permit such stakeholders with the ability to choose then number of interested factors, regardless of the number of observed years studied.

The following steps are taken to achieve the goal to identify a compact subset of variables for explaining GSP growth:

1. **Acquisition of related time series data from publicly available and private sources**. Annual state-level data expected to relate to economic growth is collected from a variety of governmental and private sources to form the research database, STATEBASE. STATEBASE enables researchers to evaluate and model the performance of any of any or all the 50 states of U. S. between 1960 and 2013. There are currently 465 core variables included from which other metrics can be derived.

2. **Select data for study**. The data selected for this study is the 51-year period from 1960 to 2010 for the two largest state economies of the U. S.: California

and Texas.

(a) Factors that are uncontrollable, political, non-variable, or have few observations for either state during the time period studied (e.g., land area, detailed employment categories, maximum state income rate) were removed from the study. The result is 192 variables included in the study. See Appendix A for a list of removed factors and explanations for factor removal.

(b) The selected factor variables for all 50 states are combined to create a national data instance for comparison with California and Texas. See Volume 3 for the methodology used for compiling U. S. national records.

3. **Imputation of missing values**. Most of the variables in the dataset have missing observations for some years. An extrapolation process is used to impute these missing observations. One of 58 best-fit trend curves is selected for each variable and used to impute or extrapolate the missing year's observations. See Volume 2 for the functions used to estimate California and Texas missing data. See Volume 3 for the functions used to estimate U. S. national missing data.

4. **Conversion to stationary data values**. Each of the factor time series in STATEBASE are non-stationary. This means that the factor time series has a mean, variance, and covariance that increases over time. Using non-stationary time series in analysis can lead to spurious relationships between variables when no relationship exists. Difference stationarity is applied to all of the factor time series to enable the use of standard multivariate statistical analysis techniques. These transformed variables are used in all subsequent steps and analyzes.

(a) The procedure for converting each variable, X_i, to stationary form, X_i', uses the formula: $X_i' = 100(X_{i,n} - X_{i,n-1})/X_{i,n-1}$, where $n = 1, \ldots, 50$

5. **Creation of indices**. The process of converting the factor variables into stationary form results in all of the factors having the same units of measurement: annual percent change. All of the selected X_i' variables were grouped into eighteen different categories based on factor similarity. The factor variables within a category were combined into an index and added to the database as a factor for analysis. See Appendix B for a listing of factors included in each index.

6. **Preliminary models for identifying key factors influencing GSP**. Fifty-one years of data equations with 192 different factor variables result in an underdetermined system of equations. The Generalized Linear Model (GLM) has difficulty in interpretation due to such a large number of dependent variables.

   Researchers often use dimension reduction methods like principle components analysis (PCA) to reduce the number of variables under consideration. When PCA dimension reduction is applied to the study data using SAS 9.3, the software module reduced the number of factors, however, the calculated least-squares regression (LSR) would fail. The PCA resultant reduced set of dependent variables was still greater than the number of equations causing the LSR to fail. There is a need to allow the practitioner to pick the number of factor variables and get the best parsimonious model.

7. **Identify key factors and least-squares model with a new devised dimension-reduction method: least-squares k-variable Adjudication Methodology (kVAM)**. Since the PCA method is unsatisfactory, a new non-parametric optimization-based key factor identification method is introduced: The least-squares k-variable Adjudication Methodology (kVAM) is employed to discover the k most-important (based on least-squares minimization) factors for explaining economic growth at the state and national levels. Models are generated using several options:

(a) Historical years to consider

i. 1960 – 2010 (51-year model)

ii. 1985 – 2020 (26-year model)

iii. 2000 – 2010 (11-year model)

iv. 2005 – 2010 (6-year model)

v. Best of Times (10 highest economic growth years for a state or the nation)

vi. Worst of Times (10 lowest economic growth years for a state or the nation)

(b) k, number of variables in the model

(c) Range of lag years to consider for a variable

(d) Inclusion of indices of similar variables, or not

(e) Choice of state or national

8. **Comparison of economic drivers for two states**. Results derived for California, Texas, and the national models are compared in terms of:

(a) The k variables selected (common and different)

(b) Fit (r^2) of model

The next brief chapter will discuss the information available in the developed STATEBASE, a new database of key state-level factors.

Chapter 4

STATEBASE, A STATE ECONOMIC FACTOR DATABASE: CREATION AND APPLICATION

A key step in this study is the creation of STATEBASE, a new state economic database of the factors that are expected to relate to economic growth in the U. S. state economies. While this research compares two states, California and Texas, data for all 50 states is included to enable a broad range of state-level studies.

STATEBASE contains annual observations of over 460 state elements covering the period from 1960 to 2012 (2600 observations). While the specific number of observations per factor variable fluctuates based on the availability of the information, extrapolations provide estimates for all years. A brief summary of the data item categories is given in Table 4.1.

The time-series data is drawn from a variety of public and private sources. A complete list of data sources is given in the second bibliography section of this document entitled *Data Sources*. The entire state economic database will be available online for future research.

The next sections address the steps taken to prepare the data for the study. Topics discussed include the methodologies for estimating missing observations, deriving stationarity forms, and combining factors to form indices.

4.1. Selection of Study Factors

Not all of the data in STATEBASE is needed for the focused analysis in this study. For example, "Industry Employment" variables are limited to top category metrics;

Table 4.1. STATEBASE Summary

Factor Type	Example Factors	Number of Factors
Key	(Key, State, and Year)	3
Population	(Age Groups, Number of Students, Number of Seniors,. . .)	9
Area and Housing	(Area, Water, Housing Units, . . .)	6
Political	(Political Composition and Power)	16
Descriptive Fiscal	(Personal Income, GSP, State Earnings)	3
Taxation	(Taxes, Tax Burden, . . .)	14
Employment	(Industry, Union, Right To Work, . . .)	190
Business	(Firms, Establishments, . . .)	28
Education	(HS, Bachelors, Engineering and Science Doctors, Medical Doctors)	8
State Fiscal	(Revenues, Expenses, Assets, Debt, Pension Fund, Fiscal Golden Rule)	166
Economic Freedom Index	(Size of Government, Taxation, and Labor Market Freedom) [4–6]	14
Innovation	(Patents, Venture Capital, Research and Development Grants)	8
State Migration	United Van Lines Study on Shipments Between States	4
		469

"Political" factors and "Area and Housing" category metrics are not included in the analysis.

The result was 192 variables selected for the study. See Volume 2 of this study for a complete listing of excluded variables and the rationale for each factor that was removed from the study.

4.2. Economic-Growth Metric Selection

Many variables have been used as a proxy for state economic growth in literature: Gross State Product (GSP), Personal Income, State Earnings by Place of Work (SEPW), and Employment. Some variables pose more difficulty as a proxy for economic growth than others. For example, it can be argued that the employment metrics can be either an input or an output of state economic growth.

GSP is chosen to be the representative proxy variable for state economic growth because it is commonly used as such in the economic research literature and it avoids the input-verses-output debate. Therefore, all the generated models in the study will examine the economic factors in relation to their impact on GSP.

4.3. Imputation of Observations

All of the STATEBASE variables have missing values for some years. The most common reason is the availability of the information. Many factors began data collection after 1960. In some cases, factor information would either cease to be available or was consolidated into other factor measures.

The following method is applied to impute or extrapolate these missing values. First, each of the variables is charted in Excel 2013, which provides an option to add a "trend" function curve to a charted series. For each variable, the fitted function can be based on 68 different mathematical forms: exponential; linear; logarithmic;

polynomial, 2 to 6 order; power; and moving average, 2 to 50 periods. The function that best fits the missing data is selected both visually and based on the R^2 value. The most common functions selected were exponential, linear, and second- or third-order polynomial functions. The corresponding equation for the fitted function is then used to estimate the missing values for each variable. An example is provided below for the Gross State Product (GSP) variable.

GSP data is available beginning in 1963 from the Bureau of Economic Analysis. The missing data for 1960–1961 in the GSP time series is estimated using a fitted exponential trend curve by the method above. Missing data is estimated for GSP time-series for both California and Texas (See Figure 4.1 for the charts and equations).

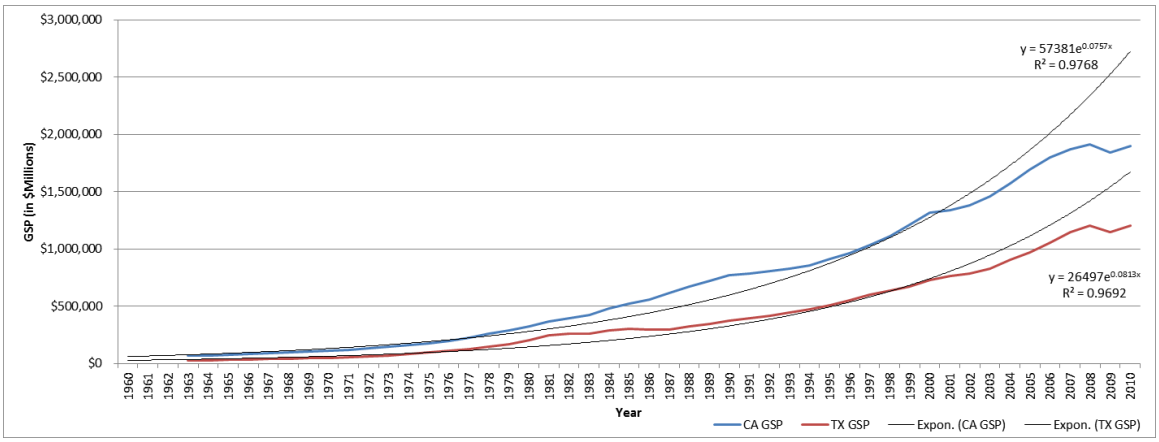

Figure 4.1. California and Texas GSP from 1960–2010 with Exponential Estimate Function

The specific GSP extrapolation equations are, where t is the number of periods after 1960:

$$CA\ GSP = 57381e^{0.0757\mathrm{t}};\quad R^2 = 0.9768 \tag{4.1}$$

$$TX\ GSP = 26497e^{0.0813\mathrm{t}};\quad R^2 = 0.9692 \tag{4.2}$$

A fourth-order polynomial curve fits the overall GSP time series more closely for the years 1964–2010 with an $R^2 = 0.9951$ for California and an $R^2 = 0.9947$ for Texas, but curves up slightly for the 1960–1963 time periods where the missing data occurs. While such a GSP curve is technically feasible and the difference between the R^2 of the exponential curve and fourth-order polynomial curve are negligible, the exponential function is chosen to estimate the missing data for 1960–1963 as 1960 GSP is more likely to be less than the 1963 GSP.

Other missing factor data extrapolations are estimated similarly. A complete list of charts and equations used to calculate missing data are provided in the *Volume 2: California and Texas Variable Extrapolations*. Note that STATEBASE will include both the source data values and the estimated values so that researchers can apply other estimate transforms in their research.

4.3.1. Stationaritization

The assembly of potential economic factors results in a collection of variables with different units of measurement. Further, factor's time series has an overall growth trend over the 51-year period being studied. Such growth over time is common when studying economic time series. Data can be influenced by an increase in sample size, population, or seasonality factors.

Economists often use the stationarity methodology to transform the data into a time series where the overall growth trend is removed. This data transformation procedure is meant to make the time-series' mean, variance, and other statistical

attributes as invariant as possible over the period of study. All the time series in this study are made stationary by using the percent change from one period to the next—a technique often called *difference stationary*. Each period n's stationary value is the period's data value fractional growth from the previous period using the formula:

$$Stationary\ Value_n = \frac{Data\ Value_n - Data\ Value_{n-1}}{Data\ Value_{n-1}}, \text{ where } n = 1 \ldots 50$$

4.3.2. Creation of Index Variables

Index variables are created to analyze the effect of a category of similar variables. All of the variables are placed into a category. Since the variables have the same units of measure after being made stationary, all of the variables' values in a category are added together to create an aggregate index value for a given year. The result is 20 different category indices:

- Fiscal Golden Rule - Ratio (FGRr)
- Fiscal Golden Rule - Difference (FGRd)
- Current Assets Index (CA)
- Debt Index (Debt)
- Demographics Index (Demo)
- Education Index (ED)
- Economic Freedom Index (EF)
- Employment Index (Employ)
- Employment Rate Index (EmpRate)
- Higher Education Index (HighED)

- Housing Index (House)
- Innovation Index (Innov)
- Migration Index (Mig)
- Revenue From Federal Sources Index (RevFed)
- Revenue From State Sources Index (RevSt)
- Spending From Federal Sources Index (SpendFed)
- Spending From State Sources Index (SpendSt)
- Tax Index (Taxes)
- Tax Rate Index (TaxR)
- Union Index (Union)

Appendix B documents the variables included in each of the category indices.

The next chapter discusses methods for identifying the most influential predictive factors. Presented is a new selection approach that is particularly useful for underdetermined problems such as this.

Chapter 5

VARIABLE REDUCTION METHODS FOR SOLUTIONING KEY GROWTH FACTORS

Once regularizing the data for analysis and selecting GSP as the appropriate metric for state-level economic performance, the next step in the research strategy is to select the time periods of study. It is hypothesized that variables important in past years may not be as influential in more recent times. Four different time periods during the available fifty years of data are selected to test this hypothesis:

- Fifty-one years—(1960–2010)
- Twenty-six years—(1985–2010)
- Eleven years—(2000–2010)
- Six years—(2005–2010)

In accordance with the third goal of the study, each time period is analyzed using analytical tools to identify a small set of k factors that are most strongly related to state-level economic growth for the focus states. Regression is most often chosen for building such models, However, the nature of this research makes traditional regression methods difficult, since 192 factor variables were selected for the study's analysis. Each of the above time periods represent observation equations less than the superset of 192 factors. This condition is called an "underdetermined" set of equations. Classical regression methods requires fewer variables than equations. Researchers often use dimension reduction methods or "shrinkage" techniques on underdetermined

equations systems to reduce the number of variables. There are a variety of commonly used statistical methods for this "variable reduction" problem in unrestricted multiple regressions. These include: (1) stepwise regression (2) principal component analysis, (3) ridge regression, and (4) the least absolute shrinkage and selection operator method. The next section discusses the mathematical form of regression problems, followed by a brief overview of how these four methods are applied to the problem to reduce the number of variables.

5.1. Multiple Regression: L_1 and L_2 Problem Forms

Given a set of observations J of independent variables X and a dependent variable Y, construct a model of the form:

$$Y = \beta_0 + \beta_1 X_1 + \ldots + \beta_p X_p + \varepsilon$$

where X_i is a known constant or observation of independent variable $i \in I$, Y is the dependent variable, β_0 and $\beta_i, i \in I$, are unknown parameters to be estimated, and ε_i is the error, residual, or deviation for observation i [99].

5.1.1. L_1 Regression

Given J, a set of observed values of X and Y, the L_1 and regression model can be formulated as the following linear program.

$$\begin{aligned}
L_1: \qquad \text{Minimize } & \sum_{j \in J} (v_j + u_j) &=\ & z_1 && (5.1)\\
\text{s.t. } & b_0 + \sum_{i \in I} X_{ij}\beta_i &=\ & Y_j + v_j - u_j, \forall j \in J && (5.2)\\
& \beta_0, \beta_j & & \text{unrestricted}, \forall j \in J && (5.3)\\
& v_j, u_j &\geq\ & 0, \forall j \in J && (5.4)
\end{aligned}$$

where v_j and u_j are the model's deviations over and under, respectively, the observed Y_j value for all $j \in J$.

Note that L_1 minimizes the sum of the model's absolute deviations from the observed Ys (i.e., $\varepsilon_i = v_i + u_i$). Hence, $z_1 = \min \sum_{j \in J} |\varepsilon_j|$.

5.1.2. L_2 (Least-Squares) Regression

The standard least-squares regression model differs from L_1 only in that it minimizes the sum of the squared deviations, thereby forming the following nonlinear programming problem.

$$
\begin{aligned}
L_2: \qquad \text{Minimize } & \sum_{j \in J} (v_j^2 + u_j^2) &&= z_2 && (5.5)\\
\text{s.t. } & b_0 + \sum_{i \in I} X_{ij}\beta_i &&= Y_j + v_j - u_j, \forall j \in J && (5.6)\\
& \beta_0, \beta_j && \text{unrestricted}, \forall j \in J && (5.7)\\
& v_j, u_j &&\geq 0, \forall j \in J && (5.8)
\end{aligned}
$$

Other heuristic methods used to reduce the number of variables are *forward, stepwise, and backwards regressions*. The next section will discuss these approaches.

5.2. Forward, Stepwise, and Backwards Regression Methods

Forward, stepwise, and backward regressions are all iterative model selection methods. The forward regression method starts with one covariate variable in the model. Each subsequent iteration adds other variable to the model that provides the greatest improvement in the model selection criteria. This model selection criteria corresponds to the sum of the squared deviations in an L_2 regression problem.

In the stepwise regression method, an initial model is selected. Each subsequent

iteration adds or removes covariate variables into or out of the model that provides the greatest improvement in the model selection criteria.

Stepwise regression is not without its criticisms. The methodology does not typically pick the best model according to choice criteria. However, some scholars state that stepwise regression generally constructs a model that is close to the best model [56]. Other scholars have claimed numerous shortcomings including inflation of Type I errors [76] and that the regression coefficients for the remaining covariants are too large [104].

Backward regression starts with all covariate variables in the model. Each iteration removes a variable from the model that provides the greatest improvement in the model selection criteria. Backwards regression has the same criticisms as stepwise regression.

5.3. Principal Component Analysis

One of the more common approaches used for problems with many variables is Principal Component Analysis (PCA). PCA reduces a set of correlated variables into a smaller set of uncorrelated variables while maintaining as much of the data's variation as possible. For a detailed discussion of PCA and its applications to multivariate analysis, see Jolliffe's work, *Principal Component Analysis* [74].

Four principal component analyzes were conducted on the uncategorized variables for California and Texas for each of the above time study periods to reduce the field of factors for regression modeling. In each of the analyses, PCA was found to be unsatisfactory for a number of reasons.

First, the PCA reduced set of factors remained underdetermined and further variable reduction techniques would be required to generate a regression model. For example, five years of data should result in a maximum of five variables, ten years

will equate to a maximum of ten variables, etc. Second, the number of factor variables selected for a model is not under the control of the modeler. Practitioners and policymakers often require a manageable information set from which to base their policy decisions. They often ask for "the five best," "the top 10," or some fixed number of factors, regardless of the number of equations. They do not want to be concerned if the problem is underdetermined or overdetermined (having fewer variables than equations). There is a need for a new method that surpasses the PCA limitations and gives practitioners more control over the solution structure and yields a more parsimonious model.

5.4. Ridge Regression Method

Ridge regression is an alternative approach to least squares regression that places a restriction, or "shrinks", the size of the estimated covariant coefficients. Recall that standard least-squares regression minimizes the sum of the squared deviations (See Equations 5.5 through 5.8). Ridge regression introduces a tuning parameter, c, to the regression methodology to force the estimated covariant coefficients towards 0. It does this by placing an upper-limit on sum of the squared coefficients. The problem solved is an L_2 plus the β_i restriction:

$$\sum_{j=1}^{p}(\beta_j)^2 \quad \leq \quad c \tag{5.9}$$

where the constant $c \geq 0$. Ridge regression methodology does not provide guidance on the selection of c. While $c = 0$ forces all coefficients to 0, increasing c only increases the value of the coefficients on all the variables. Further, ridge regression does not provide variable selection. See Fahrmeir [56] and Tibshirani [104] for a detailed discussion on ridge regression.

There is some debate among scholars on the effectiveness and advantages of ridge regression. Tibshirani notes that ridge regression does "quite poorly" when there are a small number of large effects [104]. Engerton challenges the advantages of ridge regression due to its complexity with no guarantees of improvement [55]. Smith states that ridge regression suffers many of the weakness of similar procedures, such as linear transformations should not change the implicit estimates of the models coefficients [97]. Regardless of the debate, ridge regression was not chosen for this study as it does not meet the third goal of this study: to identify a small set of factors that are most strongly related to state-level growth for the focus states by using easy-to-use analytical tools. The tuning parameter places restriction on the only on the size of the coefficients of the covariant variables not on the number of variables included in the model. This method would result in either all or none of the factors included in the model. This approach does not meet the desired goal of this study to find a small set of factors.

5.5. Least Absolute Shrinkage and Selection Operator (LASSO) Method

Least Absolute Shrinkage and Selection Operator (LASSO) is similar to ridge regression but uses an L_1 penalty constraint: the sum of the absolute size of the regression coefficients.

$$LASSO\ Regression: \qquad \sum_{j=1}^{p} |\beta_j| \ \leq \ c \tag{5.10}$$

A modeler can expand or constrict the number of regression variables by "tuning" c up or down to add or remove variables in the model.

While LASSO adds the ability to select the number of variables in a model, the selection of c does not easily correspond to a specific number of variables. The easy-

to-use requirement in the study's goal is to provide policymakers, not accustomed to rigorous mathematics, with an intuitive tool to analyze the effects of factors. The LASSO method would require "tinkering" with the tuning parameter c until the desired number of variables are attained. This approach does not meet the desired goal of this study.

The next section will introduce a new method for directly incorporating a variable selection restriction into the regression model construction process: the least-squares k-variable Adjudication Methodology (kVAM). The section describes the methodology, its mathematics, and its advantages.

5.6. kVAM: A NEW METHOD FOR DIMENSION REDUCTION

As stated in the previously, the preliminary analysis was not satisfactory. The result remained an underdetermined set of equations even for the 51-year model. Further, the above methods did not meet the study's goal to provide an easy-to-use analytic tool to determine a small subset of factors strongly related to state-economic growth. Therefore, a new non-parametric approach is developed as an alternative: the least-squares k-variable Adjudication Methodology (kVAM). This method allows researchers and practitioners to have more control over the model structure and is not prone to over- or under-determination issues. The practitioner can select the number of factors to consider regardless of the number of equations or observations. Further, the practitioner can add additional constraints such as how long a factor can have an effect (lag time) or how far in the future to predict (lead time).

The kVAM combines steps 6 and 7 of the original process presented in Chapter 3. It computes a least-squares regression model using mixed integer non-linear programming to minimize the total squared error of the model. The kVAM approach allows the researcher to easily constrain the number of variables to an upper limit, $\leq k$ or to

a specific integer value k. A detailed description of the mathematical model is below.

5.6.1. Mathematical Model

The kVAM is an extension of L_2 that directly limits the number of active variables in the regression. This formulation a mixed-integer nonlinear programming (MINLP) problem of identifying the k independent variables and their β_i coefficients that minimize the total least-squares deviations:

$$
\begin{aligned}
kVAM: \qquad \text{Minimize } & \sum_{j \in J} (v_j^2 + u_j^2) && = && z_k && (5.11)\\
\text{s.t. } & b_0 + \sum_{i \in I} X_{ij}\beta_i && = && Y_j + v_j - u_j, \forall j \in J && (5.12)\\
& -Mc_j \leq \beta_j && \leq && Mc_j, \forall j \in J && (5.13)\\
& \sum_{j \in J} c_j && = && k && (5.14)\\
& \beta_0, \beta_j && && \text{unrestricted}, \forall j \in J && (5.15)\\
& v_j, u_j && \geq && 0, \forall j \in J && (5.16)\\
& c_j && \in && \{0,1\}, \forall j \in J && (5.17)
\end{aligned}
$$

where M is a positive value that is greater than the largest possible $|\beta_i|$ and $c_j \in J$ are binary variables that determine whether independent variable $j \in J$ is to be active or inactive in the model.

5.7. The Advantages of kVAM

The kVAM approach provides many advantages over the aforementioned methods:

- Easy-to-use linear programming model.
- Allows more control over the model structure, such as:

  - Ability to choose the model selection criteria, e.g., L_1, L_2, or some other function.
  - Ability to set an upper-bound or an exact number of variables to include in the model.

- Can select the number of factors to consider regardless of the number of equations or observations.
- Can add additional constraints. Such as:
  - How long a factor can have an effect (lag time).
  - How far in the future to predict (lead time).

The kVAM approach provides policymakers with an easy-to-use, customizable analytical tool to evaluate economic factors.

5.8. kVAM Compared to LASSO

kVAM is a variable selection technique similar in goal, but not in approach, to the Least Absolute Shrinkage and Selection Operator (LASSO) method [104].

As described in section 5.6.1, kVAM is a mixed-integer, non-linear model that places a constraint in the mathematical model on the number of coefficients in the solution to either an exact number (i.e., $= k$) or to a maximum threshold (i.e., $\leq k$).

$$kVAM: \qquad -Mc_j \leq \beta_j \leq Mc_j, \forall j \in J \tag{5.18}$$

$$\sum_{j \in J} c_j = k \tag{5.19}$$

where M is a positive value that is greater than the largest possible $|\beta_i|$ and $c_j \in J$ are binary variables that determine whether independent variable $j \in J$ is to be active

or inactive in the model.

kVAM approach avoids the trial and error of "tuning" a parameter to get to a concise model. If M is chosen to be smaller than the than the largest possible $|\beta_i|$, then the large coefficients will be set to M, but the number of active variables is unchanged. Increasing M will reveal the solution coefficients with more precision.

The Gautam V. Pendse working paper [87] provides an excellent opportunity to compare kVAM with LASSO. In his paper, he explains the mathematics behind the LASSO technique. To illustrate the methodology, he provides a simple example illustrating LASSO's accuracy. His paper provides sample data by which kVAM can be performed to compare results.

5.8.1. Pendse Example

Pendse constructs an example of 100 equations or observations with 23 unknown variables. Denoted in matrix notation, Pendse problem is

$$Y = \beta_n X_n; \text{ where } n = 1, 2, \ldots, 23 \tag{5.20}$$

The true solution of the system of equations is

$$Y = X_1 + X_2 + X_3 \tag{5.21}$$

Therefore the coefficients for X_1, X_2, and X_3 are all equal 1. The true beta coefficients for X_4 through X_{23} are all equal to zero.

Pendse creates a data set of 100 observations. X_1, X_2, and X_3 are all represented as a 0 or 1 in the data set. Pendse adds a 0.5 standard deviation noise to the

true Y variable. He then fills variables X_4 through X_{23} with random numbers with using $\bar{x} = 0$ and $s = 1$. He calculates the most appropriate tuning parameter and uses LASSO to estimate the coefficients of the system in order to demonstrate how accurate LASSO is in calculating the true coefficients (See figure 5.1).

