Economic Report To The Governor

1989
STATE OF UTAH
NORMAN H. BANGERTER, GOVERNOR

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State Economic Coordinating Committee

Utah Office of Planning and Budget
Utah Department of Employment Security
Utah Department of Community and Economic Development
Utah State Tax Commission
Utah Energy Office
University of Utah, Bureau of Economic and Business Research
Utah State University, Department of Economics
First Security Bank Corporation

State of Utah

TABLE OF CONTENTS

PREFACE

Utah and the nation continually feel the effects of economic change. Although Utah has received some better economic news in 1988, the Utah economy has displayed only moderate improvement. Because of this many people in Utah have felt the effects of a sluggish economy. This report attempts to describe Utah's economic performance over the past year, point out some significant trends and provide an outlook for the short and long term. This report describes the changes and trends in employment, retail sales, construction, wages, personal income and state gross product in Utah. It also includes information on Utah's population growth and demographic trends. Considerable national economic information including gross national product, interest rates and prices are also included.

This, the third annual Economic Report to the Governor represents a joint effort between several state agencies which form the State Economic Coordinating Committee. This committee was formed in 1986 by request of Governor Bangerter. The purpose of the committee is to promote better economic data and analysis of economic issues through interagency cooperation. Another purpose is to discuss the outlook of the state's economy for assistance in developing revenue estimates. The committee anticipates to publish this report annually. The committee is comprised of the following agencies:

Utah Office of Planning and Budget
Utah Department of Employment Security
Utah Department of Community and Economic Development
Utah State Tax Commission
Utah Energy Office
University of Utah, Bureau of Economic and Business Research
Utah State University, Department of Economics

Beyond these agencies, contributions to the committee and to this report were made by Dr. Kelly Matthews, Senior Vice-President and Economist, First Security Bank Corporation.

This report contains the most recent data available as of December 15. However, all of the data for many of the categories for 1988 have not been collected. Therefore annual totals and annual averages have been estimated for the current year based on all actual data which have been collected to date. These data are referred to in the report as projections or preliminary estimates. Revisions to these data items will be made later in 1989, once all final data have been collected and processed.

Much of the information which is described in this report is found in other state publications. This report is an effort to summarize and interpret much of that economic and demographic information in a single document. Other regular publications from the state agencies involved in the report where more detailed information can be found are listed in the appendix.

LIST OF TABLES

LIST OF FIGURES

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January 24, 1989

To My Fellow Utahns:

I am pleased to present the third annual Economic Report to the Governor for 1989. The report is produced by the Economic Coordinating Committee which I created in 1986 and consists of various state agencies and state university departments. I asked the committee to publish a succinct document that will in one volume describe the economic and demographic trends affecting Utah citizens. From the first publication in January 1987, the response to the report has been excellent. This year's report is even better thanks to suggestions made by its many readers.

As in the past, the report covers the trends in employment, wages, personal income, energy prices, tax revenues, population and demographics. The report continues its "Critical Industries Analysis" begun last year by covering the state's High Technology industry. The committee also added a new "Special Report" section covering "Rural Utah" and the "Workforce 2000" project. However, the report still maintains the essential aspect of being brief and readable.

Most exciting of all is that the report details the state's significant rebound from two years of economic stagnation. The report analyzes the causes of the slowdown as well as the forces bringing about the state's recovery. I hope that Utahns from all walks of life will take the opportunity to read this report. It helps us all better understand the past and present so that we may better prepare for the future.

Sincerely,

Norman H. Bangerter
Governor

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This economic report will discuss the trends and events that have occurred in the Utah economy during the 1980s with special emphasis on the last two years. The decade of the eighties has indeed been a unique era for Utah's economy. Annual average employment growth in the 1980's has been slower than for any decade since the 1930s. Furthermore, average annual wages, when adjusted for inflation, have decreased.

Although the 1980s have brought slower growth, this should not overshadow the positive factors taking place in the Utah economy. In 1988 a major turnaround has taken place. For instance, net new job growth of some 18,300 jobs this year has been greater than 1986 and 1987 combined. This growth has occurred mainly in the service and manufacturing sectors; whereas, declines occurred in defense and construction employment. Unemployment rates have dropped to a level of almost full employment. The annual unemployment rate for 1988 is projected to be 5.1 percent, the lowest annual rate in the 1980's. Wages, personal income, and retail sales are all projected to grow at considerably faster rates than 1987.

Geneva Steel and B.P. Minerals (formerly Kennecott) reopened in the second half of 1987. The ripple effects of these reopenings have helped boost the 1988 economy. Several expansions to existing firms and hirings by new firms coming to Utah also contributed to the expansion. These new openings and major expansions include, Everex Systems, Western Gear, Pepcon, American Metal Foundry, SPS Technology, Grumman Aerospace, Lucas Technologies, Sanyo-Icon, Ute Manufacturing, Shopko, CPS, Great American West, Delta Airlines, McDonnell Douglas, Eastern Airlines, Stouffer Foods, and Word Perfect. Construction of the new regional prison and continued work on the Jordanelle Dam also helped lift employment and incomes.

On the down side, contractions and closures in 1988 forced layoffs at Beehive International, Wicat Systems, Holy Cross Hospital, Judkins Co., Utah Title and Abstract, Hewlett-Packard, Bennett Paint, First Interstate Bank, Castle Gate Coal Co., Sunnyside Mine, Fidelity Investments and Continental Airlines.

Utah continued to experience out-migration in 1988. This out-migration has contributed to the lowering of the unemployment rate, the increase in housing foreclosures and the continued construction slump. Vacancy rates remain stubbornly high in the Salt Lake area, and HUD foreclosures in 1988 stand at 1,467, compared to 866 in 1987 and 455 in 1986.

This year's report includes an analysis of most of the important indicators with which the health of the Utah economy can be measured. The report also continues the "Critical Industry Analysis" section begun last year. This year the section includes an analysis of the defense and the high technology industries in Utah. Two other special chapters are also in this year's report. One features an analysis of the rural Utah economy and the other features the "Workforce 2000" project which analyzes projections and issues surrounding the future of Utah's labor market.

The following subheadings are summaries of the major sections of this report. The executive summary attempts to capture the essence of the sections. For a more detailed look at each of the sections, the reader is referred to the complete text. For a quick overview of some of the major economic indicators, readers are referred to Table 41 on page 113.

Labor Market Activity

Historically, Utah has exhibited an unemployment rate one to two points below the national average. In fact, in the 12 years prior to 1987, Utah's jobless rate exceeded the U.S. average for only three months. This was at the height of the 1982-83 recession. In 1986, the unemployment rate averaged 6.0 percent while the national rate averaged 7.0 percent. In the last part of 1986 the monthly unemployment rate began to rise. This continued into 1987 and peaked in May at 6.8 percent, just slightly above the national rate. During the next 15 months, the unemployment rate dropped significantly. By August 1987 it stood at 4.7 percent, a 30 percent reduction. Utah's 1988 annual average unemployment rate is projected to be 5.1 percent, the lowest rate of the 1980's.

The unemployment rates in Utah's counties indicate a widening disparity between metropolitan and nonmetropolitan economies. In 1981, when the state unemployment rate averaged 6.6 percent, only two counties experienced unemployment rates above 10 percent. In 1987, with state unemployment averaging 6.3 percent for the year, 11 counties, all rural, experienced double-digit unemployment rates. However, with the state unemployment rate falling to 5.1 percent in 1988, only four nonmetropolitan counties experienced double-digit unemployment rates. Like the state, however, county unemployment rate declines are affected by out-migration.

Employment Growth

After slowing considerably during 1986 and 1987, nonagricultural job growth in Utah is once again accelerating. In 1988 more new jobs will be created than in the last two years combined. After the 1982-83 recession, the state created 34,101 jobs in 1984. Since then job creation slowed to 23,289 in 1985, 9,751 in 1986 and 6,160 in 1987. However in 1988 this trend finally reversed and 18,300 new jobs were created, a 2.9 percent increase.

Although Utah is experiencing slower rates of growth in the 1980's than previous decades, its growth is good by national comparisons. Between 1980 and 1987, Utah ranked sixteenth in the nation in employment growth. During this time, total Utah employment grew by 16.2 percent while national employment grew by only 11.2 percent. With Utah's employment growth in 1988 above the national average, Utah should look even better by national standards when the 1988 data are compiled.

Wages

Total wages in 1988 are expected to grow by 5.8 percent. In comparison, wages increased by 3.1 percent in 1986 and 3.6 percent in 1987. The average wage grew by 1.6 percent in 1986, 2.6 percent in 1987 and is projected to grow by 2.9 percent in 1988. When adjusted for inflation, the average monthly wage is projected to fall by 1.1 percent in 1988 and has been declining since 1984. From 1985 through 1987 the loss of higher paying jobs in primary metals, construction and mining have contributed to a decline in the rate of wage growth. In 1987 and 1988 many of those jobs came back, but at a lower wage and in fewer numbers than in previous years. Additionally, 1988 continued to have a declining average number of hours worked per week. It also appears that for Utah's work force besides construction and mining, wage increases were held to a minimum.

Utah's average annual pay for workers covered by unemployment insurance programs was $18,303 in 1987, up 2.5 percent from 1986. The average increase for the nation was 4.5 percent, nearly double the Utah rate. Utah's average pay was 87.8 percent of the U.S. average in 1987, down from 89.5 percent in 1986. In fact, from 1986 to 1987, Utah lost four places in pay level ranking, from thirty-third in 1986 to thity-seventh in 1987. Utah's 1981 pay level was 96 percent of the national average.

Personal Income

Utah's 1988 total personal income (TPI) is forecast to be $20.2 billion, up 5.8 percent, a rate of growth significantly larger than the 4.6 percent growth rate of 1987. Utah's TPI increased more rapidly than that of the United States during most of the past 16 years. Over the last seven years, the difference between Utah and U.S. growth rates has narrowed, and for the past four years Utah's rate of increase has been lower than that of the U.S.

Per capita personal income is an area's personal income divided by the total population as of July 1 of that year. Utah's 1988 per capita personal income (PCI) is estimated at approximately $11,900, a 4.7 percent increase over 1987. However, real (inflation adjusted) per capita income declined in 1988 by approximately 1.4 percent. From 1982 to 1987, Utah's real per capita income has decreased $614, compared to the $1,671 increase in the United States real per capita personal income.

Utah's 1987 per capita personal income of approximately $11,366 ranked forty-eighth among the fifty states. This is 73 percent of U.S. per capita income. Because Utah's population has a large number of children (the result of many years of high birth rates), this PCI comparison portrays Utah as a low income state. When household incomes are compared, however, Utah ranks thirty-third among the 50 states. In 1987 the average Utah household earned $36,860, 88.1 percent of the national average of $41,850.

Gross State Product

For the first time the U.S. Bureau of Economic Analysis (BEA) has published estimates of Gross State Product (GSP) for each state and the District of Columbia. Gross state product is the comprehensive measure of total production available for states and will assist in analyzing and forecasting trends in state economic activity. The gross state product of a state is the gross market value of the final goods and services produced by the labor and capital located within its borders. BEA has produced GSP estimates for the 50 states from 1963 to 1986.

Total GSP in Utah in 1986 was $24 billion, a 3.6 percent increase over 1985. Utah ranks thirty-seventh among the 50 states in total GSP. GSP per capita was forty-third among the 50 states at $14,419, significantly lower than the U.S. average of $17,387. In 1963 Utahns produced $30,300 per employed person compared to the national rate of $27,500 per employed person. Since then the national rate has surpassed Utah's production per employed person. Currently each employed Utahn produces $29,900 of GSP compared to the U.S. average of $33,600 of GSP per employed person. Manufacturing provides the largest contribution to GSP in Utah of all the major industries at 19.7 percent.

Demographic Characteristics

On July 1, 1988, the estimated population of Utah reached 1,695,000, a 0.9 percent or 15,000 resident increase above the 1987 revised estimate of 1,680,000. During the 1970s, Utah averaged an annual population growth rate of 3.3 percent. From 1980 to 1988, Utah's annual population growth rate has dropped to 1.8 percent.

The reasons for the significant drop in population growth rates are twofold: five consecutive years of out-migration; and a rather sharp decline in fertility rates. The out-migration is due to an economic growth rate that has not been able to keep pace with a fast growing labor force. Out-migration is estimated at 11,500 for the period July 1, 1987 through July 1, 1988. This is only slightly smaller than the 11,700 out-migrants experienced during the previous 12 months. Utah's employment growth rates for the last few years have been above national averages but not high enough to keep pace with those entering the labor force. Much of this out-migration is attributed to declines in the energy producing industries of Utah which created rapid in-migration during the energy boom years of the 1970's and early 1980's.

The number of live births in the state peaked in 1982 and dropped steadily through 1987. This decline in births in the eighties is taking place in every county and every age specific group. As a result, the total fertility rate has dropped from 3.2 (3.2 children per woman during a lifetime) to an estimated 2.5 in 1987. However, the period from July 1, 1987 through July 1, 1988 showed a slight increase in births (35,648) compared to the previous twelve months,(35,469) a 0.5 percent increase. Although total births during this time period increased slightly, there is no indication of whether the total fertility rate has stopped its decline.