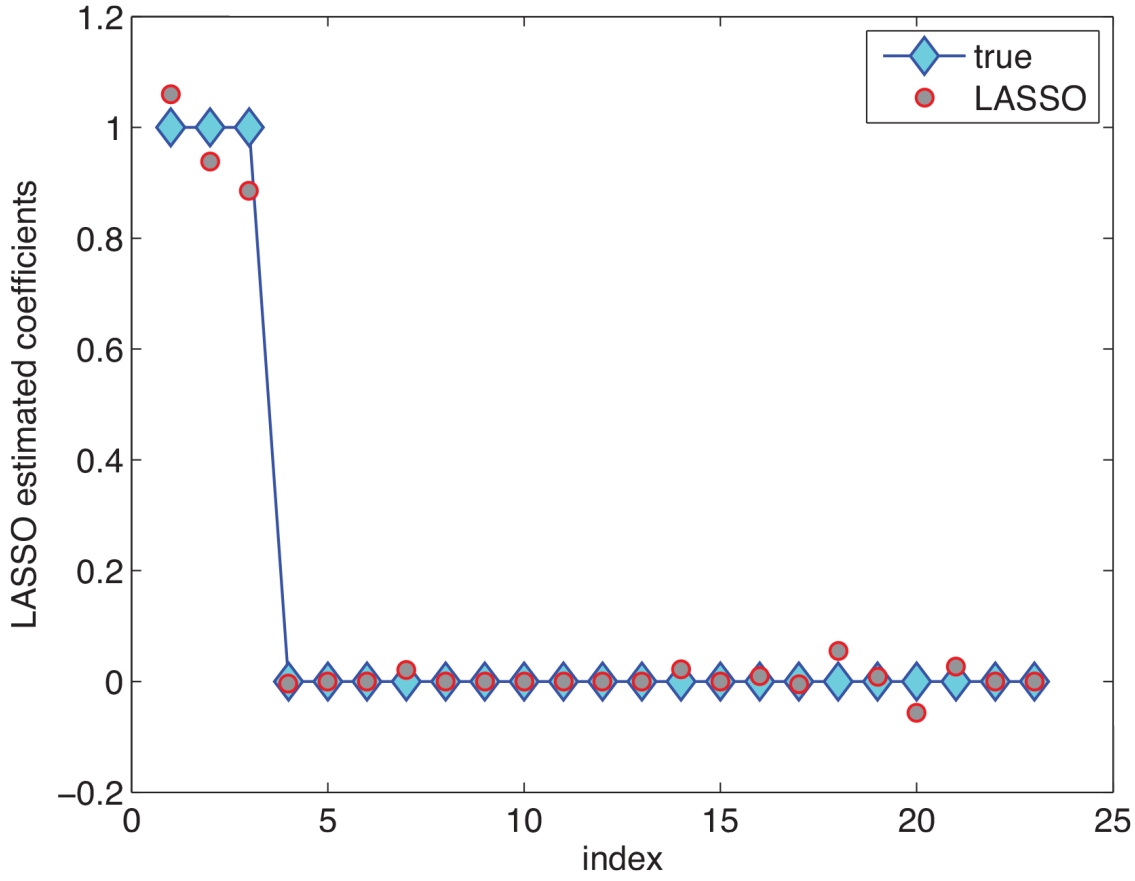

Figure 5.1. Pendse LASSO Example Coefficient Estimates

Two kVAM models are applied to this same data to determine the accuracy of kVAM's calculation as compared to LASSO. The first model is configured to limit the model to three variables i.e., $k = 3$ and is denoted as KVAM=3 in the chart. The expected result is for kVAM to determine that the coefficients for X_1 – X_3 all equal to 1. The second model is configured to determine the coefficients of all 23 variables,

i.e., $k = 23$ and is denoted as KVAM=23 in the chart. The expected result is for kVAM to determine that the coefficients X_1 – X_3 all equal to 1 and the coefficients for X_4 – X_{23} all equal to zero.

The results of the kVAM coefficient estimates are displayed below in figure 5.2. Note that β_0 was an unrestricted constant term and not initialized to zero.

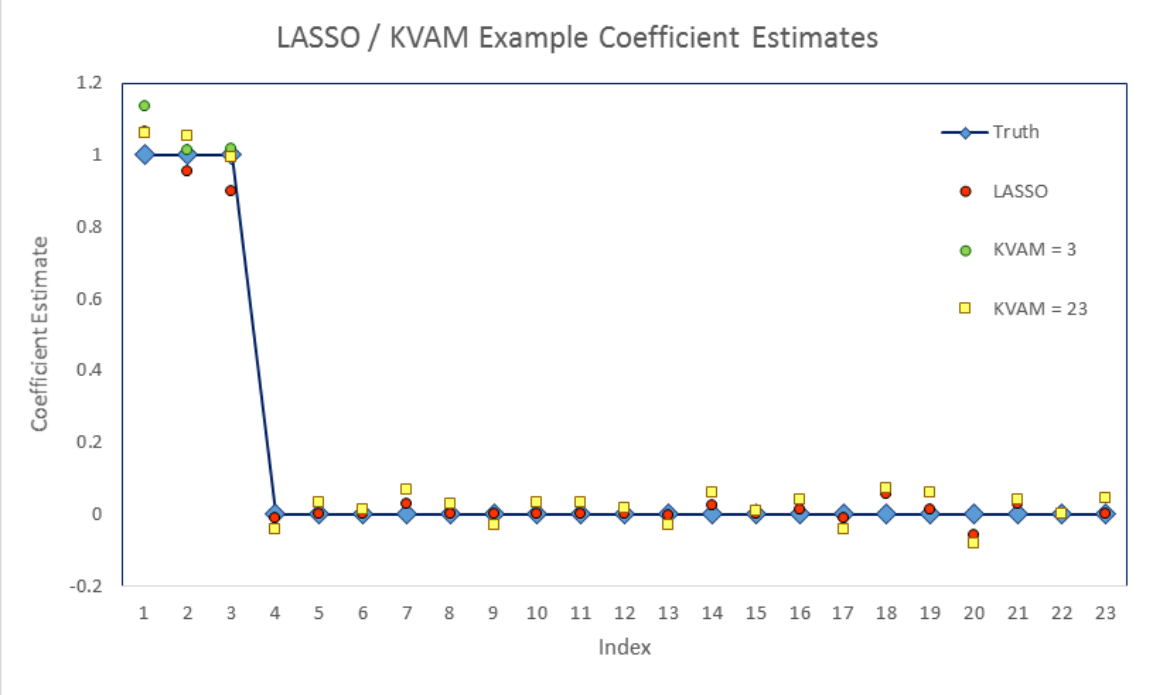

Figure 5.2. LASSO v kVAM Example Coefficient Estimates

The associated r^2 for LASSO and the kVAM models are:

- LASSO = 0.997608217
- kVAM-3 = 0.998242296
- kVAM-23 = 0.995835043

The kVAM approach provides a solution with a slightly better r^2 than the LASSO method. Examining the chart in figure 5.2 shows that the kVAM model with $k = 23$

does slightly better job of predicting the values of X_1 through X_3 than LASSO but has more noise in predicting X_4 through X_{23}. Therefore, kVAM is comparable to LASSO in its accuracy of calculating models without the effort to determine an appropriate tuning parameter. This makes kVAM easier to use in selecting a small subset of key variables in a large dimension problem

5.9. Conclusions

We have developed a new method for building restricted-variable regression models. In the next phase of the study it is applied to a series of scenarios to glean the major growth drivers for Texas, California, and the U. S. A series of time-frames are explored and conclusions drawn from the results and analysis.

Chapter 6

A TALE OF TWO STATES: IDENTIFICATION AND COMPARISON OF KEY ECONOMIC GROWTH FACTORS FOR TEXAS AND CALIFORNIA IN THE BEST AND WORST OF TIMES

> *It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, ...*
>
> – Charles Dickens, *Tale of Two Cities* [47]

The goal of this research is to identify and contrast the key factors that have driven economic growth in the states of Texas and California. The results are expected to provide state-level policy-makers and decision-makers insights into the effectiveness of past strategies and guidance for future leaders. The research study proceeds to achieve this goal by:

a) Compiling an economic dataset for study

b) Constructing 132 forecasting/regression models

c) Comparing and analyzing the resulting models

In this section, the aforementioned suite of analytical tools are applied to the regularized STATEBASE data to determine the key state-level growth indicators for a variety of time periods and assumptions. The outcomes for California and Texas are compared, contrasted, and explored for lessons learned. For completeness, the California and Texas outcomes are compared to outcomes from national data.

6.1. Structure of State Economic Growth Study

The research study conducts a series of investigations for questions regarding the likely driving factors for economic growth in California and Texas historically.

Investigation 1: The purpose of this investigation is to construct eight forecasting/regression models to compare state growth factors over different time frames (scenarios):

1. 51-year: long-term analysis
2. 26-year: medium-term analysis
3. 11-year: near-term analysis
4. 6-year: short-term analysis

Questions to be answered are:

- Do the factors differ between the states?
- Do the dominant factors change over time?
- What lessons can be learned as to the effectiveness of any differences in the state's approaches?

Investigation 2: The purpose of this investigation is to compare growth factors and indices contributing to the "Best of Times" for each state, as represented by a state's 10 highest-growth years. This investigation is accomplished by:

- Constructing 40 forecasting/regression models (20 models based on factors and 20 models based on indices)
- Varying the number of each models' allowed predictor variables from 10 down to the single best predictor factor and index
- Assessing the relative importance of the selected growth factors and indices to high-growth years

Investigation 3: The purpose of this investigation is to compare growth factors and indices contributing to the "Worst of Times" for each state, as represented by a state's 10 lowest-growth years. This investigation is accomplished by:

- Constructing 40 forecasting/regression models (20 models based on factors and 20 models based on indices)
- Varying the number of each models' allowed predictor variables from 10 down to the single best predictor factor and index
- Assessing the relative importance of the selected growth factors and indices to low-growth years

Investigation 4: The purpose of this investigation is to compare the state results of investigations 1-3 with identical investigations using national data. The investigation constructs 44 forecasting/regression models in support of this goal. The models constructed are: 1) Four models for each time-frame, 2) 20 models on the factors and indices that are associated to the nation's ten best economic growth years, and 3) 20 models on the factors and indices that are associated to the nation's ten worst economic growth years. Questions to be answered are:

- Are the state growth factors different than the national growth factors?
- Do the states' growth factors follow a national trend over the different time frames?
- What lessons can be learned from comparing state growth factors and indices with national growth factors and indices?

The next section describes the study's first investigation of California's and Texas' economic growth factors over the four time frames.

6.2. Investigation 1: California and Texas Growth Factors

The goal of this investigation is to examine the top factors related to economic growth for California and Texas between 1960 and 2010. However, since the data was regularized to annual percent changes, the 1960 data values are attributed to zero in absence of 1959 data. Further, since factors may take some time to have an effect on economic growth, additional factors with up to a four-year lag were added for consideration. Therefore, a four-year-lag criterion was added to the model. This criterion allows a factor to be included in a model's GSP prediction up to four years. For example, a four year lag criterion would allow factors in 2000 to be included in the 2000–2004 models, but not in any other models. Any value can be chosen for the lag criterion, including a zero-lag. A zero-lag criterion corresponds to model that predicts a specific year's GSP based on the selected factor's values for that year. A lag criterion value of four was chosen for this investigation as it represents a typical state governing term. This four year lag criterion makes 1965 as the first available year by which to derive a 50-year model since the regularized values for years 1957–1960 are absent. Therefore, the CA50, TX50 and US50 models are generated using regularized factor values from 1965 – 2010.

The null hypothesis of this investigation, H_0, is that the kVAM-derived models and factors important to California and Texas are the same. There are 188 dependent factors selected for the study. Factors excluded from the study and the reason for their removal are listed in Volume 2 of this study.

Economic factors in 1960 may be different than in 2010. Therefore, as aforementioned, the economic database was divided into four time frames for the investigation:

- Fifty-year study (1965 – 2010)
- Twenty-six-year study (1985 – 2010)

- Eleven-year study (2000 – 2010)
- Six-year study (2005 – 2010)

The models' creation options and assumptions for each state and investigation are listed in tables 6.1 and 6.4. The investigation limited the number of predictor variables (k) to 5 and is, therefore, denoted as a 5VAM model.

Table 6.1. Investigation 1: CA and TX 5VAM Factor Optimization Program Options

States	CA, TX
Number of factors to include in the model (k)	5
Number of lag years to consider	4
Time interval to generate the model	1965 – 2010; 1985 – 2010; 2000 – 2010; 2005 – 2010
Optimization Program Type	Mixed Integer, Nonlinear Program (MINLP)
GAMS Solver	Couenne

6.2.1. Investigation 1: California and Texas Growth Factors Results

Each model developed in the investigation is denoted in the form, StYY for the selected state's two letter abbreviation (ST) and the number of years considered for developing the model (YY). The kVAM regression models for California and Texas are generated using the STATEBASE percent annual change factors and the number of factors limited to 5 (k=5). The regression models generated by 5VAM are cross-validated using the Multiple Linear Regression Tool (MLR) [10]. MLR cross validates the r^2 and calculates the probability that the coefficients are zero with the associated t-statistic. The resultant 5VAM models and the corresponding MLR statistics are depicted in Table 6.3. Each tabular entry corresponds to a linear equation in the form:

$$GSP = \beta_0 + \sum_{i=1}^{k} \beta_i x_{i.l_i} \tag{6.1}$$

Where x_i is the i^{th} independent variable selected for the model and l_i where $l_i \in \{0 \dots 4\}$ is the years of lag for that variable.

For example, the first entry in Table 6.3, model CA50 corresponds to the linear equation:

$$\begin{aligned} GSP = {} & 7.846 - 0.758\, x_{\text{govprivR.0}} + 0.006\, x_{\text{ExpHospC.3}} \\ & - 0.026\, x_{\text{ExpHous.0}} + 0.014\, x_{\text{ExpSWM.0}} - 7.58\text{E}{-4}\, x_{\text{CAInsT.4}} \end{aligned} \tag{6.2}$$

where the following factors abbreviations are explained below:

GSP Gross State Product. GSP is defined by the Bureau of Economic Analysis (BEA) as the counterpart to the nation's Gross Domestic Product (GDP). GSP is the "gross output (sales or receipts and other operating income, commodity taxes, and inventory change) minus its intermediate inputs (consumption of goods and services purchased from other U.S. industries or imported)." BEA describes GSP as the agency's "featured and most comprehensive measure of U.S. economic activity [22]."

govprivR Government Employment Over Private Employment Ratio Calculation. A state's total government employment divided by private employment. In equation 6.2, the factor is denoted as govprivR.0. The suffix, ".0", represents the value of the factor for the same year as the desired dependent variable, GSP. For example, if seeking to calculate GSP for the year 2000 in equation 6.2, the year 2000 value for govprivR is used in the equation.

ExpHospC Expenditure Associated to Hospital Capital Outlay. A state's expenses attributed to hospital capital outlays as reported to the U. S. Census. These expenses include financing and construction acquisition. In

equation 6.2, the factor is denoted as ExpHospC.3. The suffix, ".3", corresponds to the factor's value three years prior to the desired dependent variable, GSP. For example, if seeking to calculate GSP for the year 2000 in equation 6.2, the year 1997 value for ExpHospC is used in the equation.

ExpHous Expenses From Housing and Community Development. The factor measures a state's expenditure on housing and community development. Expenditures include "[c]onstruction and operation of housing and redevelopment projects, and other activities to promote or aid housing and community development [29]." ExpHous is not lagged by any years in the model.

ExpSWM Expenses from Solid Waste Management. The state government's expenses incurred by "[c]ollection, removal, and disposal of garbage, refuse, hazardous, and other solid wastes; and cleaning of streets, alleys, and sidewalks [29]."

CAInsT Current Assets Held in All Insurance Trust Funds. This factor represents the total amount of short-term assets that are held in all of the state's insurance trust funds as reported by the Census Bureau. ExpSWM is lagged by four years in the model.

6.2.2. Investigation 1: California and Texas Growth Factors 5VAM Model Discussions

6.2.2.1. CA50 5VAM Model

As described in the aforementioned example in equation 6.2, the CA50 model consists of the following factors:

Table 6.3. Investigation 1: CA and TX Factor 5VAM Optimization Program Results

Model Name	Years	State		β_0	β_1	β_2	β_3	β_4	β_5	r^2
CA50	1965–2010	CA	Coefficient:	7.846	– 0.758	0.006	– 0.026	0.014	– 7.58E−4	0.374
			Factor:		govprivR.0	ExpHospC.3	ExpHous.0	ExpSWM.0	CAInsT.4	
			$P(\beta_i = 0)^{\dagger}$		0.000	0.941	0.053	0.053	0.179	
TX50	1965–2010	TX	Coefficient:	8.54	0.371	1.262	– 0.006	– 9.13E−4	– 0.001	0.473
			Factor:		E200mine.0	PenFundP.0	ExpElem.0	CAInsTWC.3	CAInsTWC.4	
			$P(\beta_i = 0)$		0.000	0.001	0.012	0.289	0.224	
CA26	1985–2010	CA	Coefficient:	4.898	0.417	−7.357E−4	−2.481E−4	−7.759E−6	– 0.001	0.889
			Factor:		E300cons.0	RvInsTER.2	ExpSWM.0	ExpSWM.2	CAInsT.4	
			$P(\beta_i = 0)$		0.000	0.789	0.708	0.694	0.000	
TX26	1985–2010	TX	Coefficient:	1.921	0.023	1.688	– 0.010	– 0.005	0.005	0.714
			Factor:		Saur.3	E90priva.0	RvInsTER.1	CAInsT.4	CAInsTUC.0	
			$P(\beta_i = 0)$		0.161	0.000	0.864	0.345	0.303	
CA11	2000–2010	CA	Coefficient:	5.877	0.001	– 0.008	0.011	−3.731E−4	0.231	0.963
			Factor:		FGRd.1	CAInsT.4	CAInsTUC.0	CAInsTUC.2	UVLSOut.0	
			$P(\beta_i = 0)$		0.833	0.024	0.029	0.497	0.000	
TX11	2000–2010	TX	Coefficient:	6.942	– 0.202	−2.117E−4	– 0.004	0.004	0.002	0.984
			Factor:		Saur.0	RvInsTWC.3	RvInsTWC.4	ExpElem.0	CAInsTWC.4	
			$P(\beta_i = 0)$		0.000	0.800	0.025	0.024	0.030	
CA06	2005–2010	CA	Coefficient:	44.752	– 0.105	– 0.012	0.008	0.006	– 0.016	1.000
			Factor:		FGRd.3	RvTaxOSa.4	RvInsTTo.0	RvInsTTo.1	ExpSWM.3	
TX06	2005–2010	TX	Coefficient:	141.673	1.361	0.035	7.938	– 65.448	– 12.908	1.000
			Factor:		FGRr.4	FGRd.0	Pop.0	Pop.1	Pop.2	

Notations: Each time series model is denoted by its starting year (e.g., 2005 for time series 2005 – 2010). Lag years are denoted numerically after "." at the end of the factor ID., e.g., FGRd.3 equates to Fiscal Golden Rule Difference factor lagged 3 years prior to the GSP of interest.

† Probability that the regression coefficient β_i is actually zero and does not contribute to explaining GSP. Determined from the t-statistic generated by a standard regression analysis of the variables selected by 5VAM. Since classic regression techniques require the number of observations to exceed the number of variables, the probabilities for CA06 and TX06 are not available.

- govprivR - Government Employment Over Private Employment Ratio Calculation
- ExpHospC - Expenditure Associated to Hospital Capital Outlay, lagged by 3 years
- ExpHous - Expenses From Housing and Community Development
- ExpSWM - Expenses from Solid Waste Management
- CAInsT - Current Assets Held in All Insurance Trust Funds, lagged by 4 years

The factors of government/private employment ratio (govprivR), housing and community expenditures (ExpHous), and the solid waste management expenditures (ExpSWM) are not lagged by any years in the 5VAM model. In contrast, the factors of expenditures associated to hospital capital outlay (ExpHospC) and current assets held in all insurance trust funds are lagged three and four years respectively.

6.2.2.2. TX50 5VAM Model

The TX50 model contains the entirely different factors than the CA50 model. The associated linear equation for TX50 is:

$$\begin{aligned} GSP = {} & 8.54 + 0.371\, x_{\text{E200mine.0}} + 1.262\, x_{\text{PenFundP.0}} \\ & - 0.006\, x_{\text{ExpElem.0}} - 9.13\text{E}{-4}\, x_{\text{CAInsTWC.3}} - 0.001\, x_{\text{CAInsTWC.4}} \end{aligned} \tag{6.3}$$

where the following factors abbreviations are:

GSP Gross State Product.

E200mine Total Employment in the Mining, Oil, and Gas Industry. This factor represents a state's total number of people employed in the mining, oil, and gas industry as reported by the Bureau of Economic Analysis. The factor is not lagged in the model.

PenFundP Percentage Of a State's Pension Liabilities That Are Funded. This factor represents a state's percentage of pension funds that are funded as reported by the Pew Center. The factor is not lagged in the model.

ExpElem Expenditures on Elementary and Secondary Education. The factor measures a state's expenditure on elementary and secondary education. Expenditures include "instruction, instructional staff support services, pupil support services, general administration, school administration, operations and maintenance, student transportation, other support services (such as business services), food services, enterprise operations, and total current expenditures. Objects reported within a function include salaries, employee benefits, purchased services, supplies, and equipment [29]." The factor is not lagged in the model.

CAInsTWC Current Assets Held in Insurance Trust Funds Designated for Workers' Compensation. This factor represents the total amount of short-term assets that are held in all of the state's insurance trust funds that are designated for workers' compensation purposes as reported by the Census Bureau. The factor is lagged by three and four years in the model.

6.2.2.3. CA50 and TX50 5VAM Discussion

The null hypothesis can be disproven when examining the factors during the two 50-year scenarios. The factors for both California and Texas are completely different. While a insurance trust factor is in both models, the specific insurance trust factor in California is different than the insurance trust factor for Texas. The r^2 is low for both state economic models. California 5VAM model has an $r^2$0.374 and the Texas 5VAM model is slightly higher at $r^2 = 0.473$. The MLR computed probabilities that the

coefficients could be zero for the selected factors are all under 0.3 except the CA06 model factor expenditure in hospital capital outlay (ExpHospC), which is 0.941.

6.2.2.4. CA26 5VAM Model

The CA26 5VAM model's associated linear equation is:

$$\begin{aligned} GSP = {} & 4.898 + 0.417\, x_{\text{E300cons.0}} - 7.357\text{E}{-4}\, x_{\text{RvInsTER.2}} \\ & - 2.481\text{E}{-4}\, x_{\text{ExpSWM.0}} - 7.759\text{E}{-6}\, x_{\text{ExpSWM.2}} - 0.001\, x_{\text{CAInsT.4}} \end{aligned} \tag{6.4}$$

where the following factors abbreviations are:

GSP Gross State Product.

E300cons Total Construction Industry Employment. This factor represents a state's total number of people employed in the construction industry as reported by the Bureau of Economic Analysis. The factor is not lagged in the model.

RvInsTER Total Revenue from Insurance Trusts Designated for Employee Retirement as reported to the U. S. Census Bureau. The factor is lagged by two years in the model.

ExpSWM Expenses from Solid Waste Management. The state government's expenses incurred by "[c]ollection, removal, and disposal of garbage, refuse, hazardous, and other solid wastes; and cleaning of streets, alleys, and sidewalks [29]." ExpSWM is included twice in the model, one of the factors is not lagged and the other factor is lagged by two years.

CAInsT Current Assets Held in All Insurance Trust Funds. This factor represents the total amount of short-term assets that are held in all of the state's insurance trust funds as reported by the Census Bureau. The factor is lagged by four years in the model.

6.2.2.5. TX26 5VAM Model

The TX26 5VAM model's associated linear equation is:

$$\begin{aligned} GSP = {} & 1.921 + 0.023\, x_{\text{Saur.3}} + 1.688\, x_{\text{E90priva.0}} \\ & - 0.010\, x_{\text{RvInsTER.1}} - 0.005\, x_{\text{CAInsT.4}} + 0.005\, x_{\text{CAInsTUC.0}} \end{aligned} \tag{6.5}$$

where the following factors abbreviations are:

GSP Gross State Product.

Saur State Annual Unemployment Rate. This factor represents the number unemployed as a percent of the labor force as reported to the Bureau of Labor Statistics. The factor is lagged by three years in the model.

E90priva Total Private, Non-Farm Employment. This factor represents a state's total number of people employed in the private, non-farm industries as reported by the Bureau of Economic Analysis and is based on North American Industry Classification System (NAICS). The factor is not lagged in the model.

RvInsTER Total Revenue from Insurance Trusts Designated for Employee Retirement as reported to the U. S. Census Bureau. The factor is lagged by one year in the model.

CAInsT Current Assets Held in All Insurance Trust Funds. This factor represents the total amount of short-term assets that are held in all of the state's insurance trust funds as reported by the Census Bureau. The factor is lagged by four years in the model.

CAInsTUC Current Assets Held in Insurance Trust Funds Designated for Unemployment Compensation. This factor represents the total amount of short-term assets that are held in all of the state's insurance trust

funds that are designated for unemployment compensation purposes as reported by the Census Bureau. The factor is not lagged in the model.

6.2.2.6. CA26 and TX26 5VAM Discussion

California CA26 model's dominant factor is employment in the construction industry (E300cons). The next set of dominant factors includes those concerning the revenue and holdings in insurance trusts, RvInsTER and CAInsT respectively. The final factor with selected in the CA26 model is the total expenditures on solid waste management. The impact of all factors, except construction employment, are negative in the model. Three of the factors have high probabilities that they could be zero: revenue attributed to employee retirement trusts (RvInsTER) and both factors concerning expenditures in solid waste management (ExpSWM). Only the coefficients on employment in the construction industry factor (E300cons) and the current assets in insurance trust factor (CAInsT) have a probability of zero that the coefficient is zero.

Texas TX26 model is most positively impacted by employment in the private sector (E90priva) and has mixed positive and negative impact with respect to insurance trust factors during this twenty-six time period. State annual unemployment rate is also a selected model factor and unexpectedly has a positive coefficient. The Texas CA26 model coefficients have better probabilities against being zero. All coefficients have a probability under 0.35 except the factor revenue from employee retirement trusts (RvInsTER), which is at 0.84.

6.2.2.7. CA11 5VAM Model

The CA11 5VAM model corresponds to the following linear equation:

$$GSP = 5.877 + 0.001\,x_{\text{FGRd.1}} - 0.008\,x_{\text{CAInsT.4}} + 0.011\,x_{\text{CAInsTUC.0}} - 3.731\text{E}{-4}\,x_{\text{CAInsTUC.2}} + 0.231\,x_{\text{UVLSOut.0}} \tag{6.6}$$

where the factors abbreviations in the model are:

GSP Gross State Product.

FGRd Fiscal Golden Rule - Difference Calculation. The fiscal golden rule's origins have been disputed. However, according to one source, the origin stems from the many biblical texts that teach the Golden Rule: "do unto others as you would have them do unto you." As the golden rule is applied to fiscal policy: to "protect future generations from debt by limiting borrowed money to investments, and not to indebt future generations for the benefit of current generations [73]." For the purpose of this study, the Fiscal Golden Rule is represented by the relationship between the a state government's total revenue and total expenditures. This relationship can be calculated in two ways: 1) the ratio between a state's total revenues and total expenditures, denoted FGRr and 2) the difference between total revenues minus total expenditures, denoted as FGRd. The factor is lagged by one year in the model.

CAInsT Current Assets Held in All Insurance Trust Funds. This factor represents the total amount of short-term assets that are held in all of the state's insurance trust funds as reported by the Census Bureau. The factor is lagged by four years in the model.

CAInsTUC Current Assets Held in Insurance Trust Funds Designated for Unemployment Compensation. This factor represents the total amount of short-term assets that are held in all of the state's insurance trust funds that are designated for unemployment compensation purposes as

reported by the Census Bureau. The factor CAInsTUC is added twice in the model one occurrence is not lagged and the other is lagged by two years.

UVLSOut United Van Line Study - Shipments Out of the State. This factor is from the United Van Lines records on the number of moving shipments out of a state. This factor is added as a proxy for migration out of a state. The factor is not lagged in the model.

6.2.2.8. TX11 5VAM Model

The TX11 5VAM model corresponds to the following linear equation:

$$\begin{aligned} GSP = 6.942 &- 0.202\, x_{\text{Saur.0}} - 2.117\text{E}{-4}\, x_{\text{RvInsTWC.3}} \\ &- 0.004\, x_{\text{RvInsTWC.4}} + 0.004\, x_{\text{ExpElem.0}} + 0.002\, x_{\text{CAInsTWC.4}} \end{aligned} \tag{6.7}$$

where the factors abbreviations in the model are:

GSP Gross State Product.

Saur State Annual Unemployment Rate. This factor represents the number unemployed as a percent of the labor force as reported to the Bureau of Labor Statistics. The factor is not lagged in the model.

RvInsTWC Total Revenue from Insurance Trusts Designated for Workers' Compensation as reported to the U. S. Census Bureau. The factor is added twice in the model. One occurrence is lagged by three years and the other occurrence is lagged by for years.

ExpElem Expenditures on Elementary and Secondary Education. The factor measures a state's expenditure on elementary and secondary education. Expenditures include "instruction, instructional staff support

services, pupil support services, general administration, school administration, operations and maintenance, student transportation, other support services (such as business services), food services, enterprise operations, and total current expenditures. Objects reported within a function include salaries, employee benefits, purchased services, supplies, and equipment [29]." The factor is not lagged in the model.

CAInsTWC Current Assets Held in Insurance Trust Funds Designated for Workers' Compensation. This factor represents the total amount of short-term assets that are held in all of the state's insurance trust funds that are designated for workers' compensation purposes as reported by the Census Bureau. The factor is lagged by four years in the model.

6.2.2.9. CA11 and TX11 5VAM Discussion

The CA11 model indicates that California GSP is again heavily influenced by the insurance trust expenditures. However, the effects of the insurance trust expenditure factors in the 2000 models affect GSP both positively and negatively. Further, California CA11 model shows an impact by migration out of the state (UVLSOut) but surprisingly the coefficient on this factor is positive. The MLR computed coefficient probabilities are mixed with only the United Van Lines Out-Shipments factor having a probability of zero that the coefficient is zero.

Texas TX11 model is most impacted by unemployment (Saur) during this eleven-year time period and its coefficient is negative. Insurance trust workers' compensation factors are selected in three of the five factors in TX11 Model. Revenue from workers' compensation is selected twice, one with a lag year of three and another with a lag year of four. The other workers' compensation factor is a the current assets stored in trust funds. The final factor included in the TX11 model is a positive coefficient on

the amount of expenditures in elementary and secondary education. The TX11 model is also mixed with different MLR computed probabilities. Only the factor measuring the annual unemployment rate (Saur) has a probability of zero.

6.2.2.10. CA06 5VAM Model

$$\begin{aligned} GSP = &-44.752 - 0.105\, x_{\text{FGRd.3}} - 0.012\, x_{\text{RvTaxOSa.4}} \\ &+ 0.008\, x_{\text{RvInsTTo.0}} + 0.006\, x_{\text{RvInsTTo.1}} - 0.016\, x_{\text{ExpSWM.3}} \end{aligned} \tag{6.8}$$

where the following factors abbreviations are explained below:

GSP Gross State Product.

FGRd Fiscal Golden Rule - Difference Calculation. A state's total revenues minus total expenditures. The factor is lagged by three years in the model.

RvTaxOSa Revenue from other selective sales and gross receipts taxes. This factor is a state government's revenue from sales taxes not reported separately to the U. S. Census Bureau. These taxes include, for example, contractors, lodging, lubricating oil, fuels other than motor fuel, motor vehicles, meals, soft drinks, margarine, etc.) [28]. The factor is lagged by four years in the model.

RvInsTTo Total Revenue from Insurance Trusts. Defined by the U. S. Census Bureau as "[a]mounts derived from contributions, assessments, premiums, or payroll "taxes" required of employers, employees, and others to finance compulsory or voluntary social insurance programs operated by the public sector; and any earnings on assets held or invested by such funds [28]." The five major categories of insurance trust systems are: 1) Federal (Social Security and Medicare, Veteran's Life Insurance,

and Railroad Retirement) , 2) Public Employee Retirement, 3) Unemployment Compensation, 4) Workers' Compensation Insurance, and 5) Other State Government Insurance Systems. The RVInsTTo factor is included twice in the model. One occurrence is not lagged in the model and the other occurrence is lagged by one year.

ExpSWM Expenses from Solid Waste Management. The state government's expenses incurred by "[c]ollection, removal, and disposal of garbage, refuse, hazardous, and other solid wastes; and cleaning of streets, alleys, and sidewalks [29]." The factor is lagged by three years in the model.

6.2.2.11. TX06 5VAM Model

$$\begin{aligned} GSP = {} & 141.673 + 1.361\, x_{\text{FGRr.4}} + 0.035\, x_{\text{FGRd.0}} \\ & + 7.938\, x_{\text{Pop.0}} - 65.448\, x_{\text{Pop.1}} - 12.908\, x_{\text{Pop.2}} \end{aligned} \tag{6.9}$$

where the following factors abbreviations are explained below:

GSP Gross State Product.

FGRr Fiscal Golden Rule - Ratio Calculation. A state's total revenues divided by total expenditures. The factor is lagged by four years in the model.

FGRd Fiscal Golden Rule - Difference Calculation. A state's total revenues minus total expenditures. The factor is not lagged in the model.

Pop Population. Total state's population as reported by the U. S. Census. The Pop factor is selected three times in the model. The occurrences are lagged zero, one, and two years.

6.2.2.12. CA06 and TX06 5VAM Discussion

The CA06 optimization model shows that the fiscal golden rule difference calculation (FGRd) and revenue from other sales taxes (RvTaxOSa) negatively impacts California GSP. Further, the total insurance trust factors (RvInsTTo), which includes unemployment compensation, employee retirement, and workers' compensation, all positively included in the California CA06 model. Further research in how insurance trust metrics affects GSP growth is warranted from examining the CA06 5VAM model results. Since classic regression techniques require the number of observations to exceed the number of variables, the probabilities for CA06 are not available.

Texas TX06 model shows a positive influence with fiscal golden rule factors (both difference (FGRd) and ratio FGRr calculations). As the CA06 model, the probabilities for coefficients are not available.

6.3. Investigations 2 and 3: California and Texas Best of Times / Worst of Times

The Best of Times / Worst of Times investigations each consist of two analyses:

- Analysis A: Examination of the top ten state factors associated during the ten best and worst years of economic growth for California and Texas
- Analysis B: Examination of the top ten state indices associated during the ten best and worst years of economic growth for California and Texas

Each state's fifty-one year history of data is sorted by GSP annual percent growth. The ten best and the ten worst year data is selected to examine the states' best and worst economic years. The year 1960 is ignored for the Worst of Times study as the data for calculating GSP annual percent growth was not included in the data (i.e., 1959). The years selected for each state are:

- CA Best of Times — 1972,1973,1975,1976,1977,1978,1979,1980,1981,1984
- CA Worst of Times — 1963,1991,1992,1993,2001,2002,2007,2008,2009,2010
- TX Best of Times — 1972,1973,1974,1975,1976,1977,1978,1979,1980,1981
- TX Worst of Times — 1963,1983,1986,1987,1991,2001,2002,2008,2009,2010

Introduced in the Best of Times/Worst of Times analysis are economic indices. Factors are grouped together into an index to examine how similar factors influence GSP growth as a whole. Details to index construction are outlined in Appendix B. Not all 188 analysis factors from the previous investigation, nor all nineteen constructed indices, are in the Best of Times study. Variables and indices removed from the analysis are either zero or did not change within five significant digits in the years selected. Worst of Times analysis did not have the same data issue. Further, the two calculated factors, Fiscal Golden Rule Ratio and Fiscal Golden Rule - Difference, are added to the index investigation to examine how the factors influenced GSP growth with the indices. For a complete listing of the variables and indices removed from the Best of Times analyses see Volume 2.

In the Best of Times/Worst of Times investigations, ten models are constructed for each data set starting from ten factors or indices (k=10) down to the single most important factor or index corresponding to the best and worst GSP growth (k=1). A zero lag option is selected as the years are not continuous. The optimization program configuration options are listed in Table 6.4.

The null hypothesis of both of these investigations, H_0, is that the models, factors, and indices important to California and Texas are the same. Any differences in GSP growth is due to how each state as a whole invests in each factor, that is, the coefficient placed in front of each factor.

Table 6.4. Investigation 2: CA and TX Best of Times – Worst of Times, Optimization Program Options

States	CA, TX
Number of factors/indices (k) to include in the model	1–10
Number of lag years to consider	0
Time interval to generate the model	
CA Best of Times	1972,1973,1975,1976,1977,1978,1979,1980,1981,1984
TX Best of Times	1972,1973,1974,1975,1976,1977,1978,1979,1980,1981
CA Worst of Times	1963,1991,1992,1993,2001,2002,2007,2008,2009,2010
TX Worst of Times	1963,1983,1986,1987,1991,2001,2002,2008,2009,2010
Optimization Program Type	MINLP
GAMS Solver(s)	Couenne and Baron

6.3.1. Investigation 2: California and Texas Best of Times Factor/Index Analysis

Tables 6.6 - 6.9 reveals the results of the California and Texas Best of Times Factor and Index Analyses.

6.3.1.1. Investigation 2: California Best of Times Factor Analysis Results

Table 6.6. Investigation 2: CA Best of Times Factor Analysis Results

Model Factors		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	– 219.593	– 89.008	9.982	– 7.752	6.889	– 37.750	47.334	42.815	100.000	– 17.236	9.754	1.000
	Factor:		Students	sftp	E50farmp	E60nonfa	E90priva	E700fina	E920mili	E930gove	govprivR	DrsDI	
9	Coefficient:	33.367	4.150	– 1.079	– 5.973	– 0.584	– 19.745	36.687	0.949	0.439	– 0.069	X	1.000
	Factor:		E40propE	E70farmp	BachPerc	RvInsTTo	EFNAILab	EFNAIGov	EFNAIUni	DrsBI	DrsDI	X	
8	Coefficient:	19.900	0.112	– 0.086	– 0.338	0.254	– 1.136	0.848	– 0.618	0.079	X	X	0.997
	Factor:		sftp	E70farmp	E100asff	RvCChgHs	EFNAIUni	UVLSOut	RnDTotOb	NumGrad	X	X	
7	Coefficient:	– 4.368	2.337	– 0.671	0.676	– 1.862	1.173	– 0.919	0.247	X	X	X	1.000
	Factor:		E60nonfa	E70farmp	E920mili	HSPercen	RvCChgHs	RvInsTTo	EFNAIMin	X	X	X	
6	Coefficient:	15.778	2.084	1.756	– 1.752	– 0.393	0.797	– 0.677	X	X	X	X	1.000
	Factor:		Students	Dependr	sftr	E40propE	E300cons	E400manu	X	X	X	X	
5	Coefficient:	10.657	– 0.279	1.173	0.077	– 0.006	– 3.722	X	X	X	X	X	0.998
	Factor:		Poverty	Sucd	E700fina	RvInsTTo	EFNAIInd	X	X	X	X	X	
4	Coefficient:	94.899	7.947	1.072	– 47.207	2.272	X	X	X	X	X	X	0.995
	Factor:		Dependr	Sucd	RvTaxAlc	UVLSInPe	X	X	X	X	X	X	
3	Coefficient:	10.984	– 0.281	1.208	– 3.695	X	X	X	X	X	X	X	0.993
	Factor:		Poverty	Sucd	EFNAIInd	X	X	X	X	X	X	X	
2	Coefficient:	14.814	0.319	– 0.380	X	X	X	X	X	X	X	X	0.93
	Factor:		Sumd	E700fina	X	X	X	X	X	X	X	X	
1	Coefficient:	12.956	0.241	X	X	X	X	X	X	X	X	X	0.758
	Factor:		Sumd	X	X	X	X	X	X	X	X	X	

6.3.1.2. Investigation 2: Texas Best of Times Factor Analysis Results

Table 6.7. Investigation 2: TX Best of Times Factor Analysis Results

Model Factors		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	– 24.366	2.774	– 3.738	0.42	0.15	0.305	0.031	– 27.103	– 16.586	100.000	– 0.001	1.000
	Factor:		Youth	Dependr	Saur	E200mine	E300cons	E400manu	RvCChgHs	ExpSQMCO	CAInsTUC	PGD	
9	Coefficient:	– 30.384	12.835	100.000	– 5.206	– 6.58	49.296	46.003	– 10.38	– 100.000	41.304	X	0.990
	Factor:		Youth	Depend	msirtrlg	RvCChgHs	EFNAITak	PGD	PGP	PGA	Num1stGr	X	
8	Coefficient:	16.442	– 0.297	– 0.017	0.49	– 0.092	0.848	– 0.356	– 0.294	– 0.049	X	X	1.000
	Factor:		Saur	E300cons	E610wstr	RvInsTER	UVLSIn	UVLSInPe	RnDTotOb	Num1stGr	X	X	
7	Coefficient:	26.598	– 0.261	1.329	– 1.039	– 0.944	0.287	– 2.768	– 0.148	X	X	X	1.000
	Factor:		Depend	Dependr	E20wsEmp	E40propE	E400manu	HSPercen	UVLSOut	X	X	X	
6	Coefficient:	10.026	0.049	– 0.41	0.719	0.485	– 18.828	0.003	X	X	X	X	1.000
	Factor:		Sumd	E620rtra	E900gove	E920mili	EFNAITra	UVLSInPe	X	X	X	X	
5	Coefficient:	13.305	– 0.157	– 0.192	0.249	0.602	0.257	X	X	X	X	X	0.999
	Factor:		Youth	E60nonfa	E200mine	UVLSOutP	PGA	X	X	X	X	X	
4	Coefficient:	19.947	0.092	– 0.418	– 0.371	– 0.474	X	X	X	X	X	X	0.998
	Factor:		msirtrlg	E100asff	E700fina	govprivR	X	X	X	X	X	X	
3	Coefficient:	22.795	– 3.624	– 0.312	1.858	X	X	X	X	X	X	X	0.986
	Factor:		Poverty	E620rtra	E900gove	X	X	X	X	X	X	X	
2	Coefficient:	21.312	– 3.422	1.664	X	X	X	X	X	X	X	X	0.956
	Factor:		Poverty	E900gove	X	X	X	X	X	X	X	X	
1	Coefficient:	12.780	0.250	X	X	X	X	X	X	X	X	X	0.751
	Factor:		E200mine	X	X	X	X	X	X	X	X	X	

6.3.1.3. Investigation 2: California Best of Times Index Analysis Results

Table 6.8. Investigation 2: CA Best of Times Index Analysis Results

Model Index/Factor		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	4252.524	86.532	– 1.287	1.010	– 80.662	100.000	– 2.534	– 74.861	– 16.417	– 100.000	0.242	0.996
	Index/Factor:		CA	Demo	EF	House	RevFed	RevSt	SpendFed	SpendSt	Taxes	TaxR	
9	Coefficient:	– 2149.991	– 12.748	– 0.198	– 0.058	1.734	0.162	– 1.785	1.045	50.462	0.159	X	1.000
	Index/Factor:		CA	Demo	EmpRate	House	Mig	RevFed	RevSt	Taxes	Union	X	
8	Coefficient:	– 2851.039	– 17.130	– 0.395	– 0.245	– 0.072	0.338	1.447	66.841	0.145	X	X	0.998
	Index/Factor:		CA	Demo	EF	EmpRate	Mig	RevSt	Taxes	Union	X	X	
7	Coefficient:	28.454	– 0.229	– 0.046	– 0.171	1.363	– 0.854	0.064	0.121	X	X	X	0.999
	Index/Factor:		CA	EmpRate	House	RevFed	SpendFed	TaxR	Union	X	X	X	
6	Coefficient:	274.981	2.666	– 0.052	– 0.032	– 4.19	0.065	0.122	X	X	X	X	0.985
	Index/Factor:		FGRd	ED	EmpRate	Taxes	TaxR	Union	X	X	X	X	
5	Coefficient:	597.442	3.113	0.334	– 11.159	0.049	0.164	X	X	X	X	X	0.968
	Index/Factor:		FGRd	SpendSt	Taxes	TaxR	Union	X	X	X	X	X	
4	Coefficient:	– 4.346	0.016	3.279	0.071	0.200	X	X	X	X	X	X	0.983
	Index/Factor:		EF	House	Mig	Union	X	X	X	X	X	X	
3	Coefficient:	48.519	– 0.099	0.045	0.165	X	X	X	X	X	X	X	0.963
	Index/Factor:		SpendSt	TaxR	Union	X	X	X	X	X	X	X	
2	Coefficient:	120.933	– 1.697	0.18	X	X	X	X	X	X	X	X	0.901
	Index/Factor:		Taxes	Union	X	X	X	X	X	X	X	X	
1	Coefficient:	13.067	0.178	X	X	X	X	X	X	X	X	X	0.686
	Index/Factor:		Union	X	X	X	X	X	X	X	X	X	

6.3.1.4. Investigation 2: Texas Best of Times Index Analysis Results

Table 6.9. Investigation 2: TX Best of Times Index Analysis Results

Model Index/Factor		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	2807.641	– 16.452	– 2.089	45.611	0.02	63.785	– 0.017	– 0.461	– 100.000	63.307	– 0.37	1.000
	Index/Factor:		CA	Demo	ED	Employ	House	Innov	Mig	RevFed	SpendFed	TaxR	
9	Coefficient:	705.934	– 100.000	– 7.301	68.163	– 0.229	0.05	19.284	0.300	32.894	– 16.236	X	0.999
	Index/Factor:		FGRd	Demo	ED	EmpRate	HighED	House	Mig	SpendFed	Taxes	X	
8	Coefficient:	– 13.500	– 0.172	24.104	0.049	0.308	22.497	– 0.029	– 5.847	– 0.191	X	X	0.991
	Index/Factor:		ED	EF	Innov	Mig	RevFed	RevSt	Taxes	Union	X	X	
7	Coefficient:	65.191	– 0.24	0.064	– 1.998	0.453	0.067	– 0.619	0.013	X	X	X	0.992
	Index/Factor:		EmpRate	HighED	House	Mig	RevFed	Taxes	Union	X	X	X	
6	Coefficient:	73.679	– 0.206	0.06	– 1.712	0.421	– 0.106	– 0.75	X	X	X	X	0.989
	Index/Factor:		EmpRate	HighED	House	Mig	RevFed	Taxes	X	X	X	X	
5	Coefficient:	68.732	– 0.209	0.06	– 1.802	0.411	– 0.684	X	X	X	X	X	0.989
	Index/Factor:		EmpRate	HighED	House	Mig	Taxes	X	X	X	X	X	
4	Coefficient:	148.545	– 7.002	0.038	0.254	– 7.883	X	X	X	X	X	X	0.948
	Index/Factor:		EF	HighED	Mig	RevFed	X	X	X	X	X	X	
3	Coefficient:	81.185	0.027	0.194	– 1.094	X	X	X	X	X	X	X	0.937
	Index/Factor:		HighED	Mig	Taxes	X	X	X	X	X	X	X	
2	Coefficient:	77.566	0.165	– 1.023	X	X	X	X	X	X	X	X	0.824
	Index/Factor:		Mig	Taxes	X	X	X	X	X	X	X	X	
1	Coefficient:	17.523	– 0.903	X	X	X	X	X	X	X	X	X	0.608
	Index/Factor:		EF	X	X	X	X	X	X	X	X	X	

6.3.1.5. Investigation 2: California and Texas Best of Times Factor and Index Analysis Conclusions

Government employment is the top significant factor when looking at the top ten factors during California's best economic times. However, the factor quickly drops out as the model narrows down the factors. Education and economic freedom factors have mixed results in California's best economic years. The single most important factor in California's best economic years is State Union Membership Density (Sumd), which measures the percent of employees in the workforce who are union members.

When it comes to indices, California's best economic times reveals little patterns as they are counted down to the single important index. Revenue and tax related indices are in several of the models but fluctuate between having a positive and negative influence. The union index (Union) is the most recurring index in all of the California models. The union index appears in nine of the ten models, all with a positive influence in the California economy.

The top ten factors during Texas' best economic years is a mixed collection of population factors, industry employment, government revenue, and expense factors. Migration factors appear in several of the models with both positive and negative impacts to the Texas economy. The single most important factor in Texas' best economic years is not surprising: mining industry employment (E200mine). Mining industry employment factor includes employment for the oil industry.

Texas' best economic times is most influenced by the migration index (Mig). The migration index is in nine out of ten models. Migration has a positive influence on the Texas economy in all but one model. The single most important index to the best economic times in Texas is economic freedom (EF). However, the impact economic freedom has on the Texas economy is mixed. Economic freedom index often appears more negative than positive.

6.3.2. Investigation 3: California and Texas Worst of Times Factor and Index Analysis

Tables 6.10 - 6.13 reveals the results of the four California and Texas Worst of Times Factor/Index Analyses.