Gross Taxable Sales

Utah's gross taxable sales can be divided into three major components or categories: retail trade sales, business investment (which includes business equipment purchases and utility sales) and taxable service sales. Gross taxable sales represent a rather significant portion (about 53 percent) of the production side of Utah's gross state product. Between 1986 and 1987 Utah gross taxable sales fell in six out of eight quarters. If inflation is considered, real taxable sales fell in nine consecutive quarters from the first quarter of 1986 through the first quarter of 1988. However, due to collection from a large audit and to a rebound in both retail sales and

business investment, gross taxable sales increased 11.9 percent in the second quarter of 1988. Preliminary sales tax data suggest that in the third calendar quarter 1988 taxable sales may have grown 6 to 8 percent over 1987 sales.

The largest portion, 57 percent, of gross taxable sales, consists of retail trade sales. After sliding almost 1 percent in 1987, Utah's taxable retail sales should grow between 5 and 6 percent in 1988. During the first half of 1988 retail sales were up 4.5 percent. Nationally, retail sales grew 7 percent in the first half of 1988. The growth in retail sales in 1988 will be led by the sales of durable goods (automobiles, appliances, etc.). After falling almost 10 percent from $2.5 billion in 1986 to $2.3 billion in 1987, durable goods sales should approach $2.4 billion in 1988, an increase of 7.8 percent. Nondurable goods sales will grow slightly less. During the first half of 1988 nondurable retail sales increased 3.4 percent.

The second major component, business equipment purchases and utility sales, comprises 28 percent of gross taxable sales. The decline in Utah's business equipment investment from $4.3 billion in 1984 to only $3.4 billion in 1987 contributed to the need for the 1987 sales tax increase. The $856 million drop in investment at a 6 percent sales tax rate equates to a $51.4 million loss in revenue. This decline in taxable sales contributed to the significant revenue shortfall during fiscal years 1985-86 and 1986-87. This decline continued even into the first two quarters of fiscal year 1987-88. However, it appears that the decline in this sector has finally subsided. After falling 2.6 percent in the first quarter of 1988, business investment and utility sales jumped 26 percent in the second quarter. Excluding a one time audit, the actual growth in purchases was 12 percent. Thus, during the first half of 1988 taxable business investment rose 4.4 percent.

The final major component of gross taxable sales is taxable services which amounts to 12 percent of the total tax base. During the first half of 1988 taxable services increased almost 8 percent. Personal services, comprising almost 54 percent of taxable services, and dominated by the auto repairs and rentals, experienced a 5.6 percent growth rate during the first two quarters of 1988. Business services, which comprise about 46 percent of taxable services, rose 8.6 percent in the first half of 1988.

Construction Activity

Residential construction activity (single and multi-family construction) continued its three year downward trend in 1988. Total dwelling units authorized are projected to decline 24.7 percent in 1988 to 5,500 units compared to 7,305 in 1987. In the last two years residential construction activity has declined 60 percent. The declines being experienced in 1988 (though not as sharp as 1987's) were caused by similar factors. Over building of multi-family units in the early 1980's created a surplus of these structures. Single-family units were down due to slightly higher mortgage interest rates and demographic changes resulting from out-migration and slow economic expansion in Utah's economy.

Multi-family construction is projected to be down 35 percent from 775 units authorized in 1987 to 500 units in 1988. Over building and slow economic expansion of the economy have continued to slow multi-family building. Single family construction has continued to dominate residential construction activity in 1988. Ninety percent of the housing authorized in the last two years has been single-family units. However, even single family dwellings in 1988 are projected to be down 23 percent to 5,000 units compared to 6,530 units in 1987.

Vacancy rates for multi-family units in Salt Lake County are segmented between newer, larger projects built in the last five years and smaller older projects built before the early 1980's. The newer projects have vacancy rates of less than 10 percent and the older projects have vacancy rates above 10 percent. In general vacancy rates in Salt Lake County remain sufficiently high enough to thwart any attempt to raise rental rates.

Nonresidential construction value is expected to decrease by 27 percent to $300 million in 1988. The main reasons for this decline are: 1) weak demand for office and professional, because of over building and changes in tax laws; 2) decreased expenditures for public buildings; 3) slower economic growth.

Prices and Inflation

Inflation, over the last four years, as measured by the Consumer Price Index, has slowed measurably. In 1984, the inflation rate was 4.3 percent, for 1985 it fell to 3.6 percent, in 1986 it slowed to 1.9 percent. In 1987, it increased slightly to 3.6 percent. The projected rate for 1988 is 4.2 percent. These rates are significantly lower than the double digit rates the nation experienced between 1979-1981. Probably the single biggest reason for the decline in the inflation rate is the intensification of international competition. Such forces have dampened wage rates and commodity price increases, lowered profits and forced U. S. companies to increase productivity in order to stay competitive.

By the second quarter of 1988, however, recessionary fears relating to the stock market crash had diminished sharply and were being replaced by concerns of renewed accelerating inflation. By the end of third quarter 1988, slower economic growth, along with lower oil and gold prices and an appreciated U.S.-dollar exchange rate, left inflationary expectations in a holding pattern, somewhere in the 4 to 5 percent range.

As the Bureau of Labor Statistics does not produce a Utah consumer price index, comparable local inflation measurements are not available. There are, however, two other sources of price information which provide some data pertaining to local cost patterns. The American Chamber of Commerce Researchers Association (ACCRA) produces measures of relative price levels in participating cities, as compared with a national average of 100. These price comparisons are for a single point in time. In the second quarter of 1988, the all-items index for Salt Lake City was 98.3 percent of the national average, unchanged from the first quarter. The Provo index for the second quarter was 90.8 percent.

Beginning in March 1988, First Security Bank contracted with a private research firm to develop a consumer price index for the Wasatch Front. During the seven-month period from March to September, the cumulative price increase in the Wasatch Front Cost of Living Index was 0.4 percent, compared with a national increase of 3.1 percent. The major differences were in the areas of housing and clothing. Housing, which accounts for 34 percent of the consumer budget, was down 1.4 percent along the Wasatch Front, compared with a 2.7 percent gain nationwide. Clothing costs locally during the seven-month period dropped 3.2 percent—a sharp divergence from the 6.8 percent rise recorded nationally.

Energy and Minerals Production and Prices

There were positive and negative aspects to Utah's energy and minerals industry in 1987. Copper production surged following the reactivation of B.P. Minerals' (formerly Kennecott) Bingham mine. The demand for coal by Utah's electrical power plants brought coal production near an all-time high. Petroleum output, however, continued to slide as soft and uncertain prices inhibited new drilling. Uranium mining also sputtered because of a nationwide glut which kept prices well below the cost of production.

The value of non-fuel minerals produced in Utah during 1987 approached $700 million. This was 87 percent more than the $374 million reached in 1986. This dramatic increase is primarily attributable to the reopening of B. P. Minerals. Copper, gold, magnesium and silver accounted for over two-thirds of the total value of non-fuel mineral production. The return of Geneva Works on August 31, 1987, under new ownership, one year after its closure, has led to increased production and consumption of iron ore. On the negative side, the destruction of AMAX Magnesium's solar evaporation ponds during a June 1986 storm caused Utah's magnesium production to decline. However, AMAX has recovered from the storm's damage and is back in full production. The 1988 value of total non-fuel minerals is expected to approach the $1 billion mark. Copper, gold, magnesium and silver production will account for more than three-quarters of this value.

Coal in net production from the state's 20 producing mines reached 16.5 million tons in 1987 -- just 0.4 million tons less than the record-setting production of 1982. In 1988 production should increase again to approximately 18.0 million tons, an all time high. Oil production, on the other hand, should decline again in 1988 to approximately 34.0 million barrels. This is due to oil prices slipping below $14.00 a barrel in the second half of the year. In the absence of a dramatic and sustained price increase to at least $25 per barrel, Utah

drilling activity will probably remain at its current depressed level.

Tax Collections

Tax collections in fiscal year 1988 showed significant improvements largely due to tax increases, increased oil prices, and the increase in employment including the reopening of Geneva Steel and B.P. Minerals. The tax increases included a 1/2 cent increase in the sales tax effective March 31, 1987; an 11 cents increase per pack in cigarette taxes effective April 27, 1987; a 5 cents per gallon increase in motor and special fuels effective April 1, 1987; and, windfalls from federal income tax reform effective January 1, 1987. Since Utah couples its income taxes to federal taxable income, and the federal Tax Reform Act of 1986 eliminated many deductions in exchange for lower rates, the state realized higher tax yields from an expanded tax base.

The improvements in the economy in calendar year 1988 should help increase revenue collections in fiscal year 1989. Tax collections should improve in fiscal year 1989 due to higher profits and bonus payments at B.P. Minerals and Geneva Steel, strong growth in the service sector, growth in tourism, expansions of new and existing firms and increased employment and productivity in general.

Intermountain Region

The Intermountain Region (or Mountain Division as defined by the Bureau of the Census) includes the states of Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming. The past five years (1982 to 1987) have been tough to the regional economy of the intermountain states. This energy rich region has suffered economically from the drop in oil prices during the 1980's. In addition, the agricultural sector has been depressed. Agriculture and energy are major elements in the economy, as are other natural resource based industries such as timber and metal mining. Weakness in these natural resource based industries has spread to related industries such as construction and financial services. As a result of these influences the economy of the intermountain region has not performed well during the nation's current economic expansion.

The "oil bust" and other weaknesses in natural resource based industries has required a significant amount of economic restructuring among the intermountain states. Though there has been some improvement, residual problems continue, particularly in construction.

Utah's economy during the eighties has performed better than most of its neighboring states. Of the eight mountain states, Utah ranks third in nonagricultural jobs created and fourth in personal income growth and population growth from 1982-1987.

National Outlook

History suggests that a contraction in the national economy is overdue. The current economic expansion became six years old this November. This is 39 months longer than the average for the previous 30 business cycles. Only the World War II and Vietnam conflict expansions lasted longer. There have been 14 elections since 1929, excluding this most recent election. Nine of the 11 recessions since 1929 started in the first year of a President's term. The other two recessions started the year of the President's election. Also, long-term bond and T-Bill rates increased after six of the last seven Presidential elections. The Federal Reserve also raised the discount rate in five of those post election years.

Although a recession is possible in 1989 most economists are forecasting real GNP growth in the 2 to 2.5 percent range. A slowdown in export growth, moderate consumer spending, slightly higher interest rates and a weaker dollar are cited as reasons for the expected slowdown. The onset of a recession would require a collapse of the dollar, a sharp contraction in consumer spending, severe tightening in monetary policy, a financial crisis, or some other unforeseen calamity. The economy has survived six years of unprecedented federal deficits without a crisis and it is possible that it could survive more.

Continued strong performance in the national economy will be followed by rising interest rates. Rising

interest rates will eventually lead to the onset of recessionary forces. However, a recession could be avoided next year if a budget deficit reduction accord is reached enabling real interest rates to be lowered. Unprecedented levels of individual, business and government debt make continued worldwide economic growth essential. Money is currently being loaned to Third World countries to pay overdue interest and many savings and loans institutions are insolvent. A global recession would make repayment that much more difficult for debtors and could necessitate taxpayer bailouts.

Utah Outlook

Utah's prosperity is largely affected by international market forces and federal spending. Prices for many Utah commodities are affected by international supply and demand, and the exchange rate of the dollar. A less valuable dollar makes import goods more expensive and export goods less expensive. The exchange rate is in turn affected by the size of the federal debt and deficit. Utah's economy will continue to be affected by outside forces.

A stable dollar and reductions in the federal deficit could keep real interest rates from rising in 1989 and help prevent a national downturn. A healthy national economy and lower real interest rates could boost the Utah economy. If the federal deficit is decreased with expenditure reductions in federal land administration or defense, however, the Utah economy could be adversely affected. Utah's defense industry is already experiencing employment reductions. Whether or not additional reductions occur depends largely on decisions made in Washington. If Congress and President-elect Bush fail to agree on a deficit reduction plan then across the board Gramm-Rudman cuts would be imposed. Gramm-Rudman cuts could disproportionately affect defense spending and may be the preferable alternative for members of Congress who believe that the cuts would otherwise come from the domestic budget.

The economic outlook for Utah in 1989 mirrors the outlook for the national economy and is one of slower but moderate growth. Population, employment, wages, and incomes should all grow in 1989. Out-migration is expected to continue, however, for the sixth consecutive year. Population is projected to grow by 1.3 percent compared to an increase of only 0.9 percent in 1988. Nonagricultural employment is expected to increase by 2.5 percent for an increase of 16,700 jobs. Finally, personal income is expected to grow by 5.9 percent and nonagricultural wages should increase by 5.7 percent.

Utah's Long Term Outlook

Utah is projected to have almost one million more inhabitants in the year 2010 than were counted during the census in 1980. The state is projected to reach a population just over 2.4 million in the year 2010. This represents an average annual rate of growth of 1.7 percent from the July 1, 1988 population of 1,695,000. While this rate of growth is significantly lower than that of Utah's rate of 2.5 percent from 1950 to 1980, it is a rate more than double the national growth rate over the same period.

Utah's population projections indicate, when compared with recently completed projections by the U.S. Bureau of the Census for all states, that Utah would be the ninth fastest growing state in the U.S. during the decade of the 1980's and the eighth fastest growing state in the 1990's. Utah ranked thirty-sixth among all fifty states in population in 1980 and is expected to rise to thirty-fourth place by the year 2000.