6.3.2.1. Investigation 3: California Worst of Times Factor Analysis Results

Table 6.10. Investigation 3: CA Worst of Times Factor Analysis Results

Model Factors		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	– 7.417	– 1.575	1.411	– 0.055	1.375	90.090	1.375	0.365	– 87.950	89.860	0.319	1.000
	Factor:		Senior	Depend	Povrate	HouseUni	DensPop	DensHous	sftp	sftr	sfspop	Sumd	
9	Coefficient:	3.544	– 0.005	0.044	0.381	0.045	0.003	– 0.016	– 0.041	0.010	– 0.114	X	1.000
	Factor:		FGRd	E200mine	E620rtra	RvTaxOSa	RvInsTER	ExpSWM	ExpInsTU	CAOBond	DrsBI	X	
8	Coefficient:	– 0.716	5.023	– 0.036	– 1.344	– 0.176	0.096	– 0.114	0.142	– 0.223	X	X	1.000
	Factor:		DensPop	Saur	HSPercen	RvTaxOSa	ExpHwyCO	ExpCoCO	ExpNRCO	CAInsT	X	X	
7	Coefficient:	1.328	0.008	0.012	0.003	– 0.025	0.002	0.009	– 0.026	X	X	X	1.000
	Factor:		FGRr	RvTaxUti	RvTaxOth	RvCChgHw	RvCChgSO	RvInsTUC	RnDPlant	X	X	X	
6	Coefficient:	2.398	– 0.189	– 0.002	0.003	2.5004E−4	1.6833E−4	– 0.002	X	X	X	X	1.000
	Factor:		HSPercen	RvCChgHs	RvInsTER	ExpNRCO	ExpSWM	PGP	X	X	X	X	
5	Coefficient:	2.117	– 0.318	0.004	– 0.014	0.007	0.016	X	X	X	X	X	1.000
	Factor:		HSPercen	RvInsTER	ExpNRCO	ExpSWM	ExpInsWC	X	X	X	X	X	
4	Coefficient:	2.501	0.005	0.005	– 0.016	– 0.018	X	X	X	X	X	X	0.997
	Factor:		FGRd	ExpNRCO	ExpPR	ExpSQMCO	X	X	X	X	X	X	
3	Coefficient:	3.224	– 0.842	0.007	– 0.018	X	X	X	X	X	X	X	0.998
	Factor:		Students	RvInsTER	ExpLib	X	X	X	X	X	X	X	
2	Coefficient:	0.370	0.210	0.049	X	X	X	X	X	X	X	X	0.975
	Factor:		RvCChgEd	ExpWelfO	X	X	X	X	X	X	X	X	
1	Coefficient:	2.486	0.001	X	X	X	X	X	X	X	X	X	0.842
	Factor:		RvInsTTo	X	X	X	X	X	X	X	X	X	

6.3.2.2. Investigation 3: Texas Worst of Times Factor Analysis Results

Table 6.11. Investigation 3: TX Worst of Times Factor Analysis Results

Model Factors		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	6.323	0.481	− 1.838	− 0.744	− 0.815	5.601	− 0.815	− 0.131	− 6.285	7.058	− 0.034	1.000
	Factor:		Senior	Depend	Povrate	HouseUni	DensPop	DensHous	sftp	sftr	sfspop	Sumd	
9	Coefficient:	− 435.397	− 3.009	− 2.329	− 1.352	0.637	− 1.046	85.88	0.382	18.396	− 12.432	X	1.000
	Factor:		Depend	Students	RvCChgHs	RvInsTTo	RvInsTUC	ExpCorre	ExpHous	ExpSWM	ExpSQMCO	X	
8	Coefficient:	12.470	0.018	− 5.958	0.495	0.02	− 0.029	0.019	−2.234E−4	0.001	X	X	1.000
	Factor:		msirtrlg	E900gove	E920mili	RevIGLoc	RvCChgHs	RvInsTTo	ExpHospC	ExpHous	X	X	
7	Coefficient:	− 3.591	− 0.374	0.019	− 0.023	− 0.034	0.143	1.156	− 0.401	X	X	X	1.000
	Factor:		E100asff	RevIGLoc	RvInsTTo	ExpHous	ExpSQMCO	PGU	DrsBI	X	X	X	
6	Coefficient:	4.644	− 0.009	0.065	− 0.095	0.13	− 0.009	− 0.177	X	X	X	X	0.998
	Factor:		FGRd	RvInsTER	CAInsT	PGU	RnDPlant	NumPDocM	X	X	X	X	
5	Coefficient:	5.466	0.005	1.178	− 0.005	0.838	− 0.559	X	X	X	X	X	0.997
	Factor:		FGRd	E610wstr	RvInsTER	EFNAILab	DrsDI	X	X	X	X	X	
4	Coefficient:	3.828	0.139	0.855	0.035	− 0.289	X	X	X	X	X	X	0.985
	Factor:		msirtrlg	E300cons	RvInsTUC	NumGrad	X	X	X	X	X	X	
3	Coefficient:	5.279	− 0.172	0.327	− 0.455	X	X	X	X	X	X	X	0.985
	Factor:		Saur	E300cons	E900info	X	X	X	X	X	X	X	
2	Coefficient:	2.688	0.201	− 0.204	X	X	X	X	X	X	X	X	0.938
	Factor:		E200mine	ExpSocIn	X	X	X	X	X	X	X	X	
1	Coefficient:	2.790	− 0.149	X	X	X	X	X	X	X	X	X	0.615
	Factor:		ExpSocIn	X	X	X	X	X	X	X	X	X	

6.3.2.3. Investigation 3: California Worst of Times Index Analysis Results

Table 6.12. Investigation 3: CA Worst of Times Index Analysis Results

Model Index/Factor		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	9.876	− 0.006	0.005	0.024	− 0.065	− 0.257	− 1.155	0.003	0.1	− 0.444	− 0.055	1.000
	Index/Factor:		FGRd	Debt	Demo	EF	EmpRate	House	Innov	SpendFed	TaxR	Union	
9	Coefficient:	13.529	− 0.012	− 0.111	− 0.359	− 0.002	− 1.434	0.117	− 0.054	− 0.553	− 0.088	X	1.000
	Index/Factor:		FGRd	EF	EmpRate	HighED	House	RevFed	SpendFed	TaxR	Union	X	
8	Coefficient:	10.383	− 0.004	− 0.009	0.058	− 0.181	− 1.139	− 0.011	0.071	− 0.179	X	X	1.000
	Index/Factor:		FGRd	Debt	Demo	EmpRate	House	Innov	Mig	TaxR	X	X	
7	Coefficient:	3.207	0.023	− 0.006	0.052	− 0.156	0.116	0.075	0.089	X	X	X	0.999
	Index/Factor:		EF	HighED	Mig	RevFed	SpendFed	TaxR	Union	X	X	X	
6	Coefficient:	3.061	0.004	− 0.126	0.015	− 0.104	7.5747E−4	0.01	X	X	X	X	0.980
	Index/Factor:		FGRd	ED	EF	House	RevSt	SpendFed	X	X	X	X	
5	Coefficient:	2.680	4.1138E−4	0.003	− 0.194	0.004	6.8729E−4	X	X	X	X	X	0.999
	Index/Factor:		CA	FGRd	ED	EF	RevSt	X	X	X	X	X	
4	Coefficient:	2.578	0.001	0.002	− 0.191	6.6993E−4	X	X	X	X	X	X	0.999
	Index/Factor:		FGRr	FGRd	ED	RevSt	X	X	X	X	X	X	
3	Coefficient:	2.579	4.2051E−4	0.003	− 0.187	X	X	X	X	X	X	X	0.998
	Index/Factor:		CA	FGRd	ED	X	X	X	X	X	X	X	
2	Coefficient:	3.650	− 0.117	7.0457E−4	X	X	X	X	X	X	X	X	0.929
	Index/Factor:		RevFed	RevSt	X	X	X	X	X	X	X	X	
1	Coefficient:	1.987	7.8566E−4	X	X	X	X	X	X	X	X	X	0.830
	Index/Factor:		RevSt	X	X	X	X	X	X	X	X	X	

Notation: The Couenne GAMS solver that is used to solve the many of mixed integer, nonlinear program test cases cannot solve the CA Worst of Times Index cases for five, four and two variables. The Baron solver is selected for these analyses.

6.3.2.4. Investigation 3: Texas Worst of Times Index Analysis Results

Table 6.13. Investigation 3: TX Worst of Times Index Analysis Results

Model Index/Factor		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	– 1182.535	32.299	1.945	16.849	– 83.303	7.992	– 0.103	100.000	– 24.469	7.504	28.885	1.000
	Index/Factor:		FGRr	Debt	Demo	ED	EF	EmpRate	House	Mig	RevFed	SpendFed	
9	Coefficient:	2.568	0.181	– 0.013	– 0.351	– 0.002	– 0.036	– 0.115	0.195	0.092	0.105	X	1.000
	Index/Factor:		FGRr	Debt	Demo	EF	EmpRate	Mig	RevFed	SpendFed	TaxR	X	
8	Coefficient:	1.942	0.08	– 0.342	– 0.03	– 0.037	0.469	– 0.301	0.00062016	0.13	X	X	1.000
	Index/Factor:		FGRr	Demo	EF	EmpRate	RevFed	SpendFed	SpendSt	TaxR	X	X	
7	Coefficient:	7.938	– 0.127	0.002	– 0.243	– 0.066	– 0.631	0.288	– 0.253	X	X	X	1.000
	Index/Factor:		FGRr	EF	EmpRate	HighED	House	SpendFed	TaxR	X	X	X	
6	Coefficient:	10.883	– 0.008	– 0.489	0.018	– 0.599	0.025	– 0.329	X	X	X	X	1.000
	Index/Factor:		FGRd	Demo	Employ	House	Innov	TaxR	X	X	X	X	
5	Coefficient:	7.618	– 0.406	0.127	0.02	– 0.992	0.348	X	X	X	X	X	0.999
	Index/Factor:		Demo	ED	HighED	House	SpendFed	X	X	X	X	X	
4	Coefficient:	8.411	– 0.42	0.028	– 1.07	0.365	X	X	X	X	X	X	0.988
	Index/Factor:		Demo	HighED	House	SpendFed	X	X	X	X	X	X	
3	Coefficient:	7.432	– 0.322	– 0.805	0.268	X	X	X	X	X	X	X	0.950
	Index/Factor:		Demo	House	SpendFed	X	X	X	X	X	X	X	
2	Coefficient:	9.634	– 0.304	– 0.643	X	X	X	X	X	X	X	X	0.831
	Index/Factor:		Demo	House	X	X	X	X	X	X	X	X	
1	Coefficient:	5.762	– 0.283	X	X	X	X	X	X	X	X	X	0.593
	Index/Factor:		Demo	X	X	X	X	X	X	X	X	X	

Notation: The Couenne GAMS solver that is used to solve the many of mixed integer, nonlinear program cases cannot solve the TX Worst of Times Index case for two variables. The Baron solver is selected for these analyses.

6.3.2.5. Investigation 3: California and Texas Worst of Times Factor/Index Analysis Conclusions

The top ten factors in California's worst economic times is a mixture of factors concerning poverty, housing, dependent population, taxes, and union density. Revenue and expense factors dominant the models as the study counts down the factors. The single most important factor is the Total Revenue from Insurance Trusts (RvInsTTo). This factor includes all the government revenue from unemployment compensation, employee retirement, workers' compensation and other insurance trusts.

Fiscal Golden Rule (FGR) appears to be the factor that occurs most often in California's worst economic times when examining the effects of indices. FGR appears in seven out of ten models. However, the influence of FGR on the California economy is mixed, appearing both positive and negative. California's worst economic times appears to be slightly influenced by the state's revenue (RevSt) and more influenced by the money it received from the federal government (RevFed).

Texas' top ten worst of times factors are identical to California's factors. The two models only differ by the coefficients. While government revenue and expense factors appear in several of the Texas optimization models, the results have less of a pattern of factors than in the California worst of times models. Employment in the mining industry appears in the model identifying the top two important factors but falls to social insurance expenditure as the single most important factor.

Texas' worst economic years show little patterns with the indices. Demographic (Demo) and housing (House) are the top two indices in times of Texas' lowest growth.

A final note on the index cases. A constraint on the upper and lower bound regression weights is placed on the model (i.e., ± 100). One or more indices would take on the value of the upper or lower bound. Increasing the constraint bounds to ± 1000 increases the coefficient on some variables to an equal amount. The r^2 also

increases slightly. Therefore, the best and worst index models should be used for identification of important indices and not for following generated models exactly.

6.4. Investigation 4: U. S. National Analyses

The purpose of this study is to examine the California and Texas state kVAM models in comparison to the national economic growth. The national investigation conducted in the same manner as the California and Texas investigations. As such, 44 forecasting/regression models are constructed in support of this goal.

The null hypothesis of this investigation, H_0, is that the models, factors, and indices important to U. S. national economic environment are the same for California and Texas.

6.4.1. U. S. National Data

The national investigations use the same variables as the California and Texas investigations to have an equitable comparison of the models. However, in the California and Texas investigations, some factors were removed from the analysis. For a complete listing of excluded variables and their reason for their exclusion from the national investigations see Volume 2.

Not all of the factors gathered for this investigation have an entry for a U. S. record. Therefore, to create a national economic database record, annual values for each of the fifty U. S. states are added together to create a national U. S. record for that year (U. S. territories are not included in this analysis). Some factors are better represented as an average instead of a summation to avoid distorting the meaning of the factor. For example, adding all the states' maximum state income rate (msirfrw) to create a U. S. record would not be a meaningful measure. In this case, the average of all maximum state income rates was calculated. For a record of how the national

economic database is constructed see Volume 2.

Almost all of the variables in the national economic database have missing values for some years. These missing values are interpolated or extrapolated using the same method as the California and Texas investigations. In addition, a small number of variables have years where data exists for some states and not for others. Data is extrapolated for the entire year in order to avoid distortion of the series in these cases. A complete list of charts and equations used to calculate missing data are provided in Volume 2.

6.4.2. Investigation 4: U. S. National Growth Factors

The following tables list the national factor time series results and the associated MLR cross-validation probabilities on the calculated coefficients.

6.4.2.1. Investigation 4: U. S. National Factor Analysis Results

Table 6.14. Investigation 4: U. S. Factor 5VAM Optimization Program Results

Model Name	Years	Region		β_0	β_1	β_2	β_3	β_4	β_5	r^2
US50	1965–2010	U. S.	Coefficient:	5.694	0.008	0.948	– 0.006	0.006	6.06E−4	0.466
			Factor:		StudentP.2	E20wsEmp.0	CAInsT.4	CAInsTUC.0	CAInsTUC.2	
			$P(\beta_i = 0)^{\dagger}$		0.595	0.000	0.613	0.664	0.812	
US26	1985–2010	U. S.	Coefficient:	5.844	7.4364E−5	– 0.107	– 0.007	– 2.786E−4	– 0.150	0.916
			Factor:		FGRd.1	Saur.0	ExpInsTU.0	CAInsTUC.0	DrsDI.3	
			$P(\beta_i = 0)$		0.021	0.000	0.123	0.447	0.021	
US11	2000–2010	U. S.	Coefficient:	5.300	1.7993E−4	6.3670E−5	– 0.121	0.001	0.823	0.989
			Factor:		FGRd.1	FGRd.2	Saur.0	RvInsTTo.1	EFNAISal.1	
			$P(\beta_i = 0)$		0.360	0.227	0.000	0.030	0.017	
US06	2005–2010	U. S.	Coefficient:	1.972	– 0.086	0.011	2.503	13.028	– 12.719	1.000
		Factor:		FGRr.4	FGRd.0	Pop.0	Pop.1	Pop.2		

Notation: Lag years are denoted numerically after "." at the end of the factor ID., e.g., FGRd.3 equates to Fiscal Golden Rule Difference factor lagged 3 years prior to the GSP of interest.

† Probability that the regression coefficient β_i is actually zero and does not contribute to explaining GSP. Determined from the t-statistic generated by a standard regression analysis of the variables selected by 5VAM. Since classic regression techniques require the number of observations to exceed the number of variables, the probabilities for US06 are not available.

6.4.2.2. US50 5VAM Model

The US50 5VAM model's associated linear equation is:

$$\sum GSP = 5.694 + 0.008\,x_{\text{StudentP.2}} + 0.948\,x_{\text{E20wsEmp.0}} - 0.006\,x_{\text{CAInsT.4}} + 0.006\,x_{\text{CAInsTUC.0}} + 6.06\text{E}{-4}\,x_{\text{CAInsTUC.2}} \tag{6.10}$$

where the following factors abbreviations are:

$\sum$GSP Sum of all U. S. State Gross State Products.

StudentP School Age Population Ratio. A state's total population age 5–22 that represent school age divided by the total population. This factor is calculated to derive the U. S. Model. The factor is lagged by two years in the model.

E20wsEmp Wage and Salary Employment. This factor represents a state's total number of people employed in wage or salary as reported by the Bureau of Economic Analysis. This factor is summed over all states to derive the U. S. Model. The factor is not lagged in the model.

CAInsT Current Assets Held in All Insurance Trust Funds. This factor represents the total amount of short-term assets that are held in all of the state's insurance trust funds as reported by the Census Bureau. This factor is summed over all states to derive the U. S. Model. The factor is lagged by four years in the model.

CAInsTUC Current Assets Held in Insurance Trust Funds Designated for Unemployment Compensation. This factor represents the total amount of short-term assets that are held in all of the state's insurance trust funds that are designated for unemployment compensation purposes as reported by the Census Bureau. This factor is summed over all states

to derive the U. S. Model. The CAInsTUC factor is selected twice in the model. The first occurrence is not lagged and the other is lagged by two years.

6.4.2.3. CA50, TX50, and US50 5VAM Discussion

The null hypothesis can be disproved when examining the results of the US50 model with the corresponding CA50 and TX50 models. The US50 model has one factor in common with California: Total Current Assets Associated with Insurance Trusts (CAInsT). Note, the U. S. national model has the same lag year for the CAInsT factor as California. The US50 model has no factors in common with Texas. Only one of the factors has a MLR computed zero probability that the coefficient is zero: the factor measuring the total wage and salary employment (E20wsEmp).

6.4.2.4. US26 5VAM Model

The US26 5VAM model's associated linear equation is:

$$\begin{aligned}\sum GSP = 5.844 &+ 7.4364\text{E}{-5}\, x_{\text{FGRd.1}} - 0.107\, x_{\text{Saur.0}} \\ &- 0.007\, x_{\text{ExpInsTU.0}} - 2.786\text{E}{-4}\, x_{\text{CAInsTUC.0}} - 0.150\, x_{\text{DrsDI.3}}\end{aligned} \tag{6.11}$$

where the following factors abbreviations are:

$\sum$GSP Sum of all U. S. State Gross State Products.

FGRd Fiscal Golden Rule - Difference Calculation. A state's total revenues minus total expenditures. This factor is calculated using the summed values of total revenues and total expenditures for all states to derive the U. S. model. The factor is lagged by one year in the model.

Saur State Annual Unemployment Rate. This factor represents the number unemployed as a percent of the labor force as reported to the Bureau

of Labor Statistics. This factor is averaged over all states to derive the U. S. model. The factor is not lagged in the model.

ExpInsTU Expenditures for Insurance Trusts Designated for Unemployment Compensation. This factor includes cash payments to beneficiaries but "excludes cost of administering insurance trust activities, state contributions of programs administered by the state or by the federal government, intergovernmental expenditure for support of locally administered employee-retirement systems, and noncontributory gratuities paid to former employees [27] as reported to the Census Bureau. This factor is summed over all states to derive the U. S. model. The factor is not lagged in the model.

CAInsTUC Current Assets Held in Insurance Trust Funds Designated for Unemployment Compensation. This factor represents the total amount of short-term assets that are held in all of the state's insurance trust funds that are designated for unemployment compensation purposes as reported by the Census Bureau. This factor is summed over all states to derive the U. S. model. The factor is not lagged in the model.

DrsDI Number Of Doctorate Recipients By Doctorate Institution (Science and Engineering). The factor measures a state's annual number of earned doctorate degrees in science and engineering as reported by the National Science Foundation's (NSF) Survey of Earned Doctorates/Doctorate Records. This factor is summed over all states to derive the U. S. model. The factor is lagged by three years in the model.

6.4.2.5. CA26, TX26, and US26 5VAM Discussion

The null hypothesis can be again be disproved in the US26 model. The US26 model has no factors in common with the CA26 model and only two factors in common with TX26 model: the state unemployment rate (Saur) and the factor measuring current assets in insurance trusts for unemployment compensation (CAInsTUC). while the annual unemployment rate factor is common with the TX26 model, the US26 model select the factor with a different lag period. The probabilities that the coefficients could be zero are all under 0.123 except the factor concerning current assets in unemployment compensation trusts (CAInsTUC), which is at 0.447.

6.4.2.6. US11 5VAM Model

The US11 5VAM model's corresponds to the following linear equation:

$$\begin{aligned}\sum GSP = 5.300 + 1.7993\text{E}{-4}\, x_{\text{FGRd.1}} + 6.3670\text{E}{-5}\, x_{\text{FGRd.2}} \\ - 0.121\, x_{\text{Saur.0}} + 0.001\, x_{\text{RvInsTTo.1}} + 0.823\, x_{\text{EFNAISal.1}}\end{aligned} \tag{6.12}$$

where the following factors abbreviations are:

$\sum$GSP Sum of all U. S. State Gross State Products.

FGRd Fiscal Golden Rule - Difference Calculation. A state's total revenues minus total expenditures. This factor is calculated using the summed values of total revenues and total expenditures for all states to derive the U. S. model. The FGRd factor is selected twice in the model. One occurrence is lagged one year and the other occurrence is lagged two years.

Saur State Annual Unemployment Rate. This factor represents the number unemployed as a percent of the labor force as reported to the Bureau of

Labor Statistics. This factor is averaged over all states to derive the U. S. model. The factor is not lagged in the model.

RvInsTTo Total Revenue from Insurance Trusts. Defined by the U. S. Census Bureau as "[a]mounts derived from contributions, assessments, premiums, or payroll "taxes" required of employers, employees, and others to finance compulsory or voluntary social insurance programs operated by the public sector; and any earnings on assets held or invested by such funds [28]." The five major categories of insurance trust systems are: 1) Federal (Social Security and Medicare, Veteran's Life Insurance, and Railroad Retirement) , 2) Public Employee Retirement, 3) Unemployment Compensation, 4) Workers' Compensation Insurance, and 5) Other State Government Insurance Systems. This factor is summed over all states to derive the U. S. model. The factor is lagged one year in the model.

EFNAISal Economic Freedom National Index – Sales Taxes Collected As a Percentage of GDP (2D). The factor is a measure of economic freedom as described by the Fraser Institute [67]. This factor is averaged over all states to derive the U. S. model. The factor is lagged one year in the model.

6.4.2.7. CA11, TX11, and US11 5VAM Discussion

The US11 economic model disproves the null hypothesis. The US11 model has only one factor in common with the CA11 optimization model, Fiscal Golden Rule – Difference (FRGd) lagged one year. The US11 model also only has one factor in common with the TX11 optimization model, the annual state unemployment rate (Saur). The probabilities that the coefficients could be zero are all under 0.36.

6.4.2.8. US06 5VAM Model

The US06 5VAM model's corresponds to the following linear equation:

$$\begin{aligned}\sum GSP = 1.972 - 0.086\, x_{\text{FGRr.4}} + 0.011\, x_{\text{FGRd.0}} \\ + 2.503\, x_{\text{Pop.0}} + 13.028\, x_{\text{Pop.1}} - 12.719\, x_{\text{Pop.2}}\end{aligned} \tag{6.13}$$

where the following factors abbreviations are:

$\sum$GSP Sum of all U. S. State Gross State Products.

FGRr Fiscal Golden Rule - Ratio Calculation. A state's total revenues divided by total expenditures. This factor is calculated using the summed values of total revenues and total expenditures for all states to derive the U. S. model. The factor is lagged four years in the model.

FGRd Fiscal Golden Rule - Difference Calculation. A state's total revenues minus total expenditures. This factor is calculated using the summed values of total revenues and total expenditures for all states to derive the U. S. model. The factor is not lagged in the model.

Pop Population. Sum of All U. S. states' population as reported by the U. S. Census. The Pop factor is selected three times in the model. One occurrence is not lagged, another occurrence is lagged one year, and the final occurrence is lagged two years.

6.4.2.9. CA06, TX06, and US06 5VAM Discussion

The generated US06 national model could not completely disprove the null hypothesis. The factors for the US06 model are exactly the same as Texas and only vary by the beta coefficients. The US06 model differs in several variables from the California CA06 model. MLR computed coefficient probabilities are unavailable for

the US06 model as the number of observations need exceed the number of variables in classical regression techniques.

6.4.3. Investigation 4: U. S. National Best of Times / Worst of Times Analyzes

The final national study examines the U. S. cases of the top ten associated factors and indices during the nation's best of times and worst of times of economic growth. Two data sets are created based on the best and worst annual national GSP percent change. The best and worst economic years selected are:

- U. S. Best of Times — 1968,1972,1973,1976,1977,1978,1979,1980,1981,1984
- U. S. Worst of Times — 1963,1991,1993,2001,2002,2003,2007,2008,2009,2010

Ten models are executed for each data set starting from ten factors and indices to the single most important factor and index as in California and Texas investigations. The results are then compared to the performance of California and Texas during their best and worst economic times. As with previous investigations, factors and indices are removed from the U. S. best of times analyses when they are either zero or did not change within five significant digits in the years selected. Worst of times analysis did not have the same data issue, as was the case for the California and Texas investigations. For a complete listing of the factors and indices removed from the Best of Times Analyses see Volume 2.

The null hypothesis of this investigation, H_0, is like all other investigations: the factors and indices important to all the states are the same as the factors and indices important to California and Texas.

Below is a list of tables with the results of the U. S. National Best of Times / Worst of Times investigations.

6.4.3.1. Investigation 4: U. S. Best of Times Factor Analysis Results

Table 6.15. Investigation 4: U. S. Best of Times Factor Analysis Results

Model Factors		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	584.835	– 4.663	4.096	– 100.000	0.087	1.099	1.543	– 13.877	31.165	– 0.815	– 27.391	1.000
	Factor:		Poverty	HouseUni	sftr	E60nonfa	E70farmp	E800serv	BachPerc	VCTND	DrsDI	NumPDocM	
9	Coefficient:	3.692	0.380	0.166	0.129	0.151	0.373	0.401	– 0.063	– 0.017	– 0.185	X	0.990
	Factor:		sftp	sftr	E100asff	E200mine	E400manu	VCTND	DrsDI	NumGrad	NumPDocM	X	
8	Coefficient:	8.675	0.756	0.843	0.143	– 0.452	– 0.086	– 0.132	– 0.243	0.007	X	X	1.000
	Factor:		Dependr	E80nonfa	E100asff	E910fedc	govprivR	ExpCoCO	EFNAITak	DrsBI	X	X	
7	Coefficient:	– 6.873	0.478	2.487	– 0.068	0.212	– 0.016	0.068	– 0.061	X	X	X	0.985
	Factor:		sftp	sftr	Saur	E100asff	RnDTotOb	NumPDoc	NumPDocM	X	X	X	
6	Coefficient:	11.087	0.747	– 0.109	– 0.506	– 0.421	0.029	– 0.104	X	X	X	X	1.000
	Factor:		E20wsEmp	E40propE	HSPercen	EFNAIGov	PGU	NumPDocM	X	X	X	X	
5	Coefficient:	8.179	– 0.522	1.098	– 0.083	– 0.159	– 0.240	X	X	X	X	X	0.999
	Factor:		Students	E610wstr	E920mili	E932govl	EFNAILab	X	X	X	X	X	
4	Coefficient:	23.938	2.558	0.866	– 16.329	– 0.117	X	X	X	X	X	X	0.996
	Factor:		msirtrw	E20wsEmp	RvInsTER	EFNAIMin	X	X	X	X	X	X	
3	Coefficient:	8.816	0.763	– 0.244	– 0.101	X	X	X	X	X	X	X	0.981
	Factor:		E20wsEmp	EFNAITak	DrsDI	X	X	X	X	X	X	X	
2	Coefficient:	8.441	0.836	– 0.260	X	X	X	X	X	X	X	X	0.874
	Factor:		E20wsEmp	EFNAITak	X	X	X	X	X	X	X	X	
1	Coefficient:	13.334	– 0.632	X	X	X	X	X	X	X	X	X	0.599
	Factor:		BachPerc	X	X	X	X	X	X	X	X	X	

6.4.3.2. Investigation 4: U. S. Worst of Times Factor Analysis Results

Table 6.16. Investigation 4: U. S. Worst of Times Factor Analysis Results

Model Factors		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	– 4.334	0.065	– 1.452	0.146	0.706	0.342	1.660	0.229	0.366	– 0.082	0.675	1.000
	Factor:		Saur	RvCChgOG	RvInsTTo	ExpNRCO	ExpHous	ExpSQMCO	ExpOGovA	ExpInsTU	CAInsTUC	CAOBond	
9	Coefficient:	9.322	0.248	0.253	– 0.003	– 0.519	– 0.010	0.015	– 0.369	3.375	– 1.202	X	1.000
	Factor:		Saur	RvCChgOG	RvInsTTo	ExpHous	ExpOGovA	ExpInsTU	DebtLTRe	CACashSe	CAInsT	X	
8	Coefficient:	2.408	0.033	– 0.119	– 0.039	0.002	0.062	0.041	0.008	– 0.083	X	X	1.000
	Factor:		msirtrlg	E200mine	RvCChgHs	ExpEd	ExpHospC	ExpHous	PGP	NumPDocM	X	X	
7	Coefficient:	4.780	0.022	– 0.190	0.121	0.003	0.098	– 0.026	– 0.176	X	X	X	1.000
	Factor:		RevTot	RevIGLoc	RvCChgMI	RvInsTER	ExpSWM	CAInsT	NumGrad	X	X	X	
6	Coefficient:	3.438	3.438	– 0.039	0.261	– 0.032	7.9644E−5	– 0.119	X	X	X	X	1.000
	Factor:		FGRr	Saur	RvTaxGen	RvCChgMI	RvInsTTo	NumPDocM	X	X	X	X	
5	Coefficient:	3.630	– 0.612	0.910	0.041	0.497	– 0.037	X	X	X	X	X	1.000
	Factor:		Students	E932govl	RevTot	EFNAIGen	EFNAISal	X	X	X	X	X	
4	Coefficient:	2.629	– 0.642	0.219	0.295	0.019	X	X	X	X	X	X	0.997
	Factor:		StudentP	CAOOther	EFNAIMin	VCTND	X	X	X	X	X	X	
3	Coefficient:	3.355	– 0.437	0.288	– 0.106	X	X	X	X	X	X	X	0.994
	Factor:		Students	sfspop	sfspop	X	X	X	X	X	X	X	
2	Coefficient:	4.396	– 0.419	1.907	X	X	X	X	X	X	X	X	0.981
	Factor:		E900info	EFNAIGov	X	X	X	X	X	X	X	X	
1	Coefficient:	3.559	– 0.393	X	X	X	X	X	X	X	X	X	0.527
	Factor:		DrsBI	X	X	X	X	X	X	X	X	X	

Notation: The Couenne GAMS solver is used to solve the all of mixed integer, nonlinear Worst of Times models.