Utah will continue to have a relatively rapidly growing school age population over the next five years, then peak and will begin to decline until the year 2003 when it begins to increase again. The temporary decline in school age population is primarily due to Utah's declining fertility rate. However, Utah will still have a 17 percent increase in school age population during the period 1987-2010, while the nation's school age population will grow less than 1 percent. Utah is projected to continue to have the youngest population in the nation. Utah's median age in the year 2010 is projected to be 30.5 years while the nation will have a projected median age of 39.0 years.

Although the current out-migration trend is not seen to continue every year of the next two decades,

the large increase in the labor force will likely create periods of some out-migration in Utah's future unless job growth is larger than has been experienced historically.

High Technology Activity in Utah

With activities ranging from aerospace systems design to applications software development, Utah has been labeled an "aspiring high tech mecca." Over the past decade, the number of technology-oriented firms doing business in Utah has increased significantly creating new employment opportunities and broadening the state's economic base.

According to a survey of Utah's high tech firms completed by the Bureau of Economic and Business Research (BEBR) in 1988, Utah is home for approximately 267 technology firms. These are entities that spend at least 3.1 percent of their revenues for R&D and new product development, and have a proportion of technology-oriented workers that is greater than 6.3 percent of the labor force. (Both of these conditions must be met before a company can be accurately defined as high tech.)

Employment in the high tech sector reached 34,215 in 1987. Almost 11,500 were classified as scientific or technical employees (scientists, engineers, computer programers, or engineering technicians with at least a two-year degree). These firms generated $3.1 billion in sales and spent $632 million on R&D and product development.

In every sense, high technology will continue to be the wave of the future. However, recent events may affect the degree to which high technology can continue to expand. One of the most important issues facing high tech firms is the availability of venture or "risk" capital.

Defense and Space Activity in Utah

Federal spending on defense and space programs continues to account for a substantial portion of Utah's economy, though at a slightly smaller level than last year. The total direct federal defense contribution amounts to $2.3 billion in 1987. When combined with identified NASA spending in Utah, the resulting $2.6 billion figure accounts for nearly 14 percent of Utah personal income. That amount is down from the fiscal 1986 figure of 16 percent of personal income. By applying a reasonable multiplier of 1.9 to 2.1 to the $2.6 billion, one can see that nearly 30 percent of Utah's personal income is derived from this source.

On the national level, annual increases in defense spending have dropped significantly from the double-digit figures of the early 1980's to an increase of about 3 percent between fiscal years 1986 and 1987. The early 1980's in Utah witnessed a continuous growth in the state's share of federal defense spending that was far in excess of national increases. Between 1986 and 1987, however, defense and space spending in Utah fell for the first time in the decade. Nearly all of the 12 percent decline is in contracts from the Department of Defense (DOD) and National Aeronautics and Space Administration (NASA). Such a significant drop is a reflection of the volatility in the awarding of defense and space contracts.

The Rural Utah Economy

The decade of the 1980s has not been kind to the nonmetropolitan counties of Utah and the western states. The 1970's brought hope to nonmetropolitan areas. New jobs were being created because of increased demand for the abundant natural resources of these areas. This halted the steady migration from small towns and farms to the cities, and raised the standard of living. The 1980's have reversed this trend and have brought a return of high unemployment, out-migration, lower land values, and numerous business failures. However, while a quick look at the data does reveal a generally distressed economy, it is certainly not uniformly bleak, nor is the rural landscape without its bright spots.

Throughout the West the rural counties that are prospering are typically tied to a thriving university or government installation or have become a retirement/tourism mecca. Most of the other rural counties of the

West have resource based economies (dependent upon agriculture, mining, or forestry). These economies have been stagnant throughout the 1980's and are characterized by high unemployment and out-migration.

From an economic perspective rural Utah is typical of the rural West. There are both thriving and stagnant regions as well as a few areas that seem to continue to experience slow and steady growth. Generally speaking, unemployment rates are higher and wages are somewhat lower than in the metropolitan areas of the West. The small size of a rural county's economy leaves it vulnerable to the ups and downs of individual employers and individual industries. As the 1980s have brought intensified global competition this exposure has caused much concern. The Western Governors' Association has responded with a series of studies conducted primarily by SRI International on rural economic development strategies. The State of Utah was, in fact, used as a pilot project in the studies. The final report on Utah was published in December, 1988 and is entitled "Utah's Rural Development Strategy." Implementation of the strategy will take place over the next two years. Those wishing to learn more about the state's Rural Development Strategy should contact the Utah Department of Community and Economic Development.

Utah Workforce 2000

In 1987 Governor Bangerter initiated "Utah Workforce 2000". A task force of some 40 citizens was formed and asked to develop a set of policy options to promote policies and programs that will strengthen the Utah workforce and economy through the year 2000. Part of their mission was to analyze projections of the labor force through the year 2000 and to prepare policies to give direction to the development of opportunities for this emerging workforce. The Utah Department of Employment Security, Labor Market Information Services provided the major staff support for this effort.

Projections for Utah's labor force in the year 2000 include over 1 million labor force participants, up one-third from 1986. On the surface, this gain seems large. Nevertheless, growth in the labor force will actually slowdown between now and the year 2000, because of slower population expansion. Differences in age, sex, and ethnic status will generate a Utah labor force substantially different from that of today.

Remarkably, youth (16-24 years old) will account for approximately the same share of Utah's labor force in 2000 as in 1986. This trend contrasts sharply with the rest of the nation where the youth labor force has already begun to contract. The large percentage of young Utahns who work, adds to the contrast between the Utah and U.S. "Workforce 2000". Currently, participation for 16-19 year olds is 15 percentage points higher in Utah than in the United States in total. If well-trained, this young labor force should give Utah a definite advantage in the year 2000.

Technology will continue to play an important role in Utah jobs. However, high tech jobs will not be the major growth industry of the future. Service-producing jobs are expected to show the highest levels of expansion. Occupations will adapt to new technologies and education and retraining will become vitally important for the Utah workers of the year 2000.

ECONOMIC DEVELOPMENT ACTIVITIES

ECONOMIC DEVELOPMENT ACTIVITIES

Economic development has become a top public policy issue in the 1980's. The sources for this concern are complex and include intensifying global competition, stagnant real wages, plant closures, underemployment, and a general malaise about our ability to maintain or improve our standard of living and provide economic opportunities to our children. The challenge is even further complicated in Utah by a birth rate which is 36 percent higher than the national average. The rapidly growing population requires a robust economy to absorb the young people into the labor force and to avoid downward pressure on wage levels and out-migration.

Economic development is sometimes thought to be synonymous with corporate plant recruitment and job creation. It is actually much more than this.

> Economic development is the process through which we increase wealth. Wealth is the capacity to produce goods and services that we value. The goods and services we value include not only those items that are traded in market places but also less tangible things such as the quality of the environment, public security, and other elements that contribute to our sense of well-being. (Robert J. Vaughan, Robert Pollard, and Barbara Dyer, The Wealth of States, Council of State Planning Agencies, Washington, D.C., 1985).

With this broad definition the keys to economic development become innovation, technology, entrepreneurial activity, productivity, competitiveness, and sound investment decisions. However, because of the difficulty of measuring these keys we are often left with using simpler, traditional measures such as new jobs. Still, it should be noted that the creation or retention of jobs is not always the same thing as economic development. The modernization of Kennecott is a case in point. The modernization changed the copper operation substantially. Employment was cut in half. It also resulted in a far more competitive and profitable operation. This certainly qualifies as economic development even though the actual number of jobs was reduced.

State Efforts to Promote Economic Development

Twenty-five years ago there was little public sector involvement in the promotion of economic activity apart from crude efforts to attract out-of-state business and advertising to lure tourists. Today, however, all 50 states and thousands of local governments and private organizations are heavily involved in very sophisticated efforts to enhance economic activity within their borders. In addition to the traditional roles these efforts include encouraging technology transfer and research and development linkages between universities and private industry, providing loan guarantees or revolving loan funds for small business, providing a source of "seed" capital for business start-ups, assistance in identifying foreign markets, and many, many more.

Despite this proliferation of economic development programs, however, the most powerful economic forces under a state's control remain the education of the population, the development and maintenance of the infrastructure (roads, airports, water systems, parks, etc.), and the ensuring of a competitive tax structure and a fair legal, and regulatory environment. The State of Utah recognizes the importance of these forces to the economy and has taken action in recent years to strengthen funding for education and infrastructure and to carefully monitor the regulatory environment. Governor Bangerter has indicated that a major thrust of his second term will be attending to the infrastructure needs of the state, particularly roads and water. Wise investment in infrastructure will facilitate a strong economy in the 1990's.

During the first term of the Bangerter Administration there was a substantial increase in funding for the Department of Community and Economic Development. The department administers a wide variety of programs designed to stimulate economic activity in the state. State General Fund appropriations to Economic Development increased from $3.2 million in Fiscal Year 1984 to $12.3 million in Fiscal Year 1989. Utah's current Economic Development programs include:

1) Urban Corporate Recruiting-Attracts out-of-state companies to the metropolitan areas of Utah.

2) Rural Corporate Recruiting-Attracts out-of-state companies to the non-metropolitan areas of

Utah.

3) International Marketing-Facilitates the exporting of Utah manufactured goods; attracts foreign investment into the state; and attracts Japanese tourists to Utah.

4) Utah Travel Council-Attracts out-of-state visitors to Utah.

5) Utah Film Commission-Markets Utah as a destination location for theatrical, television, and commercial productions and facilitates the use of in-state industry support services and technical crews.

6) Federal Procurement-Assists Utah small businesses in obtaining contracts to supply goods or services to the federal government.

7) Job Training-Administers the federal Job Training Partnership Act. Administers both federal and state money to increase the job skills of Utah workers.

8) Business Liaison-Assists existing Utah businesses. Helps existing businesses to expand within the state.

9) Business Creation-Fosters the birth and expansion of high-growth, technology-oriented companies, primarily through the "Centers of Excellence" — a partnership among higher education, private industry, and state government.

The Utah Economic Development Annual Report, FY1988 provides a detailed list of accomplishments for each of these nine programs during the first term of the Bangerter Administration.

Results During 1988

1988 was a good year for economic development. Here are some of the highlights:

Nineteen companies announced their intentions to locate new plant operations in Utah. Total employment of these new companies is projected at 3,375. While most of these facilities will be built between Ogden and Provo, other sites include Washington, Cache, Iron, Carbon, and Juab Counties. These announcements bode well for the coming months since most of the 3,375 positions will not be filled until 1989 or 1990. Furthermore, the Capacity Utilization Rate for all manufacturing in the U.S. is currently at a ten year high water mark — 84 percent — suggesting continuing strong demand for new plant construction.

At least 20 existing Utah companies have been identified that are planning significant expansions during the coming year. These include both homegrown Utah companies and "transplants" and they should account for about 1,500 job openings during 1989.

In addition to the major events outlined above, there is the quiet, incremental expansion (and contraction) of hundreds of Utah small businesses and the entrepreneurial activity of thousands of Utahns. In an Inc. Magazine article (March 1988) David Birch of M.I.T. suggests that a surge in entrepreneurship often follows a recession or downturn in a community's dominant industry. He cites Dallas, Austin, Seattle, Detroit, and Boston as examples of places that were hit with hard economic times and that subsequently flourished with a wave of entrepreneurial activity. Salt Lake and the Intermountain Region were hard hit with the natural resource-related recession of 1986 and 1987. Utah may now be experiencing a spurt in job growth related to the growth in new businesses that followed that recession.

A survey of Utah small businesses in the fall of 1988 by Arthur Andersen & Co. found that 47

percent of them were planning to expand their work force in 1989 while just 9 percent were expecting to cut back. This is a significantly more optimistic forecast than those of the fall of 1987 and 1986. Just 25 percent of Utah's small businesses expected to expand last year and only 15 percent were planning expansions in 1986. The percentage of businesses expecting to cut back has remained fairly constant over the three year period, ranging from 6 to 9 percent.

Utah continues to lag behind many larger states in financial resources and in venture capital, in particular. However, some progress was made during 1988 and more is expected for 1989. At least four large, well-established venture capital companies from the West and East Coasts visited Utah during the past year and participated in substantive negotiations regarding the establishment of a "Utah Fund". The steady improvement in the venture capital picture in the state is reflected in the 1988 Development Report Card for the States by the Washington-based Corporation For Enterprise Development. Utah's score for venture capital (a sub-category of "Financial Resource Capacity") ranked the state seventeenth in the nation and second behind Colorado in the mountain states.

Utah's economic development prospects are very good. Unusually tight labor market conditions and high operating costs in the major West Coast metropolitan areas are causing companies to look for alternative sites such as Utah where the labor supply and costs are more favorable. Utah's work force ranks among the two or three most educated work forces of the 50 states. Utah's economy is also relatively well diversified for its size. And the state has an enviable natural resource endowment including spectacular scenery, copper, oil, coal, natural gas, gold, silver, zinc, uranium, molybdenum, salt, magnesium, and more. Prospects for further economic growth appear exceptionally good.

ECONOMIC INDICATORS AND CURRENT CONDITIONS

LABOR MARKET ACTIVITY

Utah's labor market experienced a considerable improvement in 1988 from its 1986-1987 slump. Although not reaching every industry, the recovery nevertheless was sufficiently broad based to open the door for further progress in 1989. Primary statistical indicators of the Utah labor market's strength include its labor force participation rates, the characteristics of its unemployed, the growth in its employed persons, and the wages its workers receive. The status and progress of Utah's economic recovery, as reflected by these indicators, are described in this section.

Labor Force Participation Rates

The extent to which Utah's population age 16 and older participates in the labor force fluctuates with the availability of jobs. Although the 1988 data are very preliminary, they do seem to show that, as the current recovery has accelerated, the participation rate has increased. This means that the disturbing two-year trend of Utah residents gradually leaving the labor force has ended.

During 1987 (the most current detailed figures available), an average of nearly 70 percent of the state's civilian, noninstitutional population aged 16 and older were members of the labor force. As shown in Table 1, this figure measures 4 percentage points above the national average. The primary reason for this differential is that Utah's labor force tends to be younger than that of the United States. Since younger adults (ages 20-44) are more likely to participate in the labor force than are older adults (over age 45) , Utah's participation rate is somewhat higher than the nation's. Utah's teenagers (ages 16 to 19) have much higher participation than their national counterparts (68.9 vs. 54.7 percent respectively). This factor also contributes to the total participation rate differential.

Not surprisingly, Utah's male participation rate is much higher than that of Utah women. However, as also shown in Table 1, there is a surprising trend in the historical relationship between these two statistics. In 1950, Utah's male-female participation rate gap was 57 percentage points — 25.3 to 82.5. By 1980 the gap was 30 points; in 1987 it had narrowed to only 20 points. This phenomenon is, of course, primarily because of the tremendous increase in female labor force participation. Male participation declined 2.5 points; female increased 35 points. Concurrently, Utah women have gradually moved from far behind to somewhat ahead of their national counterparts in labor force participation. This Utah - U.S. participation rate differential for 1987 is also because of the younger age distribution of Utah's women.

During 1987, labor force participation of Utah's women moved up 1.0 point from the previous year, while Utah's male participation rate fell 1.4 points. The drop in the male participation rate was the result of 9,000 fewer men in the labor force than in 1986. This is, to a large extent, because of the contraction of the male-dominated mining, construction and manufacturing industries.

Unemployment

In simple terms, the labor force consists of both employed and unemployed persons. By definition, the unemployed are not employed, and must be actively seeking work. The unemployment rate is the percent of the labor force that is unemployed. Historically, Utah has exhibited an unemployment rate one to two points below the national average (see Figure 1).

Since 1978, Utah's jobless rate has only exceeded the U.S. average for three months in 1983 (at the end of the 1982-83 recession), and for a good portion of 1987. However, it should be noted that Utah's 1987 unemployment rate was the highest since 1984.

In Utah's latest economic slump (1985-1988), the jobless rate peaked at 6.8 in May 1987, then began falling rapidly. During the next 15 months, the unemployment rate dropped 2.1 percentage points to 4.7 in August 1988. This was a 30 percent reduction. At 5.1, Utah's 1988 annual average unemployment rate will be the lowest rate of the 1980's. This is a remarkable turnaround from 1987's 6.3 percent. The 1989 rate is

expected to drift slightly upward to 5.2.

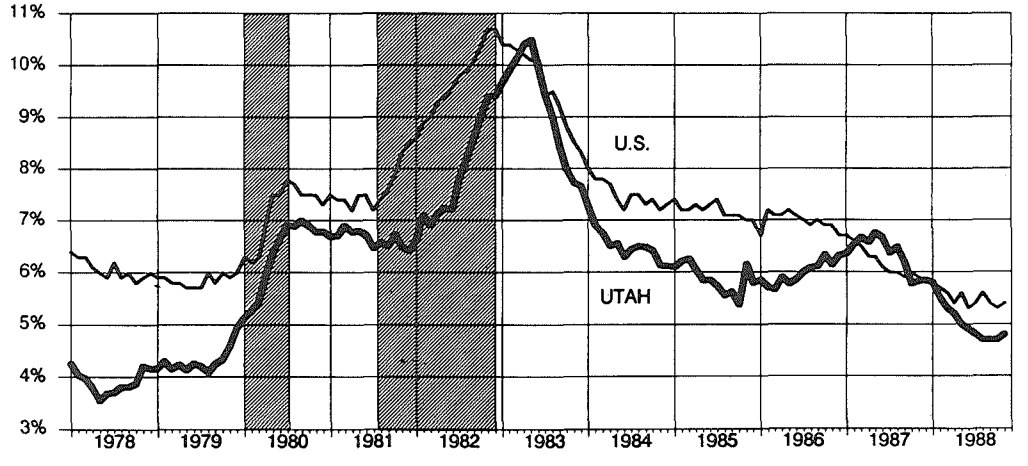
During recent years, a growing divergence in the level of unemployment between metropolitan and nonmetropolitan areas of Utah has occurred. For example, in 1981 when the state unemployment rate averaged 6.6 percent, only two counties (Wasatch and Sanpete) experienced unemployment above the 10 percent mark. In other words, unemployment was quite evenly distributed among Utah's counties. In 1983, with the state's unemployment at 9.2 percent, 15 nonmetropolitan and one metropolitan county had double digit unemployment. By 1987, Utah's unemployment had fallen to 6.3 percent. But 11 counties, all nonmetropolitan, still registered double digit unemployment rates. However, with the state unemployment rate falling to 5.1 in 1988, only four nonmetropolitan counties experienced double digit unemployment rates. This is a 64 percent reduction from 1987, and 73 percent less than 1983. Counties presently in this category are Duchesne, Juab, Piute and Sanpete (See Table 2).

Even though many of Utah's nonmetropolitan counties experienced a dramatic drop in jobless rates during 1988, the economic vitality of some of these is still marginal. Their declining jobless rates are not the direct result of new job opportunities, but of a declining number of workers in the area.

During 1988, economic strength continued in the nonmetropolitan counties of Washington, Cache and Box Elder. Also, 1988 brought new hope to Iron, Sanpete and Summit counties. The announcements of new major employers locating in these counties are expected to result in good economic growth in the future.

A review of the number of out-of-work individuals provides another labor market perspective. In 1983, following the height of the recession, approximately 64,000 Utah workers were without paid employment. By 1985, the number had dropped to 43,000. In 1988, the number of unemployed decreased further to average 38,400. It is expected to increase slightly to 40,000 in 1989.

Figure 1
Unemployment Rates for Utah and the United States: 1978–88



Shaded Areas Represent U.S. recessions.
Source: Ut Depart of Employment Security

Characteristics of the Unemployed

Utah teenagers and minorities suffer higher rates of joblessness than do their older, nonminority counterparts (See Table 3). In 1987, the unemployment rate for 16-to-19 year-olds measured 15.2, almost 2.5 times higher than the state all-ages rate. Persons age 45 to 54 exhibited the lowest unemployment rate — only 4.4. The jobless rate for females in Utah registered 6.5, virtually the same as the 6.3 for Utah males. Unemployment among minority groups was 9.9 percent, compared to 6.1 percent for Utah's white (non-Hispanic) population.

While the jobless rate is important in describing Utah's economic well-being, the duration of individual joblessness also sheds light on Utah's economy. In 1987, 50 percent of unemployed individuals were jobless for fewer than five weeks, while 10 percent were unemployed more than 27 weeks. This is a far different scene than in 1983: 38 percent were unemployed less than five weeks; 15 percent for 27 or more weeks. Thus, 1987's unemployed were not only fewer in number, they tended to be unemployed for a much shorter period. In each year from 1983 to 1987, unemployment of women tended to be of shorter duration than that of men (See Table 4).

Individuals become unemployed for various reasons: In 1987, 63 percent of Utah's male unemployed were "job losers," while 29 percent were new or reentrants to the labor force. In contrast, only 24 percent of the unemployed women were job losers; 58 percent were new or reentrants. In 1983, relatively more of the unemployed males and females were job-losers — 67.5 and 27.3 percent respectively (See Table 5).

Employment Growth

Nonagricultural employment growth is one of the most concrete indicators of a state's economic well-being. Although agricultural, domestic, and self-employed workers are excluded, this measure encompasses the vast majority of jobs within Utah.

Nonagricultural job growth in Utah, after slowing considerably the past two years, is once again accelerating (See Table 6). Job growth in 1984 and 1985 was strong (6.0 and 3.9 percent respectively). But it increased only 1.6 percent (9,800 jobs) in 1986, and a mere 1.0 percent (6,200 jobs) in 1987. This trend was reversed in 1988: 18,300 new jobs are projected to be created, an increase of 2.9 percent. In 1989, employment growth will likely slow slightly to 16,700 jobs (2.5 percent). Figures 2 and 3 illustrate these trends.

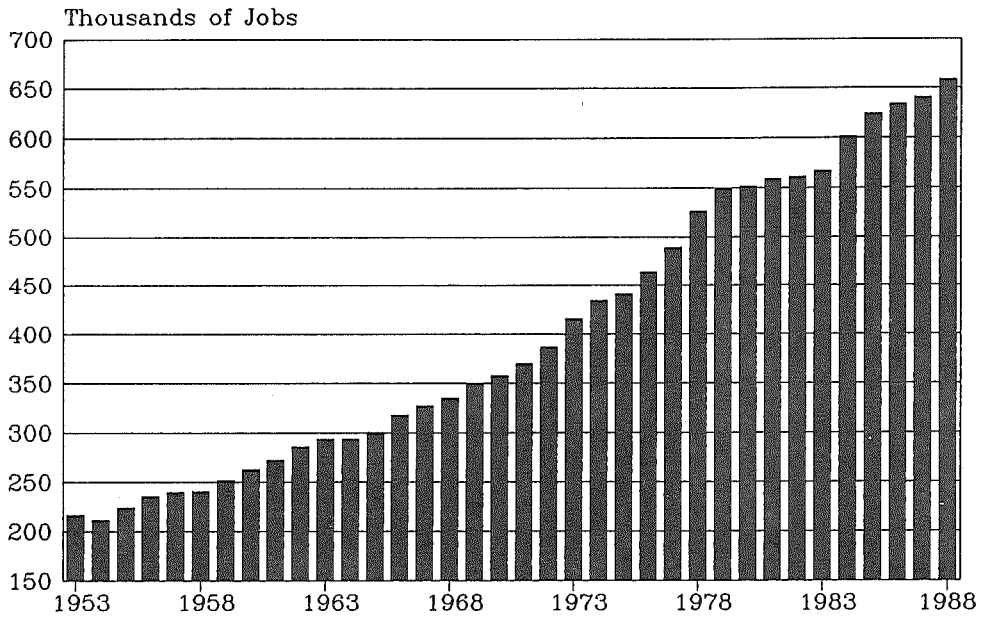
Goods-Producing and Service-Producing Industries

Industries are often classified into two main categories: goods-producing and service-producing. Goods-producing industries include mining, construction and manufacturing. Although technically a goods-producing industry, agriculture is generally categorized as a sector by itself. Service-producing industries include services, trade, transportation/communications/utilities, government, and finance/insurance/real estate.

Goods-Producing Industries

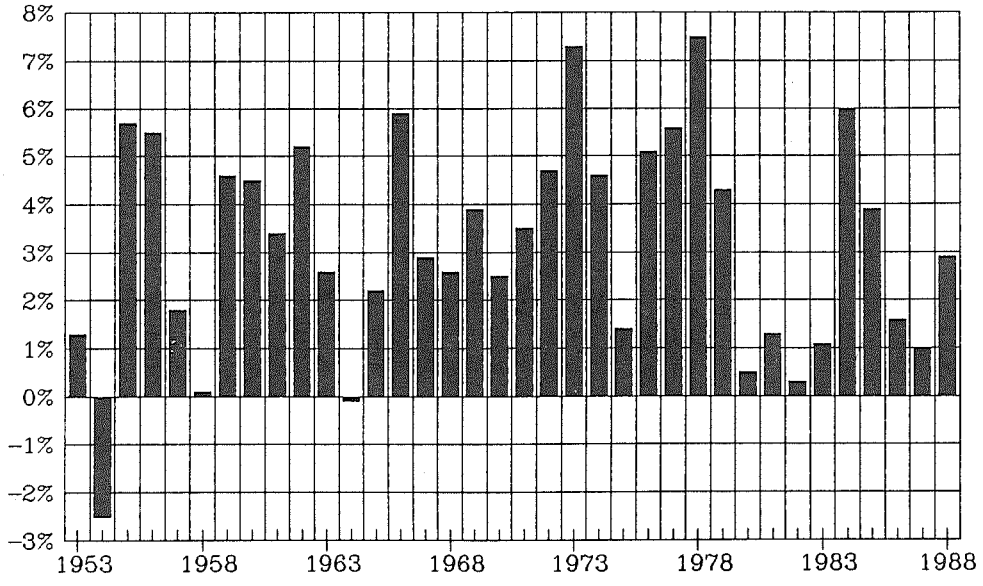
During the past few years, Utah's mining industry has sustained two severe economic blows. The temporary demise of the copper industry in Utah meant the loss of thousands of jobs. In addition, lower oil prices precipitated employment declines in coal and oil extraction activities. Thus, from its peak of 20,300 in 1981, Utah's mining employment fell to 7,800 in 1986. In 1987, the reopening of B.P. Minerals' (formerly Kennecott Minerals Corporation) Utah operations added 950 mining jobs. Thus, despite continuing losses in coal, oil, gas and nonmetallic mineral extraction, Utah's mining jobs increased by 200 in 1987. The 1988 annual average mining employment reflected an additional increase of 200 jobs. By year's end, however, this industry's jobs total had slipped to slightly lower than the December 1987 level. This reduction occurred because metal mining employment levelled off, and coal and other mining employment declined slightly.