6.4.3.3. Investigation 4: U. S. Best of Times Index Analysis Results

Table 6.17. Investigation 4: U. S. Best of Times Index Analysis Results

Model Index/Factor		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	9683.208	91.885	– 38.007	2.802	8.106	– 7.097	– 10.205	69.674	– 100.000	– 0.043	– 0.290	1.000
	Index/Factor:		CA	FGRd	Demo	ED	House	RevFed	RevSt	SpendSt	TaxR	Union	
9	Coefficient:	– 1.272E4	6.213	– 53.560	2.885	8.676	– 7.889	– 6.207	100.000	– 15.959	– 0.258	X	0.996
	Index/Factor:		CA	FGRd	Demo	ED	House	RevFed	RevSt	SpendSt	Union	X	
8	Coefficient:	7078.990	31.747	0.357	0.983	– 1.620	– 1.903	– 32.375	– 0.074	– 0.282	X	X	0.941
	Index/Factor:		CA	Demo	ED	House	RevSt	SpendSt	TaxR	Union	X	X	
7	Coefficient:	2206.018	8.482	0.175	0.055	0.293	– 8.607	– 12.566	2.873	X	X	X	0.963
	Index/Factor:		FGRd	Demo	Employ	House	RevFed	RevSt	SpendFed	X	X	X	
6	Coefficient:	283.643	– 0.113	0.122	– 0.202	0.051	– 1.557	0.067	X	X	X	X	0.758
	Index/Factor:		CA	Demo	ED	Employ	RevSt	TaxR	X	X	X	X	
5	Coefficient:	465.328	0.136	– 0.179	0.054	– 2.683	0.071	X	X	X	X	X	0.958
	Index/Factor:		Demo	ED	Employ	RevSt	TaxR	X	X	X	X	X	
4	Coefficient:	– 0.932	– 0.370	0.049	1.030	– 0.125	X	X	X	X	X	X	0.966
	Index/Factor:		ED	Employ	SpendFed	Union	X	X	X	X	X	X	
3	Coefficient:	9.572	– 0.523	0.044	0.268	X	X	X	X	X	X	X	0.863
	Index/Factor:		ED	Employ	House	X	X	X	X	X	X	X	
2	Coefficient:	11.049	– 0.416	0.034	X	X	X	X	X	X	X	X	0.840
	Index/Factor:		ED	Employ	X	X	X	X	X	X	X	X	
1	Coefficient:	13.175	– 0.368	X	X	X	X	X	X	X	X	X	0.590
	Index/Factor:		ED	X	X	X	X	X	X	X	X	X	

6.4.3.4. Investigation 4: U. S. Worst of Times Index Analysis Results

Table 6.18. Investigation 4: U. S. Worst of Times Index Analysis Results

Model Index/Factor		β_0	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	β_9	β_{10}	r^2
10	Coefficient:	– 50.088	– 0.049	0.316	0.078	0.866	– 1.303	0.051	– 0.055	– 1.666	3.086	0.105	1.000
	Index/Factor:		CA	FGRr	Debt	Demo	ED	EF	Innov	RevFed	SpendFed	SpendSt	
9	Coefficient:	5.097	0.032	0.011	– 0.258	– 0.034	1.2960E−4	– 0.051	4.7011E−4	0.026	– 0.084	X	1.000
	Index/Factor:		FGRr	Debt	Demo	EF	RevSt	SpendFed	SpendSt	Taxes	TaxR	X	
8	Coefficient:	21.274	21.274	0.120	– 0.092	– 0.035	0.047	– 0.698	– 0.148	0.093	X	X	1.000
	Index/Factor:		Demo	EF	Employ	HighED	Innov	RevFed	SpendFed	TaxR	X	X	
7	Coefficient:	13.480	0.084	0.026	– 0.031	– 3.021	0.002	0.001	0.120	X	X	X	0.999
	Index/Factor:		EF	Employ	EmpRate	House	RevSt	SpendSt	TaxR	X	X	X	
6	Coefficient:	6.254	0.015	−4.712E−5	– 0.246	– 0.010	– 0.007	7.8171E−4	X	X	X	X	0.985
	Index/Factor:		FGRr	FGRd	Demo	EF	HighED	RevSt	X	X	X	X	
5	Coefficient:	9.916	– 0.315	– 0.016	0.057	– 0.181	0.012	X	X	X	X	X	0.983
	Index/Factor:		Demo	Employ	Mig	SpendFed	Taxes	X	X	X	X	X	
4	Coefficient:	5.825	– 0.136	– 0.027	– 0.032	0.015	X	X	X	X	X	X	0.996
	Index/Factor:		Demo	EmpRate	HighED	TaxR	X	X	X	X	X	X	
3	Coefficient:	7.059	– 0.220	– 0.023	0.062	X	X	X	X	X	X	X	0.982
	Index/Factor:		Demo	HighED	Mig	X	X	X	X	X	X	X	
2	Coefficient:	6.895	– 0.302	0.007	X	X	X	X	X	X	X	X	0.965
	Index/Factor:		Demo	Innov	X	X	X	X	X	X	X	X	
1	Coefficient:	7.410	– 0.333	X	X	X	X	X	X	X	X	X	0.824
	Index/Factor:		Demo	X	X	X	X	X	X	X	X	X	

Notation: The Couenne GAMS solver is used to solve the all of mixed integer, nonlinear U. S. Worst of Times program models.

6.4.3.5. Investigation 4: U. S. National Best of Times / Worst of Times Analysis Conclusions

The U. S. National Best and Worst of Times Factor investigations disproves the null hypothesis. California had only two factors that were in common with the top ten U. S. best of times factors and no factors in common with the top three factors. Texas had no factors in common with any of U. S. best of times models. U. S. economic growth during the best economic years is most often associated with employment and education factors. Surprisingly, factors associated with higher education most often have a negative coefficient in the economic growth models. Factors associated to the worst U. S. economic growth years are associated with government revenue and spending. Nine of the top ten factors during the down years are associated to government revenue and spending. Higher education factors are again negatively related to GSP growth.

The U. S. National Best and Worst of Times Index investigations could not completely disprove the null hypothesis. California had seven indices and Texas had six indices in common with the top ten U. S. model during nation's best of times. However, this commonality quickly drops out as the models counts down to the single most important index. No state had any factors in common with the top three indices. The Worst of Times analysis was similar with California having four and Texas having seven of the top ten indices in common. California had no indices in common with the top three indices. Texas only had one index in common with the top ten U. S. Worst of times model: the Demographics index which measures population. Further, when the states do have factors in common with the corresponding national model, the coefficients in the state models are oppositely signed as much as 50% of the time.

The U. S. index investigations had the same issue as the state index investigations:

one or more indices taking on the value of the upper or lower bound constraint. Therefore, the best and worst index models should be used for identification of important indices and not for following generated models exactly.

6.5. Comment On Growth Factor Analysis

A naive alternative approach to kVAM in determining the key drivers would be to simply use descriptive statistics and find the top-ranked factors based on correlation to GSP. This assumes that a collection of variables that, individually, have a relationship with GSP, would be also be good together for forecasting. These values would also be quite simple to calculate.

If this is the case, then the kVAM regression models would contain some combination of these highly-correlated factors in their optimized forecast equations. This theory can be easily tested by comparing the top correlation-ranked factors with the factors selected by kVAM under the various scenarios in the study.

A quick analysis of this naive approach is provided in Volume 2 for all time frame scenarios. This analysis shows that, for long-term (1960–2010), only one factor is selected for the corresponding models from the top 15 correlated factors: the government/private employment ratio (govprivR) for California and the employment in the mining, oil, and gas industry (E200mine) for Texas. In the medium-term (1985), for California, one of the top 15 factors appeared in the 5VAM models: employment in the construction industry (E300cons). Where Texas had two of the top 15 factors appear in its 5VAM model: state unemployment rate (Saur) and employment in the private sector (E90priva). In the near term (2000-2010) scenario, California had only 2 of the top 15 factors appear in the 5VAM model: current assets-Insurance Trust (CAInsT) and migration out of the state as reported by the United Van Lines study (UVLSOut). Conversely, Texas only had one of the top 15 variables appear in the

5VAM model for that period: state unemployment rate (Saur). In the short-term (2005–2010) scenarios, none of the top 15 highly correlated factors appeared in the 5VAM models for either state. Since the our optimized models are the best possible k variable regressions by design, this result means that the naive approach would overlook the most important combination of factors and should not be used for such an analysis.

This would void such a simplistic approach to determining what factors are most important and justify the use of the kVAM approach because it yields more accurate and supportable results.

The next chapter will discuss final comments on state economic growth research study and final kVAM conclusions. Suggestions for future research will also be discussed.

Chapter 7

STUDY CONCLUSIONS AND FUTURE RESEARCH

Economic growth contributes to the well-being and increases the living standards of all citizens. Researching and understanding the underlying factors of growth helps policymakers develop sound economic strategies to sustain and grow their economies. It is the intent of this research to contribute to that cause. The specific goals of this research are:

- Identify and contrast the key factors that have driven economic growth in the two states that make up constitute 21.5% of the U. S. economy: California and Texas.
- Develop a easy-to-use model to assist policymakers, practitioners, and researchers with identifying growth factors when designing economic policies

These goals have been met as described in the following sections.

7.1. Contributions of the Research

After reviewing the economic research on factors for economic growth, this research collected over 460 different factors from 1960 to 2013 and assembled them into the database STATEBASE to examine U. S. state economic growth. The data was regularized for analysis by interpolating or extrapolating missing data and making each annual time-series observation stationary.

Once the STATEBASE data was prepared for analysis, 132 kVAM forecasting regression models were developed in four different investigations:

Investigation 1: California and Texas Growth Factors Constructs and analyzes 8 forecasting/regression models to compare state growth factors over four different time frames (scenarios):

- 51-year: long-term analysis
- 26-year: medium-term analysis
- 11-year: near-term analysis
- 6-year: short-term analysis

Investigation 2: California and Texas Best of Times Analysis Constructs and analyzes 40 forecasting regression models of the two state's best economic growth years using kVAM.

Investigation 3: California and Texas Worst of Times Analysis Constructs and analyzes 40 forecasting regression models of the two state's worst economic growth years using kVAM.

Investigation : U. S. National Analyses Constructs and analyzes 44 forecasting regression models using kVAM to compare against the corresponding derived models for California and Texas.

The development of the least-squares k-variable Adjudication Methodology (kVAM) provides state administrators, policymakers, practitioners, and researchers with the means to create straight-forward models. Easy-to-use models that help policymakers make economic decisions based on data rather than guesswork. The flexible nature of kVAM helps practitioners test their intuition and provides a "sandbox" to practice different policies and examine the effects on GSP for the benefit of their citizens.

The next section will summarize the insights derived from the 132 models that were constructed for California, Texas, and the nation.

7.2. Final Economic Conclusions

Applying kVAM to California, Texas, and the national data revealed some unexpected outcomes. A briefly discussed in chapter 6, the top correlated factors were often not selected for the GSP regression model, with the exception of the some employment industry, unemployment, and migration factors. Another unexpected result is that the ratio of government employment to private employment is always negatively related to GSP and appears with negative coefficients in the regression models as government employment rises in comparison to private employment.

The regression model results indicate that California and Texas have economies driven by completely different factors. The California 50-year growth model is influenced by the proportion of government employment to private employment and expense factors. The 50-year Texas model is primarily centered on employment in the mining, oil, and gas industries and current asset factors. The 26-year models continues to support the differing economies between the two states. The CA26 model for California is focused on construction employment, taxes, spending, and revenue from employee retirement insurance trust. Where the TX26 model for Texas is concentrated on employment and revenue from employee retirement insurance trust. The CA11 model reveals the California economic growth is tied to spending, unemployment trust, and migration out of the state. In TX11 model, Texas growth is related to unemployment, workman's compensation trusts and spending on secondary education. The CA06 model shows California primarily centering on spending, while the TX06 model is principally centered on the state of assets (current asset factors and the percentage of pensions funded). All of the California and Texas economic models differ significantly from the U. S. national models generated in the same time periods. The U. S. economy is generally modeled by FGR, unemployment, and education.

The factors for the two states also differ when the states are performing at their

best in terms of economic growth. The best years for Texas, unsurprisingly, can be attributed to the state's employment in the mining industry, which includes the oil and gas industry. The best years for California can best be represented by the state's percentage of employees who are union members (Sumd). The U. S. national best-of-times model is significantly different than those for California or Texas. Most U. S. factors are employment, economic freedom, education, and the ratio between government and private employment. The single important factor for GSP in best of times U. S. national model is the percentage of bachelor's degrees. Surprisingly, it is negatively related to GSP.

In the worst-of-times factor models, the two states continue to differ. California's worst-of-times factors are centered around taxes and spending, with some appearances of the percentage of high-school-graduates factor. California's worst of times can be estimated most by the total amount of revenue obtained from insurance trusts. Texas' worst-of-times are centered around employment and spending. The single most representative factor of Texas GSP growth is the amount of spending on social insurance administration, followed closely by employment in the mining/oil industry. The U. S. national worst of times model is concentrated on taxes, spending, and education. Again, education is negatively associated with GSP. The single most representative factor for the U. S. national model during the worst economic growth years is the negatively associated number of doctorate recipients by doctorate institution (DrsBI).

Finally, the best-of-times / worst-of-times index studies reveal both expected and unexpected patterns in modeling GSP Growth. The FGR factors for California have positive coefficients in the best of times and negative in the worst of times. Closer examination of the data shows that in California's best of times, FGR was positive (revenues exceeds spending) but it California's worst of times FGR is negative (spending exceeds revenues).

Similar to the factor model, California's single most representative index for GSP growth is the Union index. The single most representative index in California's worst of times is the Revenues by State Sources Index. The index that most represents Texas' best of times is the Economic Freedom Index, followed closely by Migration and Taxes indices. The Taxes Index always has a negative coefficient in the Texas best of times model. In Texas' worst times, Demographic and Housing indices are the most dominant, with the Demographic Index being the single most representative of GSP growth.

The U. S. national index models are not similar to either state. U. S. best of times index model has a negative coefficient on the Education Index similar to the U. S. factor models. The U. S. worst of times index model has a negative coefficient on the Demographic index.

The final section below will suggest other possible areas of research using the STATEBASE database.

7.3. Suggestions for Future Research

Factor models on state economic growth can provide state policy administrators with valuable information. This research is just one sample. Further models can be generated examine GSP questions. For example:

- Does state regions have patterns for GSP growth?
- How does California and Texas compare with small states?
- Does political deadlock help or hinder economic growth?
- Why is education so often negatively associated to GSP growth?
- Insurance trusts appear in many of the models. A closer examination is warranted.

- kVAM models minimize a squared error function. Do the factors change with a different objective function?

These are but a few of the questions eager to be answered. STATEBASE will be made available to those interested in exploring these and other questions to help policymakers grow their state economies for the benefit of their citizens and the nation.

Appendix A

APPENDIX - Removed Variables From Economic Database for Praxis Analysis

The following table is a complete list of variables removed from the State Economic Database for the Praxis analysis.

Variables	Reason For Removal
Area (TotalArea, WaterArea, LandArea)	Uncontrollable Variables
Political Composition (gr, gd, gi, gdfl, go, GovCat, houset, housed, houser, senatet, senated, senater, LCD, LCR, SCD, SCR)	Recent Pew Research Center study has shown that ideology overlaps significantly over political party affiliation [30]. Party affiliation metrics are an uncontrolled variable without an ideology metric to represent policies. Since no state political ideology metric was found, political factors were removed from this study.
PIncome	Alternate proxy for dependent variable
Sepw	Alternate proxy for dependent variable
Industry Employment (184 variables)	Chose to use category employment industry metrics verses detailed industry employment metrics to get general trend of industry sector impact on GSP.
Right-to-Work (RTWPubli, RTWPriva)	Does not vary over the time series for the two states.
Firms & Establishments (28 variables)	The number of firms & establishments employment can be considered an input or an output of economic growth. Removed to simplify the analysis.
No Information (RvChgEdL, RvCChgAi, RvCChgPa, RvCChgWT, RvCChgSe, RvCChgSW, RvCChSpe, RvTaxPIn, RvTaxCIn, RvUtilTo, RvUtilWa, RvUtilEl, RvUtilGa, RvUtilTr, RvLiqSto, RvInsTOt, ExpAir, ExpInsTO, TotExpUt, ExpElemC, ExpMiscC, ExpUtilC, ExpUtilW, ExpUtilE, ExpUtilG, ExpUtilT, ExpSew, ExpSewCO, ExpLiqSt, CAInsTMi, DebtST)	Variables were 0, had data for only one state, or had little to no variability over the analysis time period.

Observation Threshold (ERevIGFe, WRevIGFe, TRevIGSt, ERevIGSt, WRevIGSt, RvTaxPCI, RvTaxPro, RvCChgOT, ExpIGFed, ExpIGSta, ExpIGLoc, ExpCOEq, ExpInsBR, ExpCurEx, ExpFunCO, ExpWelfV, ExpPark, ExpWater, ExpTansi, ExpFire, ExpWelfC, DebtLTFF, DebtLTNo, DebtLTEd, DebtLTUt, DebtLTOt, DebtExhC, CAERetCa, CAERetSe, CAERetFe,CAERetSt,CAERetNo)	Variables with fewer than 12 (23.5 %) observations between 1960 - 2010.
msirfrw, msirsrw, msirfrlg, msirsrlg, msirfrmd, msirsrmd, msirtrmd	Maximum State Income Rate, Federal Wages (msirfw) is in corporated in the Maximum State Income Rate–Total Rate, Wages (msirtrw). Texas has no state income tax. The number of income tax measures used was minimized to reduce duplication of data while not losing the information on the state differences.

Appendix B

APPENDIX - Index Variables

Eighteen summary indices are created to examine the affect of factor categories have on GSP growth. The factors in a category are added together after they are made stationary. The index thus represents how the overall category moves in the time series. The following is the list of factor variables included in each index.

Current Assets (CA)

CACashSe, CAInsT, CAInsTUC, CAInsTER, CAInsTWC, CAOTInsT, CAOOffse, CAOBond, CAOOther

Debt (Debt)

DebtTot, DebtLT, DebtLTPr, DebtLTIs, DebtLTRe

Demographic (Demo)

Pop, Youth, Senior, Depend, Students, StudentP, Dependr, Poverty, Povrate

Education (ED)

HSPercen, BachPerc

Econ Freedom (EF)

EFNAI, EFNAISiz, EFNAIGen, EFNAITra, EFNAISSP, EFNAITak, EFNAITot, EFNAITop, EFNAIInd, EFNAISal, EFNAILab, EFNAIMin, EFNAIGov, EFNAIUni

Employment (Employ)

E10totEm, E20wsEmp, E40propE, E50farmp, E60nonfa, E70farmp, E80nonfa, E90priva, E100asff, E200mine, E300cons, E400manu, E900info, E610wstr, E620rtra, E700fina, E1000fin, E800serv, E1200pro, E1600hea, E1700art, E900gove, E910fedc, E920mili, E930gove, E931govs, E932govl

Employment Rate and Gov Private Density (EmpRate)

Saur, govprivR

Higher Education (HighED)

DrsBI, DrsDI, NumGrad, Num1stGr, NumPDoc

Housing (House)

HouseUni, DensPop, DensHous

Innovation (Innov)

VCTIA, VCTND, PGU, PGD, PGP, PGA

Migration (Mig)

UVLSIn, UVLSOut

Revenue-Federal Taxes (RevFed)

sftr, TRevIGFe

Revenue-State Taxes (RevSt)

RevTot, RevGen, RevIGTot, RevIGLoc, RevOwn, TotRvTax, RvTaxSal, RvTaxGen, RvTaxSel, RvTaxFue, RvTaxMLi, RvTaxAlc, RvTaxTob, RvTaxUti, RvTaxOSa, RvTaxOth, RvChgTot, RvCChgTo, RvChgEdT, RvCChgEd, RvCChgHp, RvCChgHw, RvCChgNR, RvChgPR, RvCChgHs, RvCChgO, RvCChgMT, RvCChgMI, RvCChgSO, RvCChgOG, RvInsTTo, RvInsTUC, RvInsTER, RvInsTWC

Spending-Federal Taxes (SpendFed)

sftp, sfspop, sfsptd

Spending-State Taxes (SpendSt)

ExpTot, ExpIGTot, ExpCurOp, ExpCOTot, ExpCOCon, ExpCOOth, ExpSubsi, ExpInt, ExpInsT, ExpExSal, ExpFunTo, ExpDGE, ExpDGECO, ExpDGEOt, ExpEd, ExpEdCO, ExpHEd, ExpHEdCO, ExpElem, ExpOEd, ExpLib, ExpWel, ExpWelfV, ExpWelfO, ExpHosp, ExpHospC, ExpHealt, ExpSocIn, ExpVetSv, ExpHwy, ExpHwyCO, ExpPolic, ExpCorre, ExpCoCO, Ex-

pInspe, ExpNR, ExpNRCO, ExpPR, ExpPRCO, ExpHous, ExpSWM, ExpSQMCO, ExpFinAd, ExpLegal, ExpBlgs, ExpOGovA, ExpInt2, ExpUnall, ExpInsTT, ExpInsTU, ExpInsTE, ExpInsWC

Taxes (Taxes)

TotRvTax, RvTaxSal, RvTaxGen, RvTaxSel, RvTaxFue, RvTaxMLi, RvTaxAlc, RvTaxTob, RvTaxUti, RvTaxOSa, RvTaxOth

Tax Rates (TaxR)

msirtrw, msirtrlg, sltaxbur

Union (Union)

Sucd, Sumd

Appendix C

APPENDIX - Removed Variables From Economic Database for Praxis Analysis

The following is a complete list of variables or indices removed from the Best of Times analyses as they were either zero or did not change for the years selected. Worst of Times analyses did not have this issue for any of the years selected

C.1. CA Best of Times Variables Removed

FGRr, msirtrw, msirtrlg, E1000fin, E1200pro, E1600hea, E1700art, PenFundP, RevTot, RevGen, RevIGTot, TRevIGFe, RevIGLoc, RevOwn, TotRvTax, RvTaxSal, RvTaxGen, RvTaxSel, RvTaxMLi, RvTaxTob, RvTaxUti, RvTaxOSa, RvTaxOth, RvChgTot, RvCChgTo, RvChgEdT, RvCChgEd, RvCChgHp, RvCChgHw, RvCChgNR, RvChgPR, RvCChgO, RvCChgMT, RvCChgMI, RvCChgSO, RvCChgOG, RvInsTUC, RvInsTWC, ExpTot, ExpIGTot, ExpCurOp, ExpCOTot, ExpCOCon, ExpCOOth, ExpSubsi, ExpInt, ExpInsT, ExpExSal, ExpFunTo, ExpDGE, ExpDGECO, ExpDGEOt, ExpEd, ExpEdCO, ExpHEd, ExpHEdCO, ExpOEd, ExpLib, ExpWel, ExpWelfV, ExpWelfO, ExpHosp, ExpHospC, ExpHwy, ExpHwyCO, ExpPolic, ExpCorre, ExpInspe, ExpNR, ExpNRCO, ExpPR, ExpHous, ExpSWM, ExpFinAd, ExpLegal, ExpBlgs, ExpOGovA, ExpInt2, ExpUnall, ExpInsTT, ExpInsTU, ExpInsTE, ExpInsWC, DebtTot, DebtLT, DebtLTPr, DebtLTIs, DebtLTRe, CACashSe, CAInsT, CAInsTER, CAInsTWC, CAOTInsT, CAOOffse, CAOOther, EFNAITop, VCTIA

C.2. TX Best of Times Variables Removed

FGRr, msirtrw, E1000fin, E1200pro, E1600hea, E1700art, PenFundP, RevTot, RevGen, RevIGTot, TRevIGFe, RevIGLoc, RevOwn, TotRvTax, RvTaxSal, RvTaxGen, RvTaxSel, RvTaxMLi, RvTaxAlc, RvTaxTob, RvTaxUti, RvTaxOSa, RvTaxOth, RvChgTot, RvCChgTo, RvChgEdT, RvCChgEd, RvCChgHp, RvCChgHw, RvCChgNR, RvChgPR, RvCChgO, RvCChgMT, RvCChgMI, RvCChgSO, RvCChgOG, RvInsTTo, RvInsTUC, RvInsTWC, ExpTot, ExpIGTot, ExpCurOp, ExpCOTot, ExpCOCon, ExpCOOth, ExpSubsi, ExpInt, ExpInsT, ExpExSal, ExpFunTo, ExpDGE, ExpDGECO, ExpDGEOt, ExpEd, ExpEdCO, ExpHEd, ExpHEdCO, ExpOEd, ExpLib, ExpWel, ExpWelfV, ExpWelfO, ExpHosp, ExpHospC, ExpHealt, ExpHwy, ExpHwyCO, ExpPolic, ExpCorre, ExpInspe, ExpNR, ExpNRCO, ExpPR, ExpPRCO, ExpHous, ExpFinAd, ExpLegal, ExpOGovA, ExpInt2, ExpUnall, ExpInsTT, ExpInsTU, ExpInsTE, ExpInsWC, DebtTot, DebtLT, DebtLTPr, DebtLTIs, DebtLTRe, CACashSe, CAInsT, CAInsTER, CAInsTWC, CAOTInsT, CAOOffse, CAOOther, EFNAITop, VCTIA

C.3. US Best of Times Variables Removed

FGRr, E1000fin, E1200pro, E1600hea, E1700art, RevTot, RevGen, RevIGTot, TRevIGFe, RevIGLoc, RevOwn, TotRvTax, RvTaxSal, RvTaxGen, RvTaxSel, RvTaxFue, RvTaxMLi, RvTaxAlc, RvTaxTob, RvTaxUti, RvTaxOSa, RvTaxOth, RvChgTot, RvCChgTo, RvChgEdT, RvCChgEd, RvCChgHp, RvCChgHw, RvCChgNR, RvChgPR, RvCChgHs, RvCChgO, RvCChgMT, RvCChgMI, RvCChgSO, RvCChgOG, RvInsTUC, ExpTot, ExpIGTot, ExpCurOp, ExpCOTot, ExpCOCon, ExpCOOth, ExpSubsi, ExpInt, ExpInsT, ExpExSal, ExpFunTo, ExpDGE, ExpDGECO, ExpDGEOt, ExpEd, ExpEdCO, ExpHEd, ExpHEdCO, ExpElem, ExpOEd, ExpLib,

ExpWel, ExpWelfV, ExpWelfO, ExpHosp, ExpHospC, ExpHealt, ExpSocIn, ExpVetSv, ExpHwy, ExpHwyCO, ExpPolic, ExpCorre, ExpInspe, ExpNR, ExpNRCO, ExpPR, ExpPRCO, ExpHous, ExpSWM, ExpSQMCO, ExpFinAd, ExpLegal, ExpBlgs, ExpOGovA, ExpInt2, ExpUnall, ExpInsTT, ExpInsTU, ExpInsTE, ExpInsWC, DebtTot, DebtLT, DebtLTPr, DebtLTIs, DebtLTRe, CACashSe, CAInsT, CAInsTER, CAInsTWC, CAOTInsT, CAOOffse, CAOBond, CAOOther, EFNAITop, EFNAIInd, VCTIA

C.4. CA Best of Times Indices Removed

FGRr, Debt

C.5. TX Best of Times Variables Removed

FGRr, Debt

C.6. US Best of Times Variables Removed

FGRr, Debt, Taxes

REFERENCES

[1] Ahluwalia, M. S. Inequality, Poverty and Development. *Journal of Development Economics 3*, 4 (1976), 307 – 342.