Figure 2
Utah Nonagricultural Employment: 1953–88



Source: Ut Depart of Employment Security

Figure 3
Utah Nonagricultural Employment
Annual Percent Change



Source: Ut Depart of Employment Security

In 1989, Utah's mining industry will probably remain near its year-end 1988 level. Thus, the 1989 annual average jobs total will be down slightly from 1988's level. However, if the current high prices of metallic minerals persist, employment in this facet of Utah's mining industry may grow gradually through 1989. Furthermore, if the recent increase in OPEC oil prices holds, Utah's energy-related extraction employment may begin to experience small increases in 1989.

Manufacturing lost thousands of primary metals and computer production jobs during 1985 and 1986. Although some manufacturing sectors continued to gain jobs, overall employment in the industry declined by 2.1 percent or 2,000 jobs during 1986. Conversely, throughout 1987, Utah's manufacturing industry was growing. By year-end, it had added 5,300 jobs to the economy, a 5.9 percent growth rate. Because of losses in the last half of 1986, the 1987 annual average manufacturing total was only 0.4 percent greater than the 1986 average. The industry's two divisions — durable goods and nondurable goods — shared nearly equally in this growth (5.8 and 6.0 percent, respectively). Within durable goods manufacturing, primary metals had the most outstanding performance. In 1987, this sector created 4,700 new jobs. This is double the increase over the previous year. Through 1988, the growth moderated to an additional 1,000 jobs. Recoveries in steel and copper manufacturing produced these increases.

Utah companies manufacturing transportation equipment (mainly aerospace) increased the number of their jobs by 1,300 (8.6 percent) in 1987. However, their growth during 1988 was almost zero. The remaining portion of durable goods manufacturing jobs increased modestly during 1988.

The robust 1987 and 1988 growth of nondurable goods manufacturing employment was broad-based. Food, apparel, chemical and petroleum, and other nondurable products manufacturing jobs all increased in number.

During its 1984-1985 economic buildup, Utah's housing stock was significantly increased in anticipation of continuing economic expansion. Instead, a slowdown occurred causing increased unemployment and out-migration. From 1986 through 1988, Utah's residential and commercial construction activity has been very limited. On top of all this, the 1986 completion of the Intermountain Power Project resulted in the loss of 4,500 construction jobs. For these reasons, Utah's construction suffered its third straight year of dwindling employment in 1988. A moderate construction employment increase of 1,600 jobs (6.4 percent) is forecast for 1989.

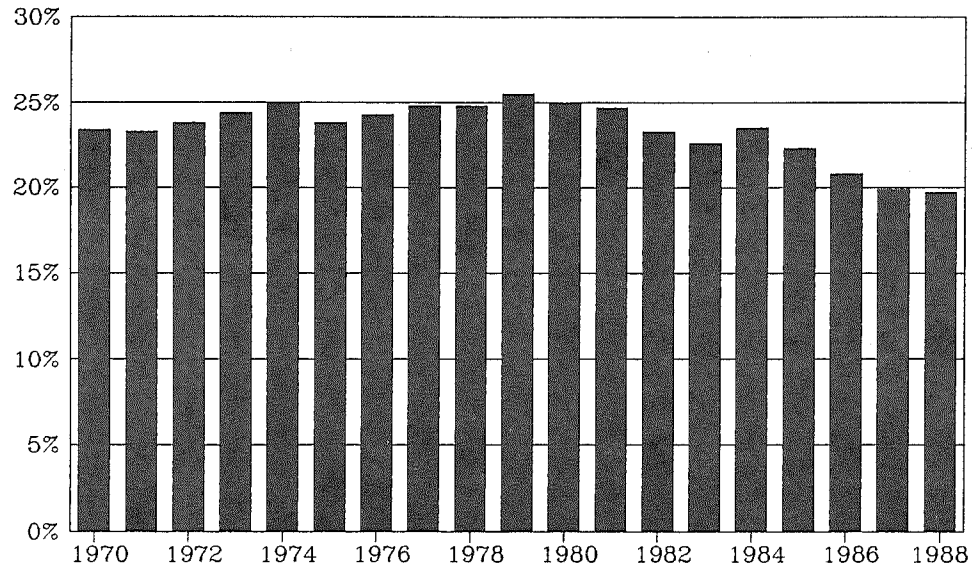
Service-Producing Industries

In 1986, and again in 1987, growth in the service-producing division slowed. Nevertheless, service-producing industries have provided virtually all of Utah's new jobs in both years. In contrast, growth in goods-producing jobs in 1988 was actually more rapid than that of service-producing jobs (3.1 to 2.8 percent respectively). Since 80 percent of all nonagricultural jobs in Utah are in the service sector, their slower growth rate in terms of a percent can be deceiving. Nevertheless, a large majority (14,200 vs. 3,900) of Utah's new 1988 jobs still occurred in the service-producing industries. Below is an analysis of how each of the service-producing industries fared in 1988.

During 1988, the services industry generated 9,300 new jobs, a 6.3 percent growth. This was down slightly from 1987's 7.0 growth rate. Roughly half of the new services jobs are in business services. These consist primarily of: (1) "Help-supply services," which provide temporary or continuing workers on a continuing basis; and (2) "Computer programming, data processing and other computer-related services." Also adding substantial numbers of new jobs were health services and education/nonprofit membership services.

Trade employment increased 1.9 percent, a great improvement over 1987's 0.1 percent. On the strength of substantial increases in trucking and airline jobs, transportation/communication/utilities experienced a moderate 3.7 percent growth in 1988. Sluggish growth existed in government employment for the second straight year (0.7 percent). Only finance/insurance/real estate failed to improve in 1988; its employment declined 1.3 percent down from a 2.4 percent increase of growth in 1987. In 1989, Utah's service-producing industries should experience growth similar to that of 1988.

Figure 4
Percent of Utah Employment in Goods-Producing Industries



Source: Ut Depart of Employment Security

Since 1980, service-producing employment in Utah and in the U.S. has grown at a much faster pace than goods-producing employment. In these eight years, the percent of Utah employment in service-producing industries moved from 75 to 80 (See Figure 4) while the U.S. percentage increased from 71 to 76. The major difference between the industrial composition of Utah and the U.S. is that government jobs maintain more importance in Utah, while manufacturing jobs play a larger role in the national economy.

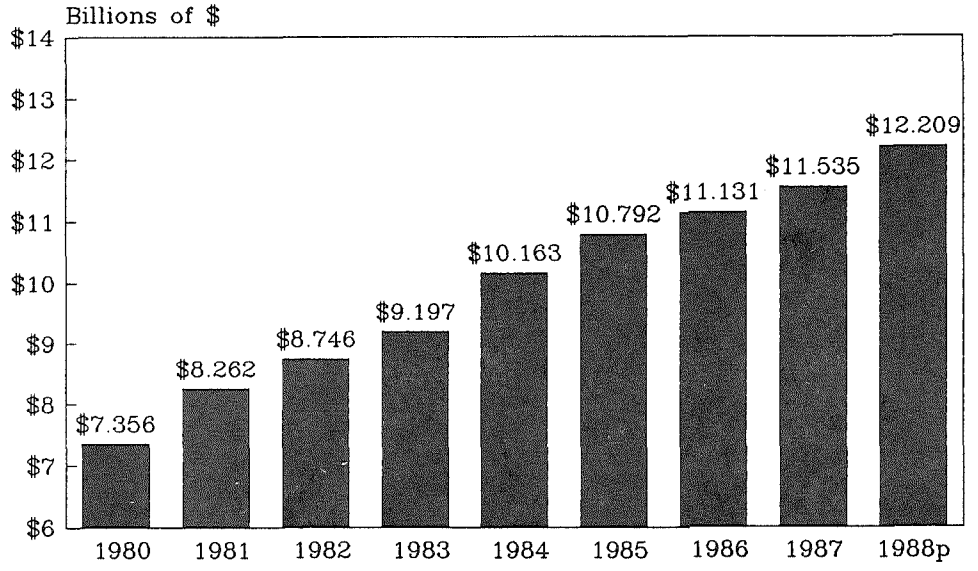
Wages

Total nonagricultural payroll wages in 1988 are expected to grow by 5.8 percent. In comparison, wages in 1987 grew by 3.6 percent, and in 1986 they grew by 3.1 percent (See Table 6 and Figure 5). This is one more indication of Utah's strong economic performance in 1988. With respect to wages, a 5.7 percent increase in 1989 is projected.

Utah's average monthly wage for nonagricultural jobs grew by 2.6 percent from 1986 to 1987 (See Figure 6). The 1988 increase will be approximately 2.9 percent, resulting in an average nonagricultural monthly wage of $1,545. Unfortunately, when adjusted for inflation, Utah's nonagricultural wage has declined every year since 1984. From 1985 through 1987 the loss of higher paying jobs in primary metals construction and mining seems to have contributed to a decline in the rate of wage growth. In 1987 and 1988 many of those jobs came back, but at a lower wage and in fewer numbers than in previous years. Additionally, 1988 continued to have a declining average number of hours worked per week. It also appears that, for the rest of Utah's work force, wage increases were held to a minimum.

Utah's average annual pay for workers covered by unemployment insurance programs was $18,303 in 1987—up 2.5 percent from 1986. The average increase for the nation was 4.5 percent, nearly double the Utah rate. Consequently, Utah's average pay as a percentage of the U.S. average declined from 89.5 in 1986 to 87.8 in 1987 (See Figure 7). As recently as 1981, Utah's pay level was 96 percent of the national average. It is also startling to note that from 1986 to 1987, Utah lost four places in pay level ranking among states, from thirty-third in 1986 to thirty-seventh in 1987.

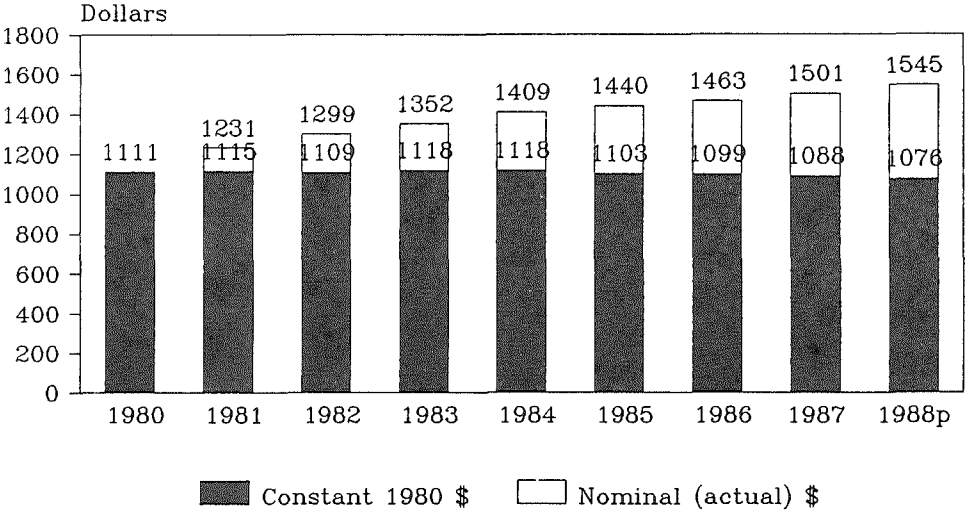
Figure 5
Utah Total Nonagricultural Wages



p – preliminary estimate

Source: Ut Depart of Employment Security

Figure 6
Utah Nonfarm Average Monthly Wages
Nominal and Constant* 1980 Dollars



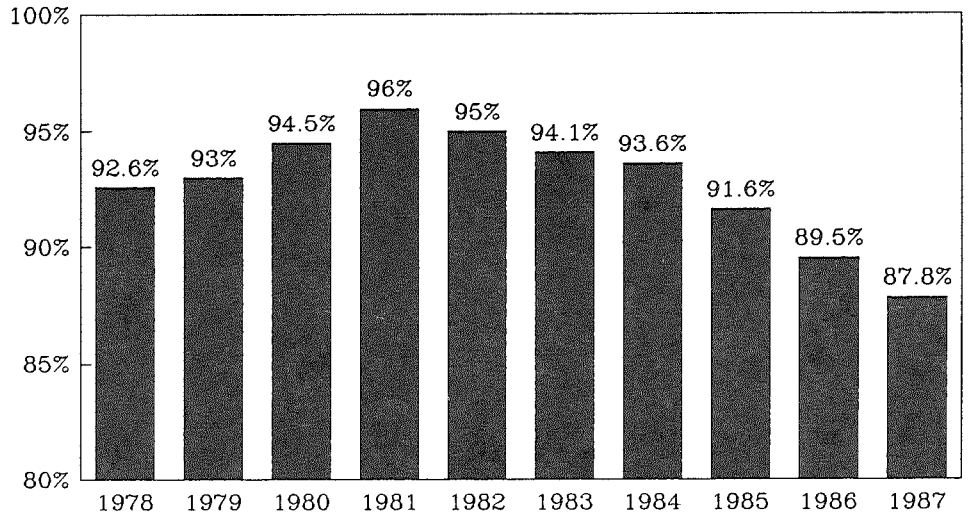
p – preliminary estimate
*Constant 1980 $ inflation adj using CPI
Source: Ut Depart of Employment Security

Conclusion

In 1988, Utah experienced a remarkable turnaround from 1987's sluggish economy. Rapid employment growth in manufacturing and services gave Utah a strong base for economic expansion. This was supported by beneficial economic events, such as industrial and commercial business openings and expansions, high commodity prices, and a continued national expansion. On the basis of these strengths, Utah's employers created 18,300 new jobs in 1988. Construction's continuing slump was the major dark cloud of 1988, but it began to brighten by the end of the year as many noteworthy building projects were announced and/or started.

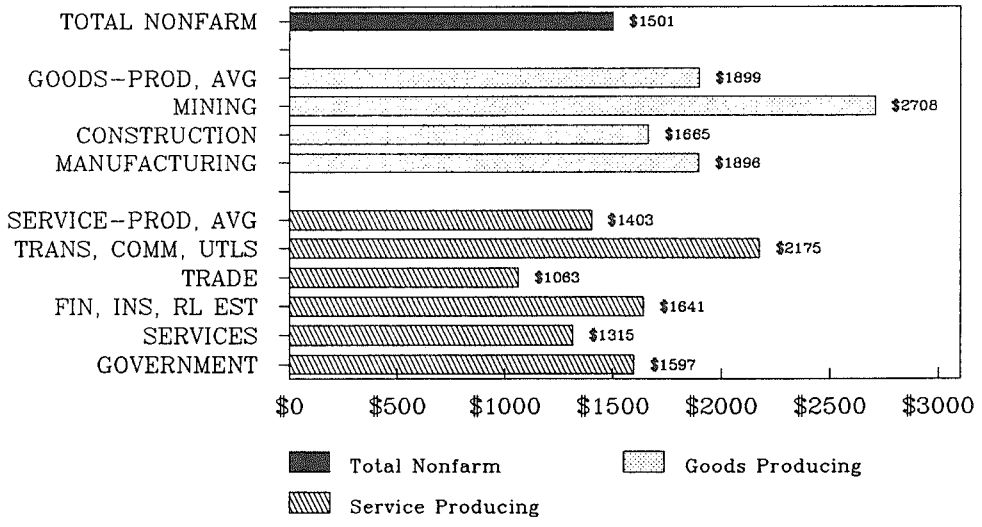
Thus, the stage is set for Utah's labor market to have a good year in 1989. However, several economic uncertainties, such as trade and fiscal deficits, and defense-spending cutbacks, face the United States economy. If a national economic downturn occurs, Utah's labor market could also be affected.

Figure 7
Utah Average Annual Pay* as a Percent of U.S. Average Annual Pay*: 1978 to 1987



*For workers covered by unemployment insurance.
Source: U.S. Bureau of Labor Statistics

Figure 8
Utah Average Monthly Nonag Wage by Major Industry Group: 1987



Source: Ut Depart of Employment Security

TABLE 1

UTAH AND U.S. LABOR FORCE PARTICIPATION RATES
FOR SELECTED YEARS

	1950	1960	1970	1980	1987
Utah	52.5	57.4	58.4	64.2	69.7
Female	25.3	33.5	41.5	49.8	59.9
Male	82.5	82.3	77.4	79.3	79.9
U.S.	54.0	60.0	58.0	62.0	65.6
Female	30.0	37.7	43.3	49.9	56.0
Male	80.0	83.3	79.7	75.1	76.2

Source: U.S. Bureau of the Census,
U.S. Department of Labor, Bureau of Labor Statistics.

TABLE 2

TOTAL UNEMPLOYMENT RATES IN UTAH BY DISTRICT AND COUNTY

1984 TO 1988

	1984	1985r	1986	1987p	1988f
State Total	6.6	5.9	6.0	6.3	5.1
Bear River	5.6	4.8	4.3	4.5	3.9
Box Elder	5.2	4.5	4.1	4.3	3.8
Cache	6.0	5.1	4.4	4.6	3.9
Rich	3.0	3.7	5.1	5.7	3.9
Wasatch Front	5.9	5.3	5.4	5.8	4.9
North	5.7	4.9	5.4	6.3	5.1
Davis	4.5	4.0	4.5	5.4	4.4
Morgan	4.8	6.5	7.1	8.3	6.9
Weber	6.9	5.9	6.3	7.1	5.7
South	6.1	5.5	5.4	5.6	4.8
Salt Lake	6.1	5.5	5.4	5.5	4.7
Tooele	6.1	6.0	6.3	7.5	5.9
Salt Lake - Ogden MSA	5.9	5.3	5.4	5.7	4.8
Mountainland	7.2	6.8	6.7	7.3	4.8
Summit	8.9	7.8	8.6	8.6	7.0
Utah	6.9	6.5	6.3	6.9	4.5
Wasatch	11.7	11.3	13.3	13.5	9.4
Central	9.2	8.9	10.3	10.0	8.4
Juab	15.9	15.5	15.8	15.4	10.7
Millard	6.6	5.5	6.6	7.5	5.8
Piute	14.0	13.3	14.8	12.1	12.6
Sanpete	11.0	13.2	15.0	13.5	12.1
Sevier	8.1	7.4	7.9	7.4	6.3
Wayne	10.1	8.1	9.4	10.0	6.9
Southwestern	7.5	6.0	5.9	6.3	5.2
Beaver	7.3	6.1	6.8	6.2	5.4
Garfield	16.2	13.5	12.4	12.3	8.7
Iron	7.1	6.2	6.3	6.6	5.1
Kane	10.4	8.6	7.1	7.6	6.2
Washington	6.3	4.7	4.8	5.5	4.7
Uintah Basin	8.7	9.1	13.1	13.1	9.5
Daggett	2.5	3.9	4.4	3.3	2.7
Duchesne	10.1	10.5	15.4	15.9	12.0
Uintah	8.2	8.5	12.0	11.7	8.4
Southeastern	13.7	10.9	10.3	10.9	9.0
Carbon	12.6	10.0	10.1	10.2	8.7
Emery	17.0	12.9	12.5	14.9	9.9
Grand	15.4	13.1	13.0	10.9	8.8
San Juan	11.0	9.0	7.3	8.5	8.6

p=Preliminary r=Revised f= Forecast

Note: Salt Lake City - Ogden MSA (Metropolitan Statistical Area) consists of Davis, Salt Lake and Weber counties.

Source: Utah Department of Employment Sercuity, Labor Market Information Services.

TABLE 3
CHARACTERISTICS OF UTAH UNEMPLOYED PERSONS
1987 ANNUAL AVERAGES

	Total Number	Percent	Males Number	Percent	Female Number	Percent
Total Unemployed	48,000	100.0	27,000	100.0	21,000	100.0
Age of Unemployed						
16-19 Years	11,000	22.9%	6,000	22.2%	5,000	23.8%
20-24 Years	7,000	14.6%	4,000	14.8%	3,000	14.3%
25-34 Years	13,000	27.1%	7,000	25.9%	6,000	28.6%
35-44 Years	8,000	16.7%	4,000	14.8%	5,000	23.8%
45-54 Years	4,000	8.3%	3,000	11.1%	1,000	4.8%
55+ Years	5,000	10.4%	2,000	7.4%	1,000	4.8%
Marital Status of Unemployed						
Single: Never Married	17,000	35.4%	11,000	40.7%	6,000	28.6%
Married: Spouse Present	22,000	45.8%	12,000	44.4%	10,000	47.6%
Other: Widowed, Divorced, & Separated	9,000	18.8%	4,000	14.8%	5,000	23.8%
Length of Unemployment						
Less Than 5 Weeks	24,100	50.2%	11,900	44.1%	12,200	58.1%
5-14 Weeks	13,000	27.1%	7,900	29.3%	5,100	24.3%
15-26 Weeks	6,000	12.5%	4,100	15.2%	1,900	9.0%
27-51 Weeks	2,800	5.8%	1,900	7.0%	900	4.3%
52 Weeks and over	2,100	4.4%	1,200	4.4%	900	4.3%
Full-And Part-Time Status						
Looking For Full-Time Work	33,000	68.8%	21,000	77.8%	12,000	57.1%
Looking For Part-Time Work	15,000	31.3%	6,000	22.2%	9,000	42.9%

Source: Utah Department of Employment Security, Labor Market Information Services.

TABLE 4

DURATION OF UNEMPLOYMENT IN UTAH

(AS A PERCENT OF TOTAL UNEMPLOYED)

Total	Less Than 5 Weeks	5-14 Weeks	15 Weeks+	27 Weeks+
Both Sexes				
1987	50.2	27.2	22.6	10.2
1986	45.9	32.2	21.9	10.7
1985	46.7	32.2	21.1	9.8
1984	47.3	29.9	22.7	11.1
1983	37.7	32.0	30.3	15.0
1982	38.2	36.6	25.3	10.1
1981	49.6	29.9	20.5	8.9
Males				
1987	44.3	29.5	26.3	11.2
1986	38.4	34.1	27.4	12.8
1985	43.3	34.4	22.3	10.8
1984	42.6	29.3	28.1	13.6
1983	29.8	32.5	37.6	20.2
Females				
1987	58.1	24.3	17.6	8.6
1986	53.8	30.2	16.0	8.4
1985	50.9	29.5	19.5	8.6
1984	50.0	31.8	18.1	9.0
1983	49.5	31.3	19.2	7.2

Source: U.S. Department of Labor, Bureau of Labor Statistics.

TABLE 5

REASONS FOR UNEMPLOYMENT IN UTAH

(AS A PERCENT OF TOTAL UNEMPLOYED)

Total	Job Losers	Job Leavers	New & Reentrants
Both Sexes			
1987	45.7	12.8	41.5
1986	48.5	13.1	38.4
1985	45.0	14.5	40.5
1984	44.3	10.8	44.9
1983	52.9	8.4	38.7
1982	57.5	9.0	36.5
1981	45.0	16.1	38.8
Males			
1987	62.7	8.6	28.7
1986	61.3	12.2	26.6
1985	56.3	14.0	29.7
1984	58.6	9.7	31.7
1983	67.5	5.0	27.5
Females			
1987	23.8	18.1	58.0
1986	34.9	14.1	51.0
1985	30.8	15.2	54.0
1984	27.3	13.6	59.1
1983	30.9	13.5	55.6

Source: U.S. Department of Labor, Bureau of Labor Statistics.

TABLE 6

UTAH LABOR FORCE
NONAGRICULTURAL JOBS AND TOTAL WAGES

SELECTED YEARS
1980 TO 1989

	1980	1985	1986	1987	1988p	1989f	% Change 1985-86	% Change 1986-87	% Change 1987-88	% Change 1988-89	% Change 1980-88	% Change 1980-89
Civilian Labor Force	634,000	730,000	754,000	759,000	756,800	773,100	3.3%	0.7%	-0.3%	2.2%	19.4%	21.9%
Total Employed Persons	594,000	687,000	709,000	711,000	718,400	733,000	3.2%	0.3%	1.0%	2.0%	20.9%	23.4%
Unemployed Persons	40,000	43,000	45,000	48,000	38,400	40,100	4.7%	6.7%	-20.0%	4.4%	-4.0%	0.2%
Unemployment Rate	6.3	5.9	6.0	6.3	5.1	5.2						
Nonagricultural Jobs	551,900	624,400	634,100	640,300	658,600	675,300	1.6%	1.0%	2.9%	2.5%	19.3%	22.4%
Mining	18,500	9,700	7,800	8,000	8,200	8,000	-19.6%	2.6%	2.5%	-2.4%	-55.7%	-56.8%
Contract Construction	31,500	35,500	32,200	26,700	24,900	26,500	-9.3%	-17.1%	-6.7%	6.4%	-21.0%	-15.9%
Manufacturing	87,700	94,000	92,100	92,500	98,000	99,500	-2.0%	0.4%	5.9%	1.5%	11.7%	13.5%
Trans., Comm., & Publ. Util.	34,100	37,000	37,500	37,900	39,300	39,800	1.4%	1.1%	3.7%	1.3%	15.2%	16.7%
Trade	128,700	147,900	152,400	152,600	155,500	159,000	3.0%	0.1%	1.9%	2.3%	20.8%	23.5%
Finance, Ins., & Real Est.	25,800	31,100	32,900	33,700	33,300	33,300	5.8%	2.4%	-1.2%	0.0%	29.1%	29.1%
Services	100,500	131,400	137,900	147,500	156,800	166,200	4.9%	7.0%	6.3%	6.0%	56.0%	65.4%
Government	125,000	137,800	141,300	141,500	142,500	143,000	2.5%	0.1%	0.7%	0.4%	14.0%	14.4%
Nonag Wages (Millions)	$7,356	$10,792	$11,131	$11,535	$12,209	$12,900	3.1%	3.6%	5.8%	5.7%	66.0%	75.4%
Average Monthly Wage	$1,111	$1,440	$1,463	$1,501	$1,545	$1,592	1.6%	2.6%	2.9%	3.6%	39.1%	43.3%
Adjusted for Inflation (Real Wages)	$1,111	$1,103	$1,099	$1,088	$1,076	$1,058	-0.4%	-1.0%	-1.1%	-1.2%	-3.2%	-4.8%

p=Preliminary
f=Forecast

Source: Utah Department of Employment Security, Labor Market Information Services.

PERSONAL INCOME

Total personal income is defined as all income received by all residents of an area. The statistical series comprising the components of total personal income, by area and by year, constitute the most extensive body of consistent economic information available for the nation, states, counties and metropolitan areas. This entire data series was developed and is maintained by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce.