[2] Alesina, A., and Rodrik, D. Distributive Politics and Economic Growth. *Quarterly Journal of Economics 109*, 2 (1994), 465 – 490. Note: Working paper was circulated in 1991.

[3] Ali, A., Brush, C., Castro, J. D., Lange, J., Lyons, T., Meyskens, M., Onochie, J., Phinisee, I., Rogoff, E., Suhu, A., and Whitman, J. Global Entrepreneurship Monitor: National Entrepreneurship Assessment - USA 2010 Executive Report. http://www.gemconsortium.org/docs/download/667, 2011.

[4] Ashby, N. J., Bueno, A., McMahon, F., and Martinez, D. Economic Freedom of North America 2011. http://www.freetheworld.com/efna2011/Complete-Publication-CA.pdf, Frazier Institute, 2011.

[5] Ashby, N. J., Bueno, A., McMahon, F., and Martinez, D. Economic Freedom of North America 2012. http://www.freetheworld.com/efna2011/Complete-Publication-CA.pdf, Frazier Institute, 2012.

[6] Ashby., N. J., and Sobel, R. S. Income Inequality and Economic Freedom in the U.S. States. *Public Choice 134*, 3/4 (March 2008), 329–346.

[7] Atkinson, R. D., and Andes, S. The 2010 State New Economy Index: Benchmarking Economic Transformation in the States. http://www.kauffman.org/uploadedfiles/snei_2010_report.pdf, November 2010.

[8] Banerjee, A., and Duflo, E. Inequality and Growth: What Can the Data Say? Working Paper 00-09, Massachusetts Institute of Technology: Department of Economics, June 2000. Note: Also published as Banerjee, Abhijit V. and Esther Duflo. "Inequality And Growth: What Can The Data Say?," Journal of Economic Growth, 2003, v8(3, Sep), 267-299.

[9] Barone, M. The Eyes of Texas Are Sparkling In The 2010 Census. http://washingtonexaminer.com/politics/2011/03/eyes-texas-are-sparkling-2010-census, Washington Examiner, March 25 2011.

[10] Barr, R. S. Multiple Linear Regression (MLR) Tool. http://lyle.smu.edu/~barr/ortoolkit/mlr.html, 2016.

[11] Barro, R. J. *Determinants of Economic Growth: A Cross-Country Empirical Study*. MIT Press, 1997.

[12] Barro, R. J. Human Capital and Growth. *American Economic Review 91*, 2 (2001), 12 – 17.

[13] Benhabib, J., and Spiegel, M. M. The Role of Human Capital in Economic Development: Evidence From Aggregate Cross-Country Data. *Journal of Monetary Economics 34*, 2 (October 1994), 143–174.

[14] Billger, S. M., and Goel, R. K. Do Existing Corruption Levels Matter in Controlling Corruption?: Cross-Country Quantile Regression Estimates. *Journal of Development Economics 90*, 2 (2009), 299 – 305.

[15] Blankenau, W. F. Public Schooling, College Subsidies and Growth. *Journal of Economic Dynamics and Control 29*, 3 (2005), 487 – 507.

[16] Blankenau, W. F., and Simpson, N. B. Public Education Expenditures and Growth. *Journal of Development Economics 73*, 2 (2004), 583 – 605.

[17] Blankenau, W. F., Simpson, N. B., and Tomljanovich, M. Public Education Expenditures, Taxation, and Growth: Linking Data to Theory. *American Economic Review 97*, 2 (May 2007), 393–397.

[18] Bower, M. Testimony Before The Joint Economic Committee On Hearings of the Subcommittee On Economic Progress of Economic Education. http://www.mocavo.com/Congressional-Record-Volume-113-16/397036/274, Congressional Record, April 1967.

[19] Bower, M. Why Economic Understanding is Important to Everybody. *McKinsey Quarterly 4*, 2 (1967), 29 – 34.

[20] Bruns, A. State Of The States. *Site Selection 56*, 1 (2011), 57 – 108.

[21] Bureau of Economic Analysis. Advance 2010 and Revised 1963-2010 GDP-by-State Statistics. http://www.bea.gov/newsreleases/regional/gdp_state/2011/gsp0611.htm, 2011. Note: This is an electronic document. Date of publication: June 7, 2011. Date retrieved: June 7, 2011. Date last modified: [Date unavailable].

[22] Bureau of Economic Analysis. GSP News Release. [Electronic document], June 10 2015. BEA 15?25.

[23] Bureau of Economic Analysis. National Income and Product Accounts Tables. http://bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=3&isuri=1&904=2000&903=1&906=q&905=2010&910=x&911=0, 2015. Note: This is an electronic document. Date of publication: June 7, 2011. Date retrieved: December 23, 2015. Date last modified: [Date unavailable].

[24] Bureau of Labor Statistics. Labor Force Participation Rate. http://data.bls.gov/timeseries/LNS11300000, Dec 2014.

[25] Carlino, G., and Mills, L. Convergence and the U.S. states: A Time-Series Analysis. *Journal of Regional Science 36*, 4 (1996), 597.

[26] Castelló, A., and Doménech, R. Human Capital Inequality and Economic Growth: Some New Evidence. *Economic Journal 112*, 478 (2002), C187.

[27] Census, U. S. Federal, State, & Local Governments - Definitions. https://www.census.gov/govs/definitions/, 2016.

[28] Census, U. S. Government Finance and Employment Classification Manual : Description of Tax Categories. https://www.census.gov/govs/www/class_ch7_tax.html, 2016.

[29] Census, U. S. Government Finance and Employment Classification Manual : Descriptions Of Functional Categories. https://www.census.gov/govs/www/classfunc81.html, 2016.

[30] Center, P. R. Political Polarization in the American Public: How Increasing Ideological Uniformity and Partisan Antipathy Affect Politics, Compromise and Everyday Life. http://www.people-press.org/files/2014/06/6-12-2014-Political-Polarization-Release.pdf, June 12 2014. Note: This is an electronic document. Date of publication: June 12, 2014. Date retrieved: June 12, 2014. Date last modified: [Date unavailable].

[31] Chatterjee, S., and Turnovsky, S. J. Foreign Aid and Economic Growth: The Role of Flexible Labor Supply. *Journal of Development Economics 84*, 1 (2007), 507 – 533.

[32] Chi, K. S., and Hofmann, D. J. State Business Incentives:Trends and Options for the Future (Second Edition). www.csg.org, 2000.

[33] Clarke, G. R. More Evidence on Income Distribution and Growth. *Journal of Development Economics 47*, 2 (1995), 403 – 427.

[34] Cole, J. H. The Contribution of Economic Freedom to World Economic Growth, 1980–99. http://www.cato.org/pubs/journal/cj23n2/cj23n2-3.pdf, Cato Institute, 2003.

[35] Cole, J. H., and Lawson, R. A. Handling Economic Freedom in Growth Regressions: Suggestions for Clarification. *Econ Journal Watch 4*, 1 (2007), 71 – 78.

[36] Compton, R. A., Giedeman, D. C., and Hoover, G. A. Panel Evidence on Economic Freedom and Growth in the United States. *European Journal of Political Economy 27*, 3 (2011), 423 – 435.

[37] Corporation for Enterprise Development (CFED). 1999 Development Report Card for the States: Economic Benchmarks for State and Corporate Decisionmakers. http://cfed.org/knowledge_center/research/DRC/, 1998. Note: This is an electronic document. Date of publication: November 30, 1998. Date retrieved: June 7, 2011. Date last modified: February 18, 2003.

[38] Cox, M. W., and Alm, R. What Americans Demand From State Governments. http://www.investors.com/NewsAndAnalysis/Article/577874/201107111832/What-Americans-Demand-From-State-Governments.htm, 2011. Note: This is an electronic

document. Date of publication: July 11, 2011. Date retrieved: July 11, 2011. Date last modified: [Date unavailable].

[39] Cunningham, L. Texas? New P3 Toll Road Project Open to Traffic. http://www.infrainsightblog.com/2012/10/articles/tollroadsturnpikesmanaged-lane/texas-new-p3-toll-road-project-open-to-traffic, October 2012. Infra Insight.

[40] Cătăneţ, D. N., and Cătăneţ, A. Facts About Determinants of Economic Growth. *Annals of the University of Oradea, Economic Science Series Vol. 17 Issue 2* (2008), p61–67.

[41] de Haan, J., and Sturm, J.-E. On the Relationship Between Economic Freedom and Economic Growth. *European Journal of Political Economy 16*, 2 (2000), 215 – 241.

[42] Deininger, K., and Squire, L. A New Data Set Measuring Income Inequality. *The World Bank Economic Review 10*, 3 (1996), pp. 565–591.

[43] Deininger, K., and Squire, L. New Ways of Looking at Old Issues: Inequality and Growth. *Journal of Development Economics 57*, 2 (1998), 259.

[44] Deller, S., Stallmann, J. I., and Amiel, L. The Impact of State and Local Tax and Expenditure Limitations on State Economic Growth. *Growth and Change 43*, 1 (2012), 56 – 84.

[45] Denison, E. F. *The Sources of Economic Growth in the United States and the Alternatives Before Us*. Committee for Economic Development. Supplementary paper, no. 13. Committee for Economic Development (New York), 1962.

[46] DeVore, C. Texas v. California: The Real Facts Behind The Lone Star State's Miracle. *Forbes* (July 2013).

[47] Dickens, C. *A Tale of Two Cities*. James Nisbet & Company, Limited, 1902.

[48] Dietz, F. Technology Development Drives State Economies. *Mechanical Engineering 120*, 4 (1998), 36.

[49] Donlon, J. P. Best/Worst States for Business (2011). http://chiefexecutive.net/best-worst-states-for-business, 2011. Note: This is an electronic document. Date of publication: May 3, 2011. Date retrieved: June 2, 2011. Date last modified: [Date unavailable].

[50] Donlon, J. P. Best/Worst States for Business (2011): Survey Methodology. http://chiefexecutive.net/bestworst-states-for-business-survey-methodology, 2011. Note: This is an electronic document. Date of publication: May 3, 2011. Date retrieved: June 2, 2011. Date last modified: [Date unavailable].

[51] Donlon, J. P. CEOs Grade The States (2011). http://chiefexecutive.net/best-worst-states-for-business, 2011. Note: This is an electronic document. Date of publication: May 3, 2011. Date retrieved: June 2, 2011. Date last modified: [Date unavailable].

[52] Donlon, J. P. Best/Worst States for Business (2012): Another Triumph for Texas. http://chiefexecutive.net/best-worst-states-for-business-2012, May 2012. Note: This is an electronic document. Date of publication: May 02, 2012. Date retrieved: May 14, 2012. Date last modified: [Date unavailable].

[53] Donlon, J. P. How CEOs Grade the Best/Worst States: 2012. http://chiefexecutive.net/how-ceos-grade-the-states-2012, May 2012. Note: This is an electronic document. Date of publication: May 2, 2012. Date retrieved: May, 14, 2012. Date last modified: [Date unavailable].

[54] Doucouliagos, C. Publication Bias in the Economic Freedom and Economic Growth Literature. *Journal of Economic Surveys 19*, 3 (2005), 367 – 387.

[55] Egerton, M., and Laycock, P. Some Criticisms of Stochastic Shrinkage and Ridge Regression, with Counterexamples. *Technometrics 23*, 2 (1981), 155–159.

[56] Fahrmeir, L., Kneib, T., Lang, S., and Marx, B. *Regression: Models, Methods and Applications*. Springer Berlin Heidelberg, 2013.

[57] Farr, W. K., Lord, R. A., and Wolfenbarger, J. L. Economic Freedom, Political Freedom, and Economic Well-being: A Causality Analysis. *CATO Journal 18*, 2 (1998), 247–262.

[58] Fields, G. S. Changes in Poverty and Inequality in Developing Countries. *World Bank Research Observer 4* (1989), 167–185.

[59] Forbes, K. J. A Reassessment of the Relationship Between Inequality and Growth. *American Economic Review 90*, 4 (2000), 869 – 887.

[60] Freedom House. Freedom in the World 2011: The Annual Survey of Political Rights and Civil Liberties. http://www.freedomhouse.org/images/File/fiw/FIW_2011_Booklet.pdf, 2011.

[61] Friedman, M. *Capitalism and Freedom*, fortieth anniversary edition ed. University Of Chicago Press; 1 edition (November 15, 2002), 1961.

[62] Galor, O., and Tsiddon, D. The Distribution of Human Capital and Economic Growth. *Journal of Economic Growth 2*, 1 (1997), 93 – 124.

[63] Garrett, T. A., and Rhine, R. M. Economic Freedom and Employment Growth in U.S. States. *Review (00149187) 93*, 1 (2011), 1 – 18.

[64] Glomm, G., and Ravikumar, B. Public Versus Private Investment in Human Capital: Endogenous Growth and Income Inequality. *Journal of Political Economy 100*, 4 (1992), 818.

[65] Governing.com. Governing Data: Bankrupt Cities, Municipalities List and Map. http://www.governing.com/gov-data/municipal-cities-counties-bankruptcies-and-defaults.html, 2014.

[66] Gwartney, J. Institutions, Economic Freedom, and Crosscountry Differences in Performance. *Southern Economic Journal 75*, 4 (2009), 937 – 956.

[67] Gwartney, J., Lawson, R. A., and Hall, J. Economic Freedom of the World: 2011 Annual Report. http://www.freetheworld.com/2011/reports/world/EFW2011_complete.pdf, Economic Freedom Network, 2011.

[68] Hanson II, J. R. Proxies In The New Political Economy: Caveat Emptor. *Economic Inquiry 41*, 4 (2003), 639 – 646.

[69] Heckelman, J. C. Proxies for Economic Freedom: A Critique of the Hanson Critique. *Southern Economic Journal 72*, 2 (2005), 492 – 501.

[70] Heckelman, J. C., and Stroup, M. D. Which Economic Freedoms Contribute to Growth? *Kyklos 53*, 4 (2000), 527.

[71] Henderson, J. Building the Rural Economy With High-Growth Entrepreneurs. *Economic Review (01612387) 87*, 3 (2002), 45. Note: Federal Reserve Bank of Kansas City.

[72] Holstein, W. J. Best/Worst States for Business (2012): What Keeps Texas on Top. http://chiefexecutive.net/what-keeps-texas-on-top, May 2012. Note: This is an electronic document. Date of publication: May 02, 2012. Date retrieved: May 14, 2012. Date last modified: [Date unavailable].

[73] Investopedia.com. Golden Rule. http://www.investopedia.com/terms/g/golden-rule.asp, 2016.

[74] Jolliffe, I. *Principal Component Analysis (Springer Series in Statistics)*. Springer, 2002.

[75] Karabegovic, A., Samida, D., Schlegel, C. M., and McMahon, F. North American Economic Freedom: An Index of 10 Canadian Provinces and 50 US States. *European Journal of Political Economy 19*, 3 (2003), 431.

[76] Knapp, T. R., and Sawilowsky, S. S. Constructive Criticisms of Methodological and Editorial Practices. *Journal of Experimental Education 70*, 1 (2001), 65.

[77] Kreft, S. F., and Sobel, R. S. Public Policy, Entrepreneurship, and Economic Freedom. *CATO Journal 25*, 3 (2005), 595 – 616.

[78] Kuznets, S. Economic Growth and Income Inequality. *American Economic Review 45*, 1 (1955), 1.

[79] Kuznets, S. *Modern Economic Growth; Rate, Structure, and Spread.* Yale University Press, 1966.

[80] Laffer, A. B., Moore, S., and Williams, J. Rich States, Poor States: Alec Laffer State Economic Competitiveness Index; 4th Edition. www.alec.org, 2011. ISBN: 978-0-9822315-8-6.

[81] Lucas Jr., R. E. On the Mechanics of Economic Development. *Journal of Monetary Economics 22*, 1 (1988), 3 – 42.

[82] McNichol, E. Out of Balance: Cuts in Services Have Been States? Primary Response to Budget Gaps, Harming the Nation?s Economy. http://www.cbpp.org/cms/?fa=view&id=3747, April 2012.

[83] Miller, T., and Holmes, K. R. 2011 Index of Economic Freedom. http://www.heritage.org/index/download, The Heritage Foundation, Jan 2011.

[84] Minniti, M. Entrepreneurial Activity and Economic Growth. *Global Business and Economics Review 1*, 1 (June 1999), 31?42.

[85] Office of the Governor Economic Development & Tourism. Texas Economic Overview. [Electronic Document], Jun 2015.

[86] Papanek, G. F., and Kyn, O. The Effect On Income Distribution Of Development, The Growth Rate And Economic Strategy. *Journal of Development Economics 23*, 1 (1986), 55–65.

[87] Pendse, G. V. A Tutorial on the LASSO and the "Shooting Algorithm". [Electronic Document], February 8 2011. P.A.I.N Group, Imaging and Analysis Group (IMAG), McLean Hospital, Harvard Medical School. MATLAB code for estimating a LASSO model along with example data can be downloaded from: http://www.gautampendse.com/software/lasso/webpage/lasso_shooting.html.

[88] Perotti, R. Growth, Income Distribution, and Democracy: What the Data Say. *Journal of Economic Growth 1* (1996), 149–187.

[89] Persson, T., and Tabellini, G. Is inequality harmful for growth? *American Economic Review 84*, 3 (1994), 600. Note: This paper was earlier circulation under the title "Politico-Economic Equilibrium Growth: Theory and evidence".(1990).

[90] Powell, B. Economic Freedom and Growth: The Case of the Celtic Tiger. *CATO Journal 22*, 3 (2003), 431.

[91] Pritchett, L. Where Has All the Education Gone? *The World Bank Economic Review,, Policy Research Working Paper 14*, 3 (1997), 367–391.

[92] Reynolds, P. D., Hay, M., and Camp, S. M. Global Entrepreneurship Monitor: 1999 Executive Report. http://www.gemconsortium.org/docs/download/221, 1999.

[93] Romer, C., and Bernstein, J. The Job Impact of the American Recovery and Reinvestment Plan. http://otrans.3cdn.net/45593e8ecbd339d074_l3m6bt1te.pdf, 2009. Note: This is an electronic document. Date of publication: January 9, 2009. Date retrieved: June 22, 2011. Date last modified: [Date unavailable].

[94] Saint-Paul, G., and Verdier, T. Education, Democracy and Growth. *Journal of Development Economics 42*, 2 (1993), 399.

[95] Schumpeter, Joseph, A. *Capitalism, Socialism, and Democracy.* Harper, 1942.

[96] Smith, A. *An Inquiry into the Nature and Causes of the Wealth of Nations*, 5th edition (1904), library of economics and liberty ed. London: Methuen & Co., Ltd., 1776.

[97] Smith, G., and Campbell, F. A Critique of Some Ridge Regression Methods. *Journal of the American Statistical Association 75*, 369 (1980), 74–81.

[98] Sorens, P., and Ruger, W. Freedom in the 50 States: An Index of Personal and Economic Freedom. http://mercatus.org/freedom-50-states-2011, 2011. Note: This is an electronic document. Date of publication: June 7, 2011. Date retrieved: June 12, 2011. Date last modified: [Date unavailable].

[99] Spath, H. *Mathematical Algorithms for Linear Regression (Computer Science and Scientific Computing).* Academic Pr, 1991.

[100] Sturm, J.-E., and de Haan, J. How Robust Is the Relationship Between Economic Freedom and Economic Growth? *Applied Economics 33*, 7 (2001), 839 – 844.

[101] Taylor, M. Cal Facts. http://www.lao.ca.gov/reports/2013/calfacts/calfacts_010213.aspx, January 2013.

[102] Temple, J. A Positive Effect of Human Capital on Growth. *Economics Letters 65*, 1 (1999), 131 – 134.

[103] Texas Comptroller of Public Accounts. Revenue by Category. [Electronic Document], 2015.

[104] Tibshirani, R. Regression analysis and selection via the Lasso. *Journal of the Royal Statistical Society Series B (Methodological) 58*, 1 (1996), 267?288.

[105] United States Congress, 111th Congress. American Recovery and Reinvestment Act Of 2009, Public Law 111 - 5. http://www.gpo.gov/fdsys/pkg/PLAW-111publ5/content-detail.html, 2009. Note: This is an electronic document. Date of publication: January 27, 2009. Date retrieved: [Date unavailable]. Date last modified: February 16, 2009.

[106] United States Department of Commerce, and Bureau of Economic Analysis. National Income and Product Accounts Tables. http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1, 2011. Note: This is an electronic document. Date of publication: [Date unavailable]. Date retrieved: June 22, 2011. Date last modified: May 26, 2011.

[107] United States Department of Labor, and Bureau of Labor Statistics. February 2009 Unemployment Rate Percent, 16 Years and over. http://data.bls.gov/timeseries/LNS14000000, 2011. Note: This is an electronic document. Date of publication: [Date unavailable]. Date retrieved: June 22, 2011. Date last modified: June 22, 2011.

[108] United States Federal Reserve. Definition of Economic Growth. http://www.federalreserveeducation.org/glossary/, 2011. Note: This is an electronic document. Date of publication: Jan 11, 2012. Date retrieved: Jan 11, 2012. Date last modified: [Date unavailable].

[109] US Census Bureau. Population Estimates. [Electronic Document].

[110] Wall Street Journal. Lone Star Jobs Surge: The Texas Model Added 37% of All Net U.S. Jobs Since the Recovery Began. http://online.wsj.com/article/SB10001424052702304259304576375480710070472.html, June 1 2011. Note: This is an electronic document. Date of publication: June 10, 2011. Date retrieved: June 10, 2011. Date last modified: [Date unavailable].

[111] Wall Street Journal. California Ugly. http://online.wsj.com/article/SB10001424052702304070304577398560693030608.html?KEYWORDS=california+ugly, May 2012. Note: This is an electronic document. Date of publication: May 14, 2012. Date retrieved: May 14, 2012. Date last modified: May 14, 2012.

[112] Watkins, B. If California Is Doing So Great, Why Are So Many Leaving? http://www.foxandhoundsdaily.com/2010/12/8366-if-california-is-doing-so-great-why-are-so-many-leaving/, December, 14 2010.

[113] Woo, S., and Carlton, J. California Requests Billions From U.S. http://online.wsj.com/article/SB126297948893221947.html, Jan 9, 2010. Note: This is an electronic document. Date of publication: January 9, 2009. Date retrieved: June 22, 2011. Date last modified: [Date unavailable].

[114] Zacharakis, A. L., Bygrave, W. D., and Shepherd, D. A. Global Entrepreneurship Monitor: National Entrepreneurship Assessment - USA 2000 Executive Report. http://www.gemconsortium.org/docs/download/658, 2000.

DATA SOURCES

[Data1] BachPerc. Bachelors Degree Or Higher. http://www.census.gov/hhes/socdemo/education/data/census/half-century/tables.html, U. S. Census Bureau, Table 6a. Percent of the Total Population 25 Years and Over with a Bachelor's Degree or Higher by Sex, for the United States, Regions, and States: 1940 to 2000. Note: This is an electronic source. Dates Retrieved: [2011.08.03], [2012.09.23].

[Data2] CACashSe. Current Assets–Cash and Security Holdings-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data3] CAERetCa. Current Assets–Employee Retirement Funds-Cash and Deposits. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data4] CAERetFe. Current Assets–Employee Retirement Funds-Securities-Federal. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data5] CAERetNo. Current Assets–Employee Retirement Funds-Securities-Nongov. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data6] CAERetSe. Current Assets–Employee Retirement Funds-Securities-Securities. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data7] CAERetSt. Current Assets–Employee Retirement Funds-Securities-State and Local Gov. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data8] CAInsT. Current Assets–Insurance Trust Funds. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data9] CAInsTER. Current Assets–Insurance Trust Funds-Employee Retirement. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data10] CAInsTMi. Current Assets–Insurance Trust Funds-Miscellaneous. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data11] CAInsTUC. Current Assets–Insurance Trust Funds-Unemployment Compensation. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data12] CAInsTWC. Current Assets–Insurance Trust Funds-Workers Compensation. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data13] CAOBond. Current Assets–Other-Bond Funds. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data14] CAOOffse. Current Assets–Other-Offsets To Debt. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data15] CAOOther. Current Assets–Other-Other. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data16] CAOTInsT. Current Assets–Other Than Insurance Trust Funds-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data17] DebtExhC. Debt–Exhibit–Change In Total Debt During Year. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data18] DebtLT. Debt–Debt Outstanding-Long-Term Debt Outstanding. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data19] DebtLTEd. Debt–Debt Outstanding-Long-Term Debt-Education. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data20] DebtLTFF. Debt–Debt Outstanding-Long-Term Debt Outstanding-Full Faith and Credit. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data21] DebtLTIs. Debt–Long-Term Debt Issued. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data22] DebtLTNo. Debt–Debt Outstanding-Long-Term Debt Outstanding-Nonguaranteed. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data23] DebtLTOt. Debt–Debt Outstanding-Long-Term Debt-Other. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data24] DebtLTPr. Debt–Debt Outstanding-Long-Term Debt-Public Debt For Private Purposes. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data25] DebtLTRe. Debt–Long-Term Debt Retired. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data26] DebtLTUt. Debt–Debt Outstanding-Long-Term Debt-Utilities. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data27] DebtST. Debt–Debt Outstanding-S-T Debt Outstanding. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data28] DebtTot. Debt–Debt Outstanding-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data29] DensHous. Housing Unit Density Estimate Per Sq. Mi. (2000), U. S. Census Bureau, houseUnits/LandArea.