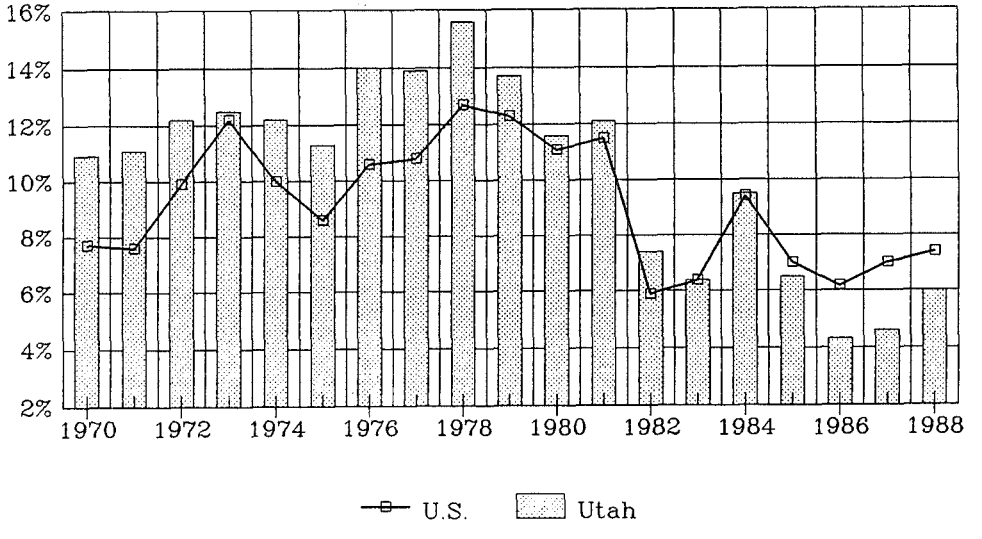
Utah's 1988 total personal income (TPI) is forecast to be $20.2 billion, up 5.8 percent from the 1987 total. As Table 7 and Figure 9 show, Utah's TPI increased more rapidly than that of the United States through the 1970's. And, from 1980 through 1984, the yearly rates of growth were virtually identical. However, Utah's economic slump retarded its TPI growth from 1985 to 1988 while the national rate continued its steady progress.

Components of Personal Income

The composition of TPI can be viewed from several perspectives, as shown in Table 8. The largest single component is "Earnings by Place of Work." This component consists of the total earnings from both farm and nonfarm industries, including contributions for social insurance. It may also be viewed as the combined earnings of wage and salaries, other labor income and proprietors income — both farm and nonfarm.

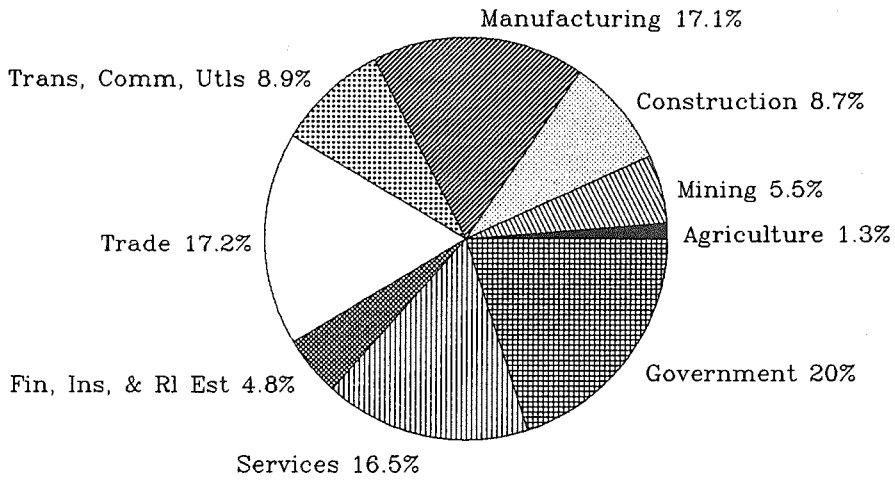
In 1988 earnings by place of work was $15.4 billion, representing 76 percent of TPI. Approximately 10 percent of this figure was proprietors' income; 90 percent was wages, salary and other labor income. Nonfarm earnings (almost $15.2 billion) was nearly 99 percent of total earnings; farm income was about 1 percent. Private sector nonfarm industries accounted for 78 percent of nonfarm earnings, while public (government) industries made up 22 percent.

Figure 9
Utah and United States
Personal Income Growth Rates: 1970–88

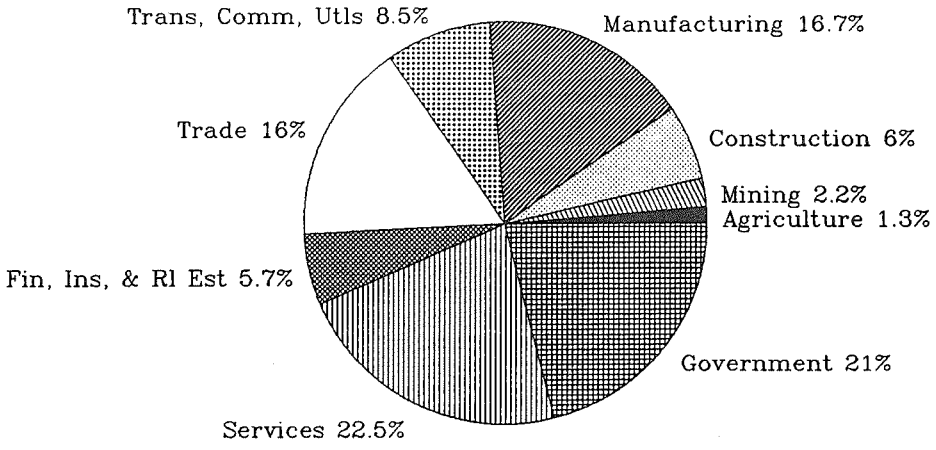


Source: U.S. Bureau of Economic Analysis
and Ut Economic Coordinating Committee

Figure 10
Utah's Distribution of Earnings Income by Industry for 1980 and 1988



1980



1988p

p – preliminary estimate
Source: U.S. Bureau of Economic Analysis and Ut Depart of Employment Security.

The other components of TPI are (1) dividends, interest and rent (DIR), and (2) transfer payments. In 1988, DIR amounted to $2.7 billion, and transfer payments were $2.9 billion. These two components, plus "Earnings by Place of Residence", constitute TPI.

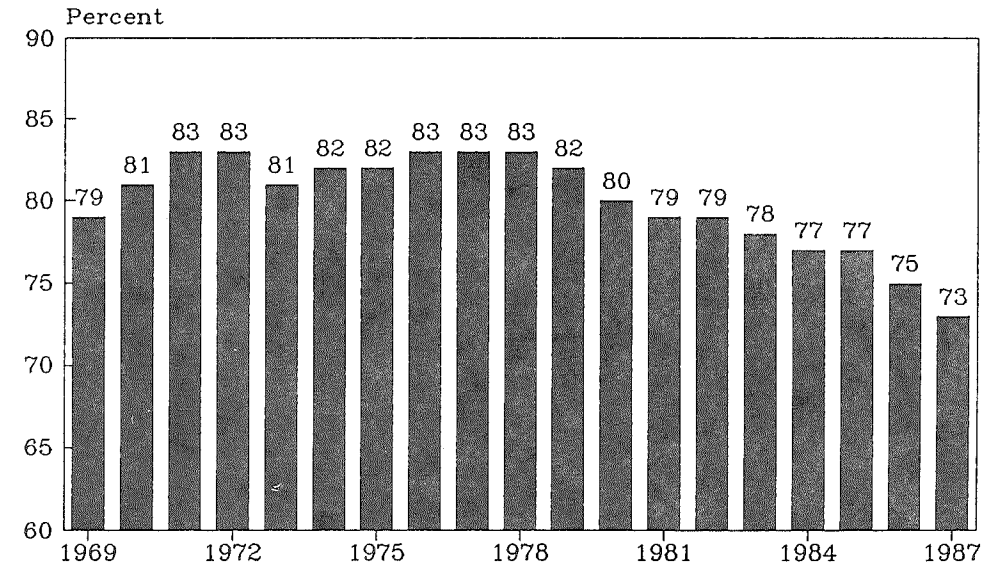
The industrial composition of Utah's TPI has changed in recent years. In 1980, prior to the recession periods, goods-producing industries (mining, construction, manufacturing) generated over 31 percent of Utah's earnings. By 1988 that had dropped to 24.8 percent. In 1980 service-producing industries (including government) paid 67 percent of total earnings. By 1988 this statistic had increased to over 73 percent. This indicates the continuing historical shift from goods- to service-producing jobs in the state economy. Similar shifts have been experienced nationally. Four major industry sectors generate over three-fourths of Utah's total earnings. Services is the leader, providing 22 percent of earnings; government (including military) pays 21 percent. Manufacturing accounts for nearly 17 percent, and trade produces 16 percent of Utah's total earnings. Following these are transportation/communications/utilities at 8 percent; construction and finance/insurance/real estate both at 6 percent; and mining at 2 percent of earnings. Agriculture and agricultural services make up the remaining 2 percent. Figure 10 illustrates these industrial shares of earnings for Utah for 1980 and 1988.

Per Capita Personal Income

Per capita personal income is an area's annual total personal income divided by the total population as of July 1 of that year. Utah's 1988 per capita personal income (PCI) is estimated at approximately $11,900. From 1982 to 1987, Utah's real per capita income has increased $614, compared to the $1,313 increase in the United States real per capita personal income.

Utah's 1987 per capita personal income of $11,366 ranked forty-eighth among the 50 states. Because Utah's population has a large number of children (the result of many years of high birth rates), this PCI comparison portrays Utah as a low income state. During the 1970's, Utah's PCI ranged between 81 and 83 percent of the United States PCI. However, as shown in Figure 11, from 1978 to 1987 this parameter dropped ten

Figure 11
Utah Per Capita Personal Income
as a Percent of U.S.: 1969–1987



Source: U.S. Bureau of Economic Analysis

percentage points — from 83 to 73. Each major sector of Utah's total personal income contributed to this decline. This is, taking population growth into consideration, each of Utah's major TPI components has not increased as rapidly as its national counterpart. Utah's PCI for 1985 to 1987 is included in Table 9.

However, when comparing state per capita income estimates based on the adult population (ages 21 and over), the Utah ranking is improved considerably. Utah's 1987 ranking is thirty-fourth among the states by this measure.

Utah also compares more favorably to the rest of the U.S. when using household income data. Total personal income per household in 1987 in Utah was $36,860, compared with $41,850 for the U.S. Utah's total personal income per household was 88.1 percent of the national average and Utah ranks thirty-third among the states.

Another reason for Utah's lower income is due to Utah's lower cost of living. This information will be identified more completely in a later section of this report.

County Personal Income

Considerable variability exists in the 1986-87 total personal income growth rates of Utah's counties. These figures range from Millard County's -29 percent to Wayne County's 30 percent (see Table 9). With the exception of minor declines in Davis and Rich, all northern Utah counties posted gains in TPI. Of the remaining 18 counties, 11 had TPI gains. Thus, a total of nine counties experienced TPI declines. For 1986, only five counties had year-over declines.

With a few exceptions, the per capita income estimates in northern Utah's counties are considerably higher than those of the rest of the state. Summit County's $16,300 leads Utah; San Juan County's $7,500 is lowest. Interestingly, Carbon is the only county outside the northern Utah group with PCI greater than the state figure. The 1987 per capita income of the United States, at $15,481, is higher than that of all but one of Utah's counties.

TABLE 7
TOTAL PERSONAL INCOME
UTAH AND U.S.
1969 TO 1988

	Utah (Millions)	U.S. (Millions)	Annual % Change Utah	Annual % Change U.S.
1969	$3,169	$766,522	--	--
1970	$3,513	$825,534	10.9%	7.7%
1971	$3,904	$888,536	11.1%	7.6%
1972	$4,380	$976,181	12.2%	9.9%
1973	$4,928	$1,095,289	12.5%	12.2%
1974	$5,530	$1,204,899	12.2%	10.0%
1975	$6,155	$1,308,482	11.3%	8.6%
1976	$7,014	$1,447,002	14.0%	10.6%
1977	$7,987	$1,602,863	13.9%	10.8%
1978	$9,230	$1,806,968	15.6%	12.7%
1979	$10,490	$2,028,510	13.7%	12.3%
1980	$11,710	$2,254,076	11.6%	11.1%
1981	$13,125	$2,514,231	12.1%	11.5%
1982	$14,091	$2,663,432	7.4%	5.9%
1983	$14,998	$2,834,385	6.4%	6.4%
1984	$16,426	$3,101,163	9.5%	9.4%
1985	$17,496	$3,317,239	6.5%	7.0%
1986	$18,253	$3,521,393	4.3%	6.2%
1987	$19,095	$3,768,125	4.6%	7.0%
1988	$20,200	$4,047,000	5.8%	7.4%

Source: U.S. Bureau of Economic Analysis,
Utah Department of Employment Security, Labor Market Information Services.