[Data30] DensPop. Population Density Estimate Per Sq. Mi. (2000), U. S. Census Bureau, Pop/LandArea.

[Data31] Depend. Dependent Population–Ages 0-18 and 65+, U. S. Census Bureau, Youth+Senior.

[Data32] Dependr. Dependency Population Ratio, U. S. Census Bureau, Depend/Pop.

[Data33] DrsBI. Number Of Doctorate Recipients By Baccalaureate Institution. https://webcaspar.nsf.gov/index.jsp?subHeader=WebCASPARHome, WebCASPAR, NSF Survey of Earned Doctorates/Doctorate Records File. Note: This is an electronic source. Dates Retrieved: [2012.08.07].

[Data34] DrsDI. Number Of Doctorate Recipients By Doctorate Institution. https://webcaspar.nsf.gov/index.jsp?subHeader=WebCASPARHome, WebCASPAR, NSF Survey of Earned Doctorates/Doctorate Records File. Note: This is an electronic source. Dates Retrieved: [2012.08.07].

[Data35] E1000FIN. 1000 - Finance and Insurance.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data36] E1001MON. 1001 - Monetary Authorities - Central Bank.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data37] E1002CRE. 1002 - Credit Intermediation and Related Activities.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data38] E1003STO. 1003 - Securities, Commodity Contracts, Investments.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data39] E1004INS. 1004 - Insurance Carriers and Related Activities. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data40] E1005FUN. 1005 - Funds, Trusts, and Other Financial Vehicles. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data41] E100ASFF. 100 - Agricultural Services, Forestry, Fishing, and Hunting (NAICS 11). http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data42] E100FFOT. 100 - Forestry, Fishing, and Related Activities. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data43] E101FLEM. 101 - Forestry and Logging. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data44] E102FHTE. 102 - Fishing, Hunting, and Trapping. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data45] E103AFSA. 103 - Agriculture and Forestry Support Activities. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data46] E10TOTEM. 10 - Total Employment. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Full-time and part-time jobs are counted at equal weight. Employees, sole proprietors, and active partners are included, but unpaid family workers and volunteers are not included.

[Data47] E1100REA. 1100 - Real Estate and Rental and Leasing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data48] E1102REN. 1102 - Rental and Leasing Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to

identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data49] E1103LES. 1103 - Lessors Of Nonfinancial Intangible Assets. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data50] E110ASEM. 110 - Agricultural Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data51] E1200PRO. 1200 - Professional, Scientific, and Technical Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data52] E120FORF. 120 - Forestry and Fishing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data53] E121FORE. 121 - Forestry.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data54] E122FISH. 122 - Fishing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data55] E1300MGT. 1300 - Management Of Companies and Enterprises.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data56] E1400ADM. 1400 - Administrative and Waste Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data57] E1401ADM. 1401 - Administrative and Support Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data58] E1402WAS. 1402 - Waste Management and Remediation Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data59] E1600HEA. 1600 - Health Care and Social Assistance. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data60] E1601AMB. 1601 - Ambulatory Health Care Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data61] E1602HOS. 1602 - Hospitals. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data62] E1603NUR. 1603 - Nursing and Residential Care Facilities. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data63] E1604SOC. 1604 - Social Assistance. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data64] E1700ART. 1700 - Arts, Entertainment, and Recreation. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data65] E1701PER. 1701 - Performing Arts and Spectator Sports. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data66] E1703AMU. 1703 - Amusement, Gambling, and Recreation. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data67] E1800ACC. 1800 - Accommodation and Food Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data68] E1801ACC. 1801 - Accommodation. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data69] E1802FOO. 1802 - Food Services and Drinking Places. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data70] E1900OTH. 1900 - Other Services, Except Public Administration. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data71] E1901REP. 1901 - Repair and Maintenance. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data72] E1902PER. 1902 - Personal and Laundry Services.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data73] E200MINE. 200 - Mining.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data74] E202MINE. 202 - Mining Except Oil and Gas).
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data75] E203MINE. 203 - Support Activities For Mining.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data76] E20WSEMP. 20 - Wage and Salary Employment. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Full and Parttime, non Farm Jobs.

[Data77] E210MMIN. 210 - Metal Mining. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data78] E220CMIN. 220 - Coal Mining. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data79] E230OILG. 230 - Oil and Gas Extraction. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary,

Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data80] E240NONM. 240 - Nonmetallic Minerals, Except Fuels. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data81] E300CONS. 300 - Construction. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data82] E300UTIL. 300 - Utilities. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to

identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data83] E310GENC. 310 - General Building Contractors. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data84] E320HEVC. 320 - Heavy Construction Contractors. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data85] E330SPEC. 330 - Special Trade Contractors. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data86] E400MANU. 400 - Manufacturing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data87] E401BUIL. 401 - Construction Of Buildings.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data88] E402HEVC. 402 - Heavy and Civil Engineering Construction.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data89] E40PROPE. 40 - Proprietors Employment.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary,

Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Proprietors employment includes both nonfarm proprietors and farm proprietors.

[Data90] E410DURG. 410 - Durable Goods. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data91] E413LUMW. 413 - Lumber and Wood Products. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data92] E417FURN. 417 - Furniture and Fixtures. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data93] E420SCGE. 420 - Stone, Clay, and Glass Products. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data94] E423PRIM. 423 - Primary Metal Industries. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data95] E426FABM. 426 - Fabricated Metal Product Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data96] E429INDM. 429 - Industrial Machinery and Equipment. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data97] E432ELEC. 432 - Electronic and Other Electric Equipment. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data98] E435MOTO. 435 - Motor Vehicles and Equipment. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data99] E438OTRA. 438 - Other Transportation Equipment. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data100] E441INST. 441 - Instruments and Related Products.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data101] E444MISC. 444 - Miscellaneous Manufacturing Industries.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data102] E447ORDN. 447 - Ordnance.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data103] E450NOND. 450 - Nondurable Goods Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data104] E453FOOD. 453 - Food and Kindred Products. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data105] E456TOBA. 456 - Tobacco Products. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data106] E459TEXT. 459 - Textile Mill Products. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data107] E462APPA. 462 - Apparel Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data108] E465PAPE. 465 - Paper and Allied Products. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data109] E468PRIN. 468 - Printing and Publishing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data110] E471CHEM. 471 - Chemical Manufacturing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data111] E474PETC. 474 - Petroleum and Coal Products.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data112] E477RUBB. 477 - Rubber and Miscellaneous Plastics Products.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data113] E480LEAT. 480 - Leather and Leather Products Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data114] E500TRAN. 500 - Transportation and Public Utilities. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data115] E50FARMP. 50 - Farm Proprietors Employment. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data116] E510DURG. 510 - Durable Goods Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data117] E510RAIL. 510 - Railroad Transportation. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data118] E511WOOD. 511 - Wood Product Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data119] E512NONM. 512 - Nonmetallic Mineral Product Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data120] E513PRIM. 513 - Primary Metal Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data121] E514FABM. 514 - Fabricated Metal Product Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. New as of 2010.

[Data122] E515MACH. 515 - Machinery Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data123] E516COMP. 516 - Computer and Electronic Product Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to

identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data124] E517ELEC. 517 - Electrical Equipment and Appliance Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data125] E518MOTO. 518 - Motor Vehicles, Bodies and Trailers, and Parts Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data126] E519OTRA. 519 - Other Transportation Equipment Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data127] E520TRUC. 520 - Trucking and Warehousing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data128] E521FURN. 521 - Furniture and Related Product Manufacturing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data129] E522MISC. 522 - Miscellaneous Manufacturing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. New as of 2010.

[Data130] E530WATE. 530 - Water Transportation.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data131] E531FOOD. 531 - Food Manufacturing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data132] E532BEVE. 532 - Beverage and Tobacco Product Manufacturing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data133] E533TEXT. 533 - Textile Mills.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data134] E534TEXT. 534 - Textile Product Mills.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data135] E537PAPE. 537 - Paper Manufacturing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data136] E538PRIN. 538 - Printing and Related Support Activities.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data137] E539PETC. 539 - Petroleum and Coal Products Manufacturing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data138] E540OTHE. 540 - Other Transportation. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data139] E541LOCA. 541 - Local and Interurban Passenger Transit. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data140] E542AIRT. 542 - Transportation By Air. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data141] E542RUBB. 542 - Plastics and Rubber Products Manufacturing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data142] E543PIPE. 543 - Pipelines, Except Natural Gas. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data143] E544TRAN. 544 - Transportation Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data144] E560COMM. 560 - Communications.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data145] E570ELEC. 570 - Electric, Gas, and Sanitary Services.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data146] E60NONFA. 60 - Nonfarm Proprietors Employment.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data147] E610WSTR. 610 - Wholesale Trade.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data148] E620RTRA. 620 - Retail Trade.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data149] E621BUIL. 621 - Building Materials and Garden Equipment.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data150] E622GENS. 622 - General Merchandise Stores.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data151] E623FOOD. 623 - Food Stores.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data152] E624AUTO. 624 - Automotive Dealers and Service Stations.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data153] E625APPS. 625 - Apparel and Accessory Stores.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data154] E626FURN. 626 - Furniture and Home Furnishings Stores. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data155] E627EATD. 627 - Eating and Drinking Places. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data156] E628MISC. 628 - Miscellaneous Retail. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data157] E700FINA. 700 - Finance, Insurance, and Real Estate. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data158] E701MOTO. 701 - Motor Vehicle and Parts Dealers. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data159] E703ELEC. 703 - Electronics and Appliance Stores. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data160] E704BLDM. 704 - Building Material and Garden Supply Stores. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. New as of 2010.

[Data161] E705FOOD. 705 - Food and Beverage Stores. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary,

Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data162] E706HEAL. 706 - Health and Personal Care Stores. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data163] E707GASS. 707 - Gasoline Stations. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data164] E708CLOT. 708 - Clothing and Clothing Accessories Stores. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to

identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data165] E709SPOR. 709 - Sporting Goods, Hobby, Book and Music Stores. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data166] E70FARMP. 70 - Farm Employment. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data167] E710DEPO. 710 - Depository and Nondepository Institutions. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data168] E712misc. 712 - Miscellaneous Store Retailers.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data169] E713nons. 713 - Nonstore Retailers.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data170] E730othe. 730 - Other Finance, Insurance, and Real Estate.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data171] E731secE. 731 - Security and Commodity Brokers.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data172] E732INSC. 732 - Insurance Carriers.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data173] E733INSA. 733 - Insurance Agents, Brokers, and Services.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data174] E734REAL. 734 - Real Estate.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data175] E735REAL. 735 - Combined Real Estate, Insurance, Etc. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data176] E736INVE. 736 - Holding and Other Investment Offices. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data177] E800SERV. 800 - Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data178] E800TRAN. 800 - Transportation and Warehousing.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data179] E801AIRT. 801 - Air Transportation.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data180] E804TRUC. 804 - Truck Transportation.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data181] E805HOTE. 805 - Hotels and Other Lodging Places.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data182] E805TRAN. 805 - Transit and Ground Passenger Transportation. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data183] E806PIPE. 806 - Pipeline Transportation. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data184] E807SITE. 807 - Scenic and Sightseeing Transportation. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data185] E808SUPT. 808 - Support Activities For Transportation. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data186] E809COUR. 809 - Couriers and Messengers. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data187] E80NONFA. 80 - Nonfarm Employment. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data188] E810PERS. 810 - Personal Services.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data189] E811WHOU. 811 - Warehousing and Storage.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data190] E815PRIV. 815 - Private Households.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data191] E820BUSS. 820 - Business Services.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data192] E825AUTO. 825 - Automotive Repair, Services, and Parking. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data193] E830MISC. 830 - Miscellaneous Repair Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data194] E835AMUS. 835 - Amusement and Recreation Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data195] E840FILM. 840 - Motion Pictures.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data196] E845HEAL. 845 - Health Services.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data197] E850LEGA. 850 - Legal Services.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data198] E855EDUS. 855 - Educational Services.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data199] E860SOCI. 860 - Social Services.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data200] E865MUSE. 865 - Museums, Botanical, Zoological Gardens.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data201] E870MEMB. 870 - Membership Organizations.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data202] E875ENGI. 875 - Engineering and Management Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data203] E880MISC. 880 - Miscellaneous Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data204] E900GOVE. 900 - Gov. and Gov. Enterprises. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data205] E900INFO. 900 - Information.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data206] E901PUBL. 901 - Publishing Industries, Except Internet.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data207] E902FILM. 902 - Motion Picture and Sound Recording Industries.
http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data208] E903BROA. 903 - Broadcasting, Except Internet. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data209] E904INET. 904 - Internet Publishing and Broadcasting. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data210] E905TELE. 905 - Telecommunications. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data211] E906ISPE. 906 - Isps, Search Portals, and Data Processing. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry.

Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data212] E907OTHE. 907 - Other Information Services. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data213] E90PRIVA. 90 - Private Employment. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data214] E910FEDC. 910 - Federal, Civilian. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001,

categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data215] E920MILI. 920 - Military.

http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data216] E930GOVE. 930 - State and Local.

http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data217] E931GOVS. 931 - State Gov.

http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data218] E932govl. 932 - Local Gov. http://www.bea.gov/regional/spi/default.cfm?selTable=SA04&selSeries=ancillary, Bureau of Economic Analysis (BEA), SA25 and SA25N - Employment by industry. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21,[2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data219] EFNAI. EFNA–0. Overall. http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data220] EFNAIGen. EFNA–1A. General Consumption Expenditures By Gov. As http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data221] EFNAIGov. EFNA–3B. Gov. Employment As Provincial Employment. http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data222] EFNAIInd. EFNA–2C. Indirect Tax Revenue As http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data223] EFNAILab. EFNA–3. Labor Market Freedom. http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data224] EFNAIMin. EFNA–3A. Minimum Wage Legislation. http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data225] EFNAISal. EFNA–2D. Sales Taxes Collected As http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data226] EFNAISiz. EFNA–1. Size Of Gov. http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data227] EFNAISSP. EFNA–1C. Social Security Payments As http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data228] EFNAITak. EFNA–2. Takings and Discriminatory Taxation. http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data229] EFNAITop. EFNA–2B. Top Marginal Income Tax Rate and The Income Threshold At Which It Applies. http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data230] EFNAITot. EFNA–2A. Total Gov. Revenue From Own Source As Of Gdp. http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data231] EFNAITra. EFNA–1B. Transfers and Subsidies As http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data232] EFNAIUni. EFNA–3C. Union Density. http://www.freetheworld.com/efna.html, Fraser Institute, Datasets 2011. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data233] Emp0t4. Statistics Of U.S. Businesses–Employment-By Employment Size-0-4. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics

of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data234] Emp100t4. Statistics Of U.S. Businesses–Employment-By Employment Size-100-499. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data235] Emp10t19. Statistics Of U.S. Businesses–Employment-By Employment Size-10-19. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data236] Emp20t99. Statistics Of U.S. Businesses–Employment-By Employment Size-20-99. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data237] Emp500p. Statistics Of U.S. Businesses–Employment-By Employment Size-500+. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data238] Emp5t9. Statistics Of U.S. Businesses–Employment-By Employment Size-5-9. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data239] EmpTot. Statistics Of U.S. Businesses–Employment-Total. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data240] ERevIGFe. Revenue–Intergovernmental-From Federal Gov.-Education. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data241] ERevIGSt. Revenue–Intergovernmental-From State Govs.-Education. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data242] Estab0t4. Statistics Of U.S. Businesses–Establishments-By Employment Size-0-4. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data243] Estab100. Statistics Of U.S. Businesses–Establishments-By Employment Size-100-499. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data244] Estab10t. Statistics Of U.S. Businesses–Establishments-By Employment Size-10-19. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data245] Estab20t. Statistics Of U.S. Businesses–Establishments-By Employment Size-20-99. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data246] Estab500. Statistics Of U.S. Businesses–Establishments-By Employment Size-500+. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics

of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data247] Estab5t9. Statistics Of U.S. Businesses–Establishments-By Employment Size-5-9. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data248] EstabTot. Statistics Of U.S. Businesses–Establishments-Total. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data249] ExpAir. Expenditure–Function-Air Transportation. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data250] ExpBlgs. Expenditure–Function-General Public Puildings. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data251] ExpCoCO. Expenditure–Function-Correction-Capital Outlay. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data252] ExpCOCon. Expenditure–Capital Outlay-Construction. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data253] ExpCOEq. Expenditure–Capital Outlay-Equip, Land, and Existing Structure. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data254] ExpCOOth. Expenditure–Capital Outlay-Other Capital Outlay. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data255] ExpCorre. Expenditure–Function-Correction. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data256] ExpCOTot. Expenditure–Capital Outlay-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data257] ExpCurEx. Expenditure–Function-Current Expenditure. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data258] ExpCurOp. Expenditure–Current Operations. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data259] ExpDGE. Expenditure–Function-Direct General Expenditure. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data260] ExpDGECO. Expenditure–Function-Direct General Expenditure-Capital Outlay. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data261] ExpDGEOt. Expenditure–Function-Direct General Expenditure-Other Direct General Expenditures. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data262] ExpEd. Expenditure–Function-Education-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data263] ExpEdCO. Expenditure–Function-Education-Capital Outlay. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data264] ExpElem. Expenditure–Function-Elementary and Secondary-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data265] ExpElemC. Expenditure–Function-Elementary and Secondary-Capital Outlay. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data266] ExpExSal. Expenditure–Exhibit-Saleries and Wages.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data267] ExpFinAd. Expenditure–Function-Financial Administration.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data268] ExpFire. Expenditure–Function-Fire Protection.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data269] ExpFunCO. Expenditure–Function-Capital Outlay-Total.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data270] ExpFunTo. Expenditure–Direct By Function-Total.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data271] ExpHealt. Expenditure–Function-Health.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data272] ExpHEd. Expenditure–Function-Higher Education-Total.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data273] ExpHEdCO. Expenditure–Function-Higher Education-Capital Outlay. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data274] ExpHosp. Expenditure–Function-Hospitals. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data275] ExpHospC. Expenditure–Function-Hospitals-Capital Outlay. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data276] ExpHous. Expenditure–Function-Housing and Community Development. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data277] ExpHwy. Expenditure–Function-Highways-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data278] ExpHwyCO. Expenditure–Function-Highways-Capital Outlay. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data279] ExpIGFed. Expenditure–Intergov.Al-To Federal Gov.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data280] ExpIGLoc. Expenditure–Intergov.Al-To Local Govs.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data281] ExpIGSta. Expenditure–Intergov.Al-To State Govs.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data282] ExpIGTot. Expenditure–Intergov.Al-Total.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data283] ExpInsBR. Expenditure–Insurance Benefits and Repayments.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data284] ExpInspe. Expenditure–Function-Protective Inspection and Regulation.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data285] ExpInsT. Expenditure–Insurance Trust.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data286] ExpInsTE. Expenditure–Insurance Trust-Employee Retirement. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data287] ExpInsTO. Expenditure–Insurance Trust-Other Insurance Trust. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data288] ExpInsTT. Expenditure–Insurance Trust-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data289] ExpInsTU. Expenditure–Insurance Trust-Unemployment Compensation. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data290] ExpInsWC. Expenditure–Insurance Trust-Workers Compensation. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data291] ExpInt. Expenditure–Interest On Debt. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data292] ExpInt2. Expenditure–Function-Interest On General Debt.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data293] ExpLegal. Expenditure–Function-Judicial and Legal.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data294] ExpLib. Expenditure–Function-Libraries.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data295] ExpLiqSt. Expenditure–Liquor Store.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data296] ExpMiscC. Expenditure–Function-Miscellaneous Commercial Activities.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data297] ExpNR. Expenditure–Function-Natural Resources.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data298] ExpNRCO. Expenditure–Function-Natural Resources-Capital Outlay.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data299] ExpOEd. Expenditure–Function-Other Education. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data300] ExpOGovA. Expenditure–Function-Other Gov. Administration. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data301] ExpPark. Expenditure–Function-Parking Facilities. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data302] ExpPolic. Expenditure–Function-Police Protection. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data303] ExpPR. Expenditure–Function-Parks and Recreation. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data304] ExpPRCO. Expenditure–Function-Parks and Recreation-Capital Outlay. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data305] ExpSew. Expenditure–Function-Sewerage-Total.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data306] ExpSewCO. Expenditure–Function-Sewerage-Capital Outlay.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data307] ExpSocIn. Expenditure–Function-Social Insurance Administraion.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data308] ExpSQMCO. Expenditure–Function-Solid Waste Management-Capital Outlay.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data309] ExpSubsi. Expenditure–Assistance and Subsidies.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data310] ExpSWM. Expenditure–Function-Solid Waste Management.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data311] ExpTansi. Expenditure–Function-Transit Subsidies.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data312] ExpTot. Expenditure–Total.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data313] ExpUnall. Expenditure–Function-Other and Unallocable.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data314] ExpUtilC. Expenditure–Utility-Capital Outlay.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data315] ExpUtilE. Expenditure–Utility-Electric.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data316] ExpUtilG. Expenditure–Utility-Gas.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data317] ExpUtilT. Expenditure–Utility-Transit.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data318] ExpUtilW. Expenditure–Utility-Water.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data319] ExpVetSv. Expenditure–Function-Veterans Services.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data320] ExpWater. Expenditure–Function-Water Transport and Terminals.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data321] ExpWel. Expenditure–Function-Welfare.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data322] ExpWelfC. Expenditure–Function-Welfare-Cash Assistance.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data323] ExpWelfO. Expenditure–Function-Welfare-Other Public Welfare.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data324] ExpWelfV. Expenditure–Function-Welfare-Vendor Payments.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data325] FGRd. Fiscal Golden Rule - Difference. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, RevTot - ExpTot. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data326] FGRr. Fiscal Golden Rule - Ratio. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, RevTot/ExpTot. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data327] Firms0t4. Statistics Of U.S. Businesses–Firms-By Employment Size-0-4. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20].

[Data328] Firms100. Statistics Of U.S. Businesses–Firms-By Employment Size-100-499. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20].

[Data329] Firms10t. Statistics Of U.S. Businesses–Firms-By Employment Size-10-19. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20].

[Data330] Firms20t. Statistics Of U.S. Businesses–Firms-By Employment Size-20-99. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20].

[Data331] Firms500. Statistics Of U.S. Businesses–Firms-By Employment Size-500+. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20].

[Data332] Firms5t9. Statistics Of U.S. Businesses–Firms-By Employment Size-5-9. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20].

[Data333] FirmsTot. Statistics Of U.S. Businesses–Firms-Total. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20].

[Data334] gd. Governor–Democrat, B. Schemmel http://www.rulers.org/usstat1.html (A-D);/usstat2.html (F-K); /usstat3.html (L-M); /usstat4.html (N); /usstat5.html (O-R); /usstat6.html (S-U); /usstat7.html (V-W). Note: This is an electronic source. Dates Retrieved: [2011.07.14], [2014.05.27]. Often officials are sworn into office in the beginning or ending months of a year. Code reflects acting the official with the most coverage of the year.

[Data335] gdfl. Governor–Democratic-Farmer-Labor, B. Schemmel http://www.rulers.org/usstat1.html (A-D);/usstat2.html (F-K); /usstat3.html (L-M); /usstat4.html (N); /usstat5.html (O-R); /usstat6.html (S-U); /usstat7.html (V-W). Note: This is an electronic source. Dates Retrieved: [2011.07.14], [2014.05.27]. Often officials are sworn into office in the beginning or ending months of a year. Code reflects acting the official with the most coverage of the year.

[Data336] gi. Governor–Independent, B. Schemmel http://www.rulers.org/usstat1.html (A-D);/usstat2.html (F-K); /usstat3.html (L-M); /usstat4.html (N); /usstat5.html (O-R); /usstat6.html (S-U); /usstat7.html (V-W). Note: This is an electronic source. Dates Retrieved: [2011.07.14], [2014.05.27]. Often officials are sworn into office in the beginning or ending months of a year. Code reflects acting the official with the most coverage of the year.

[Data337] go. Governor–Other, B. Schemmel http://www.rulers.org/usstat1.html (A-D);/usstat2.html (F-K); /usstat3.html (L-M); /usstat4.html (N); /usstat5.html (O-R); /usstat6.html (S-U); /usstat7.html (V-W). Note: This is an electronic source.

Dates Retrieved: [2011.07.14], [2014.05.27]. Often officials are sworn into office in the beginning or ending months of a year. Code reflects acting the official with the most coverage of the year.

[Data338] GovCat. Governor Category Variable–1=Rep; 2=Dem;3=Dem Farm-Labor; 4=Ind; 5=Other, B. Schemmel http://www.rulers.org/usstat1.html (A-D);/usstat2.html (F-K); /usstat3.html (L-M); /usstat4.html (N); /usstat5.html (O-R); /usstat6.html (S-U); /usstat7.html (V-W). Note: This is an electronic source. Dates Retrieved: [2011.07.14], [2014.05.27]. Often officials are sworn into office in the beginning or ending months of a year. Code reflects acting the official with the most coverage of the year.

[Data339] govprivR. State and Local Gov. Employment Divided By Private Employment, Bureau of Economic Analysis (BEA), 930goveslEmp/90privateEmp. Note: This is an electronic source. Dates Retrieved: [2011.07.25], [2012.09.21], [2013.03.27], [2014.05.28]. In 1990 BEA Switched from SIC to NAICS to identify Industries. BEA discontinued SIC reports in 2002. From 1990 to 2001, categories that were equivalent were rationalized. Categories that were similar but contained distinct values resulted in both values being reported.

[Data340] gr. Governor–Republican, B. Schemmel http://www.rulers.org/usstat1.html(A-D);/usstat2.html(F-K);/usstat3.html(L-M);/usstat4.html(N);/usstat5.html(O-R);/usstat6.html(S-U);/usstat7.html(V-W). Note: This is an electronic source. Dates Retrieved: [2011.07.14], [2014.05.27]. Often officials are sworn into office in the beginning or ending months of a year. Code reflects acting the official with the most coverage of the year.

[Data341] GSP. Gross State Product (GSP) (Thousands Dollars). http://www.bea.gov/iTable/iTable.cfm?ReqID=70&step=1, Bureau of Economic Analysis (BEA), Gross Domestic Product by State–All Industry Total. In Current Dollars.

[Data342] HOUSED. House–Democrats. http://www.ncsl.org, National Council of State Legistators (NCSL), Unpublished. Note: This is an electronic source. Dates Retrieved: [2011.07.21], [2014.05.28]. For more information contact: Tim Storey or Morgan Cullen at 303-364-7700 or ¡tim.storey@ncsl.org¿.

[Data343] HOUSER. House–Republicans. http://www.ncsl.org, National Council of State Legistators (NCSL), Unpublished. Note: This is an electronic source. Dates Retrieved: [2011.07.21], [2014.05.28]. For more information contact: Tim Storey or Morgan Cullen at 303-364-7700 or ¡tim.storey@ncsl.org¿.

[Data344] HOUSET. House–Total Legislators. http://www.ncsl.org, National Council of State Legistators (NCSL), Unpublished. Note: This is an electronic source. Dates Retrieved: [2011.07.21], [2014.05.28]. For more information contact: Tim Storey or Morgan Cullen at 303-364-7700 or ¡tim.storey@ncsl.org¿.

[Data345] HOUSEUNI. Number Of Housing Units. http://factfinder.census.gov/servlet/DTTable?_bm=y&-state=dt&-context=dt&-ds_name=PEP_2009_EST&-mt_name=PEP_2009_EST_G2009_T002&-tree_id=809&-all_geo_types=N&-_caller=geoselect&-geo_id=04000US01&-geo_id=04000US02&-geo_id=04000US04&-geo_id=04000US05&-geo_id=04000US06&-geo_id=04000US08&-geo_id=04000US09&-geo_id=04000US10&-geo_id=04000US11&-geo_id=04000US12&-geo_id=04000US13&-geo_id=04000US15&-geo_id=04000US16&-geo_id=04000US17&-geo_id=04000US18&-geo_id=04000US19&-geo_id=04000US20&-geo_id=04000US21&-geo_id=04000US22&-geo_id=04000US23&-geo_id=04000US24&-geo_id=04000US25&-geo_id=04000US26&-geo_id=04000US27&-geo_id=04000US28&-geo_id=04000US29&-geo_id=04000US30&-geo_id=04000US31&-geo_id=04000US32&-geo_id=04000US33&-geo_id=04000US34&-geo_id=04000US35&-geo_id=04000US36&-geo_id=04000US37&-geo_id=04000US38&-geo_id=04000US39&-geo_id=04000US40&-geo_id=04000US41&-geo_id=04000US42&-geo_id=04000US44&-geo_id=04000US45&-geo_id=04000US46&-geo_id=04000US47&-geo_id=04000US48&-geo_id=04000US49&-geo_id=04000US50&-geo_id=04000US51&-geo_id=04000US53&

-geo_id=04000US54&-geo_id=04000US55&-geo_id=04000US56&-geo_id=04000US72&-search_results=01000US&-format=&-_lang=en, U. S. Census Bureau, Table T2 Housing Unit Estimates; PEPANNHU. Note: Households is equivalent to ""Occupied Housing Units"".

[Data346] HSPercen. High School Diploma Or Higher. http://www.census.gov/hhes/socdemo/education/data/census/half-century/tables.html, U. S. Census Bureau, Table 5a. Percent of the Total Population 25 Years and Over with a High School Diploma or Higher by Sex, for the United States, Regions, and States: 1940 to 2000. Note: This is an electronic source. Dates Retrieved: [2011.08.03], [2012.09.23], [2014.06.03].

[Data347] LandArea. State Land Area, In Sq. Mi. (2000 Census). http://www.census.gov/population/www/censusdata/density.html, U. S. Census Bureau, GCT-PH1. Population, Housing Units, Area, and Density 2000. Note: This is an electronic source. Dates Retrieved: [2011.07.19], [2014.05.27]. Land area is measured every census and the value is used for every year (changes are not statistically significant).

[Data348] LCD. Legislative Control–Democrats, National Council of State Legistators (NCSL). Note: This is an electronic source. Dates Retrieved: [2011.07.21], [2014.05.28]. For more information contact: Tim Storey or Morgan Cullen at 303-364-7700 or ¡tim.storey@ncsl.org¿.

[Data349] LCR. Legislative Control–Republicans, National Council of State Legistators (NCSL). Note: This is an electronic source. Dates Retrieved: [2011.07.21], [2014.05.28]. For more information contact: Tim Storey or Morgan Cullen at 303-364-7700 or ¡tim.storey@ncsl.org¿.

[Data350] msirfrlg. Maximum State Income Rate–Federal Rate, Long Gains. http://www.nber.org/~taxsim/state-rates/, Feenberg, Daniel Richard, and Elizabeth Coutts, An Introduction to the TAXSIM Model, Journal of Policy Analysis and

Management vol 12 no 1, Winter 1993, pages 189-194. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13], [2014.05.30].

[Data351] MSIRFRMD. Maximum State Income Rate–Federal Rate, Mortgage Deduction. http://www.nber.org/~taxsim/state-rates/, Feenberg, Daniel Richard, and Elizabeth Coutts, An Introduction to the TAXSIM Model, Journal of Policy Analysis and Management vol 12 no 1, Winter 1993, pages 189-194. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13], [2014.05.30].

[Data352] MSIRFRW. Maximum State Income Rate–Federal Rate, Wages. http://www.nber.org/~taxsim/state-rates/, Feenberg, Daniel Richard, and Elizabeth Coutts, An Introduction to the TAXSIM Model, Journal of Policy Analysis and Management vol 12 no 1, Winter 1993, pages 189-194. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13], [2014.05.30].

[Data353] MSIRSRLG. Maximum State Income Rate–State Rate, Long Gains. http://www.nber.org/~taxsim/state-rates/, Feenberg, Daniel Richard, and Elizabeth Coutts, An Introduction to the TAXSIM Model, Journal of Policy Analysis and Management vol 12 no 1, Winter 1993, pages 189-194. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13], [2014.05.30].

[Data354] MSIRSRMD. Maximum State Income Rate–State Rate, Mortgage Deduction. http://www.nber.org/~taxsim/state-rates/, Feenberg, Daniel Richard, and Elizabeth Coutts, An Introduction to the TAXSIM Model, Journal of Policy Analysis and Management vol 12 no 1, Winter 1993, pages 189-194. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13], [2014.05.30].

[Data355] MSIRSRW. Maximum State Income Rate–State Rate, Wages. http://www.nber.org/~taxsim/state-rates/, Feenberg, Daniel Richard, and Elizabeth Coutts, An Introduction to the TAXSIM Model, Journal of Policy Analysis and Management vol 12 no 1, Winter 1993, pages 189-194. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13], [2014.05.30].

[Data356] MSIRTRLG. Maximum State Income Rate–Total Rate, Long Gains. http://www.nber.org/~taxsim/state-rates/, Feenberg, Daniel Richard, and Elizabeth Coutts, An Introduction to the TAXSIM Model, Journal of Policy Analysis and Management vol 12 no 1, Winter 1993, pages 189-194. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13], [2014.05.30].

[Data357] MSIRTRMD. Maximum State Income Rate–Total Rate, Mortgage Deduction. http://www.nber.org/~taxsim/state-rates/, Feenberg, Daniel Richard, and Elizabeth Coutts, An Introduction to the TAXSIM Model, Journal of Policy Analysis and Management vol 12 no 1, Winter 1993, pages 189-194. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13], [2014.05.30].

[Data358] MSIRTRW. Maximum State Income Rate–Total Rate, Wages. http://www.nber.org/~taxsim/state-rates/, Feenberg, Daniel Richard, and Elizabeth Coutts, An Introduction to the TAXSIM Model, Journal of Policy Analysis and Management vol 12 no 1, Winter 1993, pages 189-194. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13], [2014.05.30].

[Data359] NUM1STGR. Number Of Full-Time, First-Time Graduate Students. https://webcaspar.nsf.gov/index.jsp?subHeader=WebCASPARHome, WebCASPAR, NSF-NIH Survey of Graduate Students and Postdoctorates in Science and Engineering. Note: This is an electronic source. Dates Retrieved: [2012.08.23].

[Data360] NUMGRAD. Number Of Graduate Students. https://webcaspar.nsf.gov/index.jsp?subHeader=WebCASPARHome, WebCASPAR, NSF-NIH Survey of Graduate Students and Postdoctorates in Science and Engineering. Note: This is an electronic source. Dates Retrieved: [2012.08.23].

[Data361] NUMPDOC. Number Of Post Doctorates. https://webcaspar.nsf.gov/index.jsp?subHeader=WebCASPARHome, WebCASPAR, NSF-NIH Survey of Graduate Students and Postdoctorates in Science and Engineering. Note: This is an electronic source. Dates Retrieved: [2012.08.23].

[Data362] NumPDocM. Number Of Postdoctorates With Medical Degrees (Pre-2010). https://webcaspar.nsf.gov/index.jsp?subHeader=WebCASPARHome, WebCASPAR, NSF-NIH Survey of Graduate Students and Postdoctorates in Science and Engineering. Note: This is an electronic source. Dates Retrieved: [2012.08.23].

[Data363] Pay0t4. Statistics Of U.S. Businesses–Annual Payroll (Thousands Dollars)-By Employment Size-0-4. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data364] Pay100t4. Statistics Of U.S. Businesses–Annual Payroll (Thousands Dollars)-By Employment Size-100-499. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data365] Pay10t19. Statistics Of U.S. Businesses–Annual Payroll (Thousands Dollars)-By Employment Size-10-19. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data366] Pay20t99. Statistics Of U.S. Businesses–Annual Payroll (Thousands Dollars)-By Employment Size-20-99. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data367] Pay500p. Statistics Of U.S. Businesses–Annual Payroll (Thousands Dollars)-By Employment Size-500+. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data368] Pay5t9. Statistics Of U.S. Businesses–Annual Payroll (Thousands Dollars)-By Employment Size-5-9. http://www.census.gov/econ/susb/historical_data.html, U. S.

Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data369] PayTot. Statistics Of U.S. Businesses–Annual Payroll (Thousands Dollars)-Total. http://www.census.gov/econ/susb/historical_data.html, U. S. Census Bureau, Statistics of U.S. Businesses. Note: This is an electronic source. Dates Retrieved: [2012.02.20], [2012.09.25].

[Data370] PenFundP. http://www.pewcenteronthestates.org/ttw/trends_map_data_table.aspx?trendID=23&assessmentID=128&year=2008&mode=table, Pew Center On The States Pension Funding Level. Note: This is an electronic source. Dates Retrieved: [2011.08.03], [2012.09.24].

[Data371] PGA. Patent Grants–All Patent Types. http://www.uspto.gov/web/offices/ac/ido/oeip/taf/cst_allh.htm, U.S. Patent And Trademark Office. Note: This is an electronic source. Dates Retrieved: [2012.04.16].

[Data372] PGD. Patent Grants–Design. http://www.uspto.gov/web/offices/ac/ido/oeip/taf/cst_dsnh.htm, U.S. Patent And Trademark Office. Note: This is an electronic source. Dates Retrieved: [2012.04.16].

[Data373] PGP. Patent Grants–Plant. http://www.uspto.gov/web/offices/ac/ido/oeip/taf/cst_plth.htm, U.S. Patent And Trademark Office. Note: This is an electronic source. Dates Retrieved: [2012.04.16].

[Data374] PGU. Patent Grants–Utility (Innovation). http://www.uspto.gov/web/offices/ac/ido/oeip/taf/cst_utlh.htm, U.S. Patent And Trademark Office. Note: This is an electronic source. Dates Retrieved: [2012.04.16].

[Data375] Pincome. Personal Income (Millions Dollars). http://www.bea.gov/regional/spi/default.cfm?satable=SA25N&series=NAICS, Bureau of Economic Analysis (BEA) State Annual Personal Income. Note: This is an electronic source. Dates Retrieved: [2011.06.14], [2014.05.28].

[Data376] Pop. Population Estimate. http://www.census.gov/popest/datasets.html, U. S. Census Bureau, Population Estimates–State population datasets–Population, Population change, and estimated components of population change. Note: This is an electronic source. Dates Retrieved: [2011.06.14], [2012.09.17].

[Data377] Poverty. Persons Below Poverty Level (Thousands Dollars). http://www.census.gov/hhes/www/poverty/data/historical/hstpov21.xls, U. S. Census Bureau, Historical Poverty Tables - Table 21. Number of Poor and Poverty Rate, by State. Note: This is an electronic source. Dates Retrieved: [2012.09.18], [2014.05.27].

[Data378] Povrate. http://www.census.gov/hhes/www/poverty/data/historical/hstpov21.xls, U. S. Census Bureau, Historical Poverty Tables - Table 21. Number of Poor and Poverty Rate, by State. Note: This is an electronic source. Dates Retrieved: [2012.09.18], [2014.05.27].

[Data379] RevGen. Revenue–General. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data380] RevIGLoc. Revenue–Intergovernmental-From Local Govs. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data381] RevIGTot. Revenue–Intergovernmental-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data382] RevOwn. Revenue–General Revenue From Own Sources. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data383] RevTot. Revenue–Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data384] RnDPlant. R and D Plant Obligations To U.S Performers (Thousands Dollars). https://webcaspar.nsf.gov/index.jsp?, WebCASPAR, NSF Survey of Federal Funds for Research and Development. Note: This is an electronic source. Dates Retrieved: [2012.04.19].

[Data385] RnDTotOb. R and D Obligations For R&D To U.S Performers (Thousands Dollars). https://webcaspar.nsf.gov/index.jsp?, WebCASPAR, NSF Survey of Federal Funds for Research and Development. Note: This is an electronic source. Dates Retrieved: [2012.04.19].

[Data386] RTWPriva. Right To Work State–Private. http://www.nrtw.org/rtws.htm, National Right To Work. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data387] RTWPubli. Right To Work State–Public. http://www.nrtw.org/rtws.htm, National Right To Work. Note: This is an electronic source. Dates Retrieved: [2012.01.03], [2013.05.07].

[Data388] RvCChgAi. Revenue–Current Charges-Airports. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data389] RvCChgEd. Revenue–Current Charges-Education-Institutions Of Higher Education. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data390] RvCChgHp. Revenue–Current Charges-Hospitals. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data391] RvCChgHs. Revenue–Current Charges-Housing and Community Development. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data392] RvCChgHw. Revenue–Current Charges-Highways. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data393] RvCChgMI. Revenue–Current Charges-Micellaneous-Interest Earnings. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data394] RvCChgMT. Revenue–Current Charges-Miscellaneous Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data395] RvCChgNR. Revenue–Current Charges-Natural Resources. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data396] RvCChgO. Revenue–Current Charges-Other Charges.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data397] RvCChgOG. Revenue–Current Charges-Other General Revenue.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data398] RvCChgOT. Revenue–Current Charges-Other Than General Revenue.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data399] RvCChgPa. Revenue–Current Charges-Parking Facilities.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data400] RvCChgSe. Revenue–Current Charges-Sewerage.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data401] RvCChgSO. Revenue–Current Charges-Micellaneous-Sale Of Property.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data402] RvCChgSW. Revenue–Current Charges-Solid Waste Management.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data403] RvCChgTo. Revenue–Current Charges-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data404] RvCChgWT. Revenue–Current Charges-Water Transport and Terminals. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data405] RvCChSpe. Revenue–Current Charges-Micellaneous-Special Assessments. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data406] RvChgEdL. Revenue–Current Charges-Education-School Lunch Sales. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data407] RvChgEdT. Revenue–Current Charges-Education Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data408] RvChgPR. Revenue–Current Charges-Parks and Recreation. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data409] RvChgTot. Revenue–Charges and Misc General Revenue-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data410] RvInsTER. Revenue–Insurance Trust-Employee Retirement. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data411] RvInsTOt. Revenue–Insurance Trust-Other Insurance Trust Revenue. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data412] RvInsTTo. Revenue–Insurance Trust-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data413] RvInsTUC. Revenue–Insurance Trust-Unemployment Compensation. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data414] RvInsTWC. Revenue–Insurance Trust-Workers Compensation. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data415] RvLiqSto. Revenue–Liquor Store. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data416] RvTaxAlc. Revenue–Taxes-Alcoholic Beverage Sales. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data417] RvTaxCIn. Revenue–Taxes-Corporate Income. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data418] RvTaxFue. Revenue–Taxes-Motor Fuel. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data419] RvTaxGen. Revenue–Taxes-General Sales. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data420] RvTaxMLi. Revenue–Taxes-Motor Vehicle License. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data421] RvTaxOSa. Revenue–Taxes-Other Sales. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data422] RvTaxOth. Revenue–Taxes-Other Taxes.

http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data423] RvTaxPCI. Revenue–Taxes-Income-Individual and Corporate.

http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data424] RvTaxPIn. Revenue–Taxes-Individual Income.

http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data425] RvTaxPro. Revenue–Taxes-Property.

http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data426] RvTaxSal. Revenue–Taxes-Sales and Gross Receipts.

http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data427] RvTaxSel. Revenue–Taxes-Selective Sales Taxes.

http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data428] RvTaxTob. Revenue–Taxes-Tobacco.

http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data429] RvTaxUti. Revenue–Taxes-Public Utility. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data430] RvUtilEl. Revenue–Utility-Electric. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data431] RvUtilGa. Revenue–Utility-Gas. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data432] RvUtilTo. Revenue–Utility Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data433] RvUtilTr. Revenue–Utility-Transit. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data434] RvUtilWa. Revenue–Utility-Water. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data435] Saur. State Annual Unemployment Rate. http://www.bls.gov/data/, Bureau of Labor Statistics, Local Area Unemployment Statistics. Note: This is an electronic source. Dates Retrieved: [2011.07.10], [2014.06.03].

[Data436] SCD. State Control–Democrats, National Council of State Legistators (NCSL). Note: This is an electronic source. Dates Retrieved: [2011.07.21], [2014.05.28]. For more information contact: Tim Storey or Morgan Cullen at 303-364-7700 or ¡tim.storey@ncsl.org¿.

[Data437] SCR. State Conrol–Republicans, National Council of State Legistators (NCSL). Note: This is an electronic source. Dates Retrieved: [2011.07.21], [2014.05.28]. For more information contact: Tim Storey or Morgan Cullen at 303-364-7700 or ¡tim.storey@ncsl.org¿.

[Data438] senated. Senate–Democrats. http://www.ncsl.org, National Council of State Legistators (NCSL), Unpublished. Note: This is an electronic source. Dates Retrieved: [2011.07.21], [2014.05.28]. For more information contact: Tim Storey or Morgan Cullen at 303-364-7700 or ¡tim.storey@ncsl.org¿.

[Data439] senater. Senate–Republicans. http://www.ncsl.org, National Council of State Legistators (NCSL), Unpublished. Note: This is an electronic source. Dates Retrieved: [2011.07.21], [2014.05.28]. For more information contact: Tim Storey or Morgan Cullen at 303-364-7700 or ¡tim.storey@ncsl.org¿.

[Data440] senatet. Senate Total Legislators. http://www.ncsl.org, National Council of State Legistators (NCSL), Unpublished. Note: This is an electronic source. Dates Retrieved: [2011.07.21], [2014.05.28]. For more information contact: Tim Storey or Morgan Cullen at 303-364-7700 or ¡tim.storey@ncsl.org¿.

[Data441] Senior. Population 65 and Over. http://www.census.gov/popest/datasets.html, U. S. Census Bureau, Population Estimates–State population datasets–Population, Population change, and estimated components of population change. Note: This is an electronic source. Dates Retrieved: [2011.06.14], [2012.09.17].

[Data442] SEPW. State Earnings By Place Of Work (Thousands Dollars), Bureau of Economic Analysis (BEA), State Annual Personal Income, Table SA05–Earnings by Place of Work,SA04 State Income and Employment Summary. Note: This is an electronic source. Dates Retrieved: [2011.06.14], [2014.05.28].Earnings by place of work = sum (Wage and Salary Disbursements, supplements to wages and salaries and proprietors' income(ie.,non-corporate income)). Earnings by place of work is often used as a proxy for the income generated from state current production.

[Data443] SFSPOP. State Federal Spending Per Capita. http://www.taxfoundation.org/research/show/22685.html, Tax Foundation and Census Bureau. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13].

[Data444] SFSPTD. State Federal Spending Per Tax Dollar. http://www.taxfoundation.org/research/show/22685.html, Tax Foundation, Federal Taxes Paid vs. Spending Received by State, 1981-2005. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13].

[Data445] SFTP. State Federal Taxes Paid (Millions Dollars). http://www.taxfoundation.org/research/show/22685.html, Tax Foundation, Federal Taxes Paid vs. Spending Received by State, 1981-2005. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13].

[Data446] SFTR. State Federal Taxes Received (Millions Dollars). http://www.taxfoundation.org/research/show/22685.html, Tax Foundation, Federal Taxes Paid vs. Spending Received by State, 1981-2005. Note: This is an electronic source. Dates Retrieved: [2011.07.13], [2012.06.13].

[Data447] SLTAXBUR. State-Local Tax Burden Rate. http://www.taxfoundation.org/taxdata/show/335.html, Tax Foundation, State and Local Tax Burdens. Note: This is an electronic source. Dates Retrieved: [2011.08.02], [2013.03.05], [2014.05.30].

[Data448] St. State Name Short (St), Key.

[Data449] StudentP. School Age Population Ratio, U. S. Census Bureau, Students/Pop.

[Data450] Students. Estimated School Age Population–Ages 5-22. http://www.census.gov/popest/datasets.html, U. S. Census Bureau, Population Estimates–State population datasets–Population, Population change, and estimated components of population change. Note: This is an electronic source. Dates Retrieved: [2011.06.14], [2012.09.17].

[Data451] StYear. StateYear, Key, Concat(St,Year).

[Data452] Sucd. State Union Coverage Density (A Collective Bargaining). http://unionstats.gsu.edu/MonthlyLaborReviewArticle.htm, Barry T. Hirsch, David A. Macpherson, and Wayne G. Vroman, "Estimates of Union Density by State", Monthly Labor Review, Vol. 124, No. 7, July 2001, pp. 51-55. Note: This is an electronic source. Dates Retrieved: [2011.07.01], [2014.06.03].

[Data453] Sumd. State Union Membership Density (Union Members). http://unionstats.gsu.edu/MonthlyLaborReviewArticle.htm, Barry T. Hirsch, David A. Macpherson, and Wayne G. Vroman, "Estimates of Union Density by State", Monthly Labor Review, Vol. 124, No. 7, July 2001, pp. 51-55. Note: This is an electronic source. Dates Retrieved: [2011.07.01], [2014.06.03].

[Data454] TotalAre. State Total Area, In Sq. Mi. (2000 Census). https://www.census.gov/prod/cen2000/phc3-us-pt1.pdf, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2012.09.18], [2014.05.27].

[Data455] TotExpUt. Expenditure–Utility-Total. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2012.09.24], [2013.03.07], [2014.06.03].

[Data456] TotRvTax. Revenue–Taxes-Total.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2012.09.24], [2013.03.07], [2014.06.03].

[Data457] TRevIGFe. Revenue–Intergovernmental-From Federal Gov.-Total.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2012.09.24], [2013.03.07], [2014.06.03].

[Data458] TRevIGSt. Revenue–Intergovernmental-From State Govs.-Total.
http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2012.09.24], [2013.03.07], [2014.06.03].

[Data459] United Van Lines Migration Study. United Van Lines Migration Study Inbound Shipments. Unpublished, 2012. Contact: Melissa˙Sullivan@unigroupinc.com, Manager Marketing Communications.

[Data460] United Van Lines Migration Study. United Van Lines Migration Study Inbound Shipments %. Unpublished, 2012. Contact: Melissa˙Sullivan@unigroupinc.com, Manager Marketing Communications.

[Data461] United Van Lines Migration Study. United Van Lines Migration Study Outbound Shipments. Unpublished, 2012. Contact: Melissa˙Sullivan@unigroupinc.com, Manager Marketing Communications.

[Data462] United Van Lines Migration Study. United Van Lines Migration Study Outbound Shipments %. Unpublished, 2012. Contact: Melissa˙Sullivan@unigroupinc.com, Manager Marketing Communications.

[Data463] VCTIA. Venture Captial–Total Investment Amount.
https://www.pwcmoneytree.com/MTPublic/ns/nav.jsp?page=historical,

PricewaterhouseCoopers/National Venture Capital Association MoneyTree(tm) Report. Note: This is an electronic source. Dates Retrieved: [2012.04.16]. The MoneyTree Report records cash for equity investments as the cash is actually received by the company (also called a tranch) as opposed to when financing is committed (often referred to as a ""term sheet"") to a company. Accordingly, the amount reported in a given quarter may be less than the total round amount committed to the company at the time when the round of financing closed.

[Data464] VCTND. Venture Capital–Total Number Of Deals. https://www.pwcmoneytree.com/MTPublic/ns/nav.jsp?page=historical, PricewaterhouseCoopers/National Venture Capital Association MoneyTree(tm) Report. Note: This is an electronic source. Dates Retrieved: [2012.04.16]. The MoneyTree Report records cash for equity investments as the cash is actually received by the company (also called a tranch) as opposed to when financing is committed (often referred to as a ""term sheet"") to a company. Accordingly, the amount reported in a given quarter may be less than the total round amount committed to the company at the time when the round of financing closed.

[Data465] WaterAre. State Water Area, In Sq. Mi. (2000 Census). https://www.census.gov/prod/cen2000/phc3-us-pt1.pdf, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2012.09.18], [2014.05.27].

[Data466] WRevIGFe. Revenue–Intergovernmental-From Federal Gov.-Public Welfare. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data467] WRevIGSt. Revenue–Intergovernmental-From State Govs.-Public Welfare. http://www.census.gov/govs/estimate/historical_data.html, U. S. Census Bureau, State

and Local Summary Tables by Level of Government. Note: This is an electronic source. Dates Retrieved: [2011.07.20], [2012.09.24], [2013.03.07], [2014.06.03].

[Data468] YEAR. Year, Key.

[Data469] YOUTH. Population 18 and Under (Except 1960 19 and Under). http://www.census.gov/popest/datasets.html, U. S. Census Bureau, Population Estimates–State population datasets–Population, Population change, and estimated components of population change. Note: This is an electronic source. Dates Retrieved: [2011.06.14], [2012.09.17].