TABLE 8

COMPONENTS OF UTAH TOTAL PERSONAL INCOME

1986 TO 1988

Items	1986 (Millions)	1987 (Millions)	1988 (Millions)	% Change 1986-87	% Change 1987-88	1987 % Distribution Utah	1987 % Distribution U.S.
Total Personal Income	$18,252.5	$19,094.5	$20,200.0	4.6%	5.8%	100.0%	100.0%
Total Earning by Place of Work	$14,064.0	$14,626.5	$15,430.5	4.0%	5.5%	76.6%	73.2%
Less:							
Personal Contrib. For Soc. Ins.	$841.0	$871.0	$941.0	3.6%	8.0%	4.6%	4.5%
Plus: Resid. Adjustment	$71.8	$70.0	$73.6	-2.4%	5.2%	0.4%	0.0%
Equals: Earning by Residence	$13,294.0	$13,825.5	$14,563.1	4.0%	5.3%	72.4%	68.6%
Plus:							
Dividends, Interest & Rent	$2,430.0	$2,548.0	$2,724.9	4.9%	6.9%	13.3%	16.8%
Plus:							
Transfer Payments	$2,528.5	$2,721.3	$2,912.0	7.6%	7.0%	14.3%	14.6%
Components of Earnings	$14,063.5	$14,626.5	$15,430.5	4.0%	5.5%	76.6%	73.2%
Wages & Salaries	$11,649.8	$12,068.8	$12,746.8	3.6%	5.6%	63.2%	59.4%
Other Labor Income	$1,046.8	$1,080.0	$1,132.7	3.2%	4.9%	5.7%	5.5%
Proprietors' Income	$1,367.0	$1,477.8	$1,551.0	8.1%	5.0%	7.7%	8.2%
Farm	$108.0	$150.5	$156.5	39.4%	4.0%	0.8%	1.1%
Nonfarm	$1,258.3	$1,327.3	$1,394.5	5.5%	5.1%	7.0%	7.2%
Earnings by Industry	$14,063.8	$14,627.0	$15,430.5	4.0%	5.5%	76.6%	73.2%
Agricultural	$153.0	$196.5	$204.9	28.4%	4.3%	1.0%	1.3%
Nonagricultural	$13,910.8	$14,429.8	$15,225.6	3.7%	5.5%	75.6%	71.9%
Private	$10,881.5	$11,332.3	$11,979.5	4.1%	5.7%	59.3%	60.4%
Ag Services, Etc.	$34.0	$37.0	$37.6	8.8%	1.6%	0.2%	0.4%
Mining	$302.8	$309.0	$332.8	2.1%	7.7%	1.6%	0.8%
Construction	$1,032.5	$937.3	$925.5	-9.2%	-1.2%	4.9%	4.7%
Manufacturing	$2,358.5	$2,403.5	$2,578.4	1.9%	7.3%	12.6%	14.9%
Trans., Commun., Utilities	$1,195.3	$1,240.0	$1,314.7	3.7%	6.0%	6.5%	5.0%
Trade (Whsl & Retail)	$2,306.8	$2,329.8	$2,465.4	1.0%	5.8%	12.2%	11.8%
Fin., Ins., Real Estate	$771.0	$833.8	$886.4	8.1%	6.3%	4.4%	5.3%
Services	$2,881.3	$3,241.8	$3,439.4	12.5%	6.1%	17.0%	17.5%
Government (Incl. Military)	$3,029.3	$3,098.0	$3,246.1	2.3%	4.8%	16.2%	11.5%
Per Capita Personal Income	$10,968	$11,366	$11,896	3.6%	4.7%		

Sources: U.S Bureau of Economic Analysis and Utah Department of Employment Security, Labor Market Services.

TABLE 9
TOTAL PERSONAL INCOME BY COUNTY AND MULTI-COUNTY PLANNING DISTRICTS
1985 TO 1987

Planning District & County	Total Personal Income (Thousands) 1985	1986	1987	% Change 1985-86	% Change 1986-87	Per Capita Personal Income 1985	1986	1987	% Change 1985-86	% Change 1986-87
State Total	$17,496.0	$18,253.0	$19,095.0	4.3%	4.6%	$10,642	$10,969	$11,363	3.1%	3.6%
Bear River	$998.5	$1,067.5	$1,176.3	6.9%	10.2%	$9,602	$10,167	$11,108	5.9%	9.3%
Box Elder	$402.2	$428.2	$492.3	6.5%	15.0%	$10,929	$11,418	$12,922	4.5%	13.2%
Cache	$576.0	$619.4	$665.2	7.6%	7.3%	$8,884	$9,491	$10,141	6.8%	6.9%
Rich	$20.3	$19.6	$18.7	-3.8%	-4.3%	$8,605	$8,888	$8,507	3.3%	-4.3%
Wasatch Front	$12,273.1	$12,813.6	$13,390.5	4.4%	4.5%	$11,588	$11,917	$12,296	2.8%	3.2%
North	$3,692.2	$3,860.3	$3,920.8	4.5%	1.6%	$10,958	$11,367	$11,325	3.7%	-0.4%
Davis	$1,793.9	$1,880.3	$1,858.8	4.8%	-1.1%	$10,261	$10,732	$10,304	4.6%	-4.0%
Morgan	$58.0	$60.2	$61.2	3.7%	1.7%	$11,060	$11,351	$11,120	2.6%	-2.0%
Weber	$1,841.3	$1,919.9	$2,000.8	4.3%	4.2%	$11,732	$12,067	$12,482	2.9%	3.4%
South	$8,579.9	$8,953.3	$9,469.7	4.4%	5.8%	$11,882	$12,171	$12,749	2.4%	4.7%
Salt Lake	$8,259.8	$8,630.3	$9,143.2	4.5%	5.9%	$11,918	$12,214	$12,809	2.5%	4.9%
Tooele	$320.1	$323.0	$326.5	0.9%	1.1%	$11,021	$11,139	$11,258	1.1%	1.1%
Mountainland	$2,243.1	$2,333.8	$2,478.1	4.0%	6.2%	$8,623	$8,894	$9,351	3.1%	5.1%
Summit	$187.2	$194.0	$218.4	3.7%	12.6%	$14,495	$14,926	$16,300	3.0%	9.2%
Utah	$1,962.9	$2,046.4	$2,148.7	4.3%	5.0%	$8,261	$8,534	$8,886	3.3%	4.1%
Wasatch	$93.0	$93.4	$111.0	0.4%	18.8%	$9,670	$9,727	$11,322	0.6%	16.4%
Central	$501.6	$505.0	$496.8	0.7%	-1.6%	$8,837	$9,034	$9,099	2.2%	0.7%
Juab	$47.6	$48.3	$50.3	1.3%	4.2%	$7,893	$7,916	$8,386	0.3%	5.9%
Millard	$152.3	$136.5	$97.0	-10.4%	-28.9%	$10,544	$9,748	$7,519	-7.5%	-22.9%
Piute	$10.3	$11.0	$13.3	6.9%	21.2%	$7,017	$7,316	$9,503	4.3%	29.9%
Sanpete	$128.7	$138.4	$149.3	7.5%	7.9%	$7,703	$8,336	$9,047	8.2%	8.5%
Sevier	$145.5	$152.8	$163.5	5.0%	7.0%	$9,122	$9,797	$10,482	7.4%	7.0%
Wayne	$17.1	$18.1	$23.4	5.3%	29.6%	$7,955	$8,599	$10,641	8.1%	23.8%
Southwestern	$586.5	$627.2	$660.1	6.9%	5.2%	$8,479	$8,675	$8,778	2.3%	1.2%
Beaver	$45.4	$43.7	$42.5	-3.6%	-2.7%	$8,787	$8,739	$8,500	-0.5%	-2.7%
Garfield	$36.9	$40.1	$39.4	8.7%	-1.8%	$9,017	$9,549	$9,380	5.9%	-1.8%
Iron	$154.1	$160.5	$164.9	4.2%	2.8%	$7,844	$8,190	$8,458	4.4%	3.3%
Kane	$43.2	$46.6	$48.9	8.0%	5.0%	$9,204	$9,913	$9,987	7.7%	0.8%
Washington	$307.0	$336.3	$364.4	9.5%	8.3%	$8,627	$8,668	$8,758	0.5%	1.0%
Uintah Basin	$381.5	$375.5	$364.6	-1.6%	-2.9%	$9,209	$9,388	$9,545	1.9%	1.7%
Daggett	$7.4	$7.6	$8.5	2.8%	12.2%	$9,821	$10,832	$9,456	10.3%	-12.7%
Duchesne	$142.3	$145.9	$141.9	2.5%	-2.7%	$9,297	$9,596	$9,857	3.2%	2.7%
Uintah	$231.7	$222.1	$214.2	-4.2%	-3.6%	$9,138	$9,215	$9,352	0.8%	1.5%
Southeastern	$511.8	$530.7	$528.6	3.7%	-0.4%	$9,441	$9,976	$10,069	5.7%	0.9%
Carbon	$259.1	$267.9	$269.3	3.4%	0.5%	$11,231	$11,905	$12,074	6.0%	1.4%
Emery	$99.0	$105.3	$97.0	6.3%	-7.9%	$7,943	$8,699	$8,148	9.5%	-6.3%
Grand	$77.3	$77.0	$76.2	-0.4%	-1.1%	$10,632	$11,162	$11,205	5.0%	0.4%
San Juan	$76.4	$80.6	$86.2	5.4%	6.9%	$6,701	$6,890	$7,496	2.8%	8.8%

Note: These county personal income estimates have been revised to reflect revisions in total state wide personal income and may therefore differ form county income data published elsewhere.

Sources: U.S. Bureau of Economic Analysis and Utah Department of Employment Security, Labor Market Information Services.

TABLE 10
PERSONAL INCOME TRENDS
UTAH AND U.S.

	1979	1982	1987	Average Annual % Change* 1979-82	1982-87	1979-87	Percent of U.S. Total 1979	1982	1987
Population (Thousands)									
U.S.	224,569	231,996	243,400	0.8%	1.0%	1.0%	100.00%	100.00%	100.00%
Utah	1,416	1,559	1,680	2.4%	1.5%	2.2%	0.63%	0.67%	0.69%
Total Personal Income (Billions)									
U.S.	$2,028.5	$2,663.4	$3,768.1	7.0%	7.2%	8.0%	100.00%	100.00%	100.00%
Utah	$10.5	$14.1	$19.3	7.6%	6.5%	7.9%	0.52%	0.53%	0.51%
Per Capita Personal Income									
U.S.	$9,033	$11,840	$15,481	7.0%	5.5%	7.0%	100.0%	100.0%	100.0%
Utah	$7,408	$9,041	$11,366	5.1%	4.7%	5.5%	82.0%	76.4%	73.4%

* Compounded

Source: U.S. Bureau of Economic Analysis.

GROSS STATE PRODUCT

For the first time the U.S. Bureau of Economic Analysis has published estimates of gross state product (GSP) for each state and the District of Columbia. Gross state product is the comprehensive measure of production available for states and will assist in analyzing and forecasting trends in state economic activity. Because it is new data, more data is provided on GSP in this report than for some of the other economic measures.

The Concept of Gross State Product

The gross state product of a state is the gross market value of the final goods and services produced by the labor and capital located within its borders. Gross state product is gross in the sense that it includes the value of all the capital produced (i.e. buildings and machines) without making allowances for capital depreciation, that is capital used up (consumed) during the production process. It should be noted that by including only the market value of final goods and services, GSP excludes the value of all intermediate goods and services furnished by one business firm to another business firm located in the same state. Gross state product can be thought of as the gross market value of the goods and services collectively produced by a state's business sector (including the government sector in its capacity as an employer of labor services). As such GSP is the state counterpart of the nation's gross domestic product (GDP).

Gross state product is a more complete measure of economic activity of a state than personal income. It includes personal income estimates in its estimates of economic activity. Also, when analyzing industry data, for some industries personal income or compensation is an inadequate measure of economic activity because it may be such a small portion of the components for that industry. For example, in energy related mining, compensation is generally small in comparison to indirect business taxes and capital charges. Therefore it is an inadequate measure of the total activity of that industry and the effects of oil prices on it.

BEA's Estimating Procedure

Conceptually there are two different possible approaches to estimating a state's GSP. One method is to measure the final demand purchases made by consuming entities - persons, investors, government and exports out of the state. The second method is to measure the income received by the primary input or value added sectors - compensation of employees, proprietors income, corporate profits, rental income, net interest, and indirect business taxes. Because of difficulties in tracing product flows from a state's producing sectors to the final demand sectors, the Bureau of Economic Analysis relies exclusively on the primary input or value added approach in coming up with its gross state product estimates. For the farming, mining, construction and manufacturing industries the BEA first estimates total gross state product directly (using benchmark value added data from the quinquennial economic censuses) and then subtracts estimates of employee compensation, proprietor's income and indirect business taxes to come up with an estimate of the capital charge (corporate and property income) component of GSP as a residual. For the remaining industrial sectors the BEA estimates each of the four major components of gross state product individually and then adds them together to come up with the total gross state product originating in the sector.

Growth in Gross State Product

In the last 23 years Utah's gross state product grew from $3.0 billion to $24.0 billion in 1986, an annualized growth rate of 9.5 percent. The U.S. gross state product grew from $598.8 billion in 1963 to $4,191.7 billion in 1986, a rate of 8.8 percent. In the Rocky Mountain region, Utah's GSP growth rate was slower than Arizona, 11.6 percent, Nevada, 11.3 percent, Colorado, 10.4 percent, Wyoming, 9.8 percent, and New Mexico, 9.7 percent, but faster than Idaho, 8.9 percent and Montana, 8.1 percent (see Table 11).

In real terms, Utah's GSP more than doubled growing from $10.2 billion in 1963 to $21.2 billion in 1986 (1982 dollars). That was an annualized growth rate of 3.2 percent compared to the national annualized growth rate of 3.0 percent. In real terms Utah's GSP growth rate ranked fourth in the Rocky Mountain region

behind Arizona's 5.5 percent annual growth rate, Nevada's 4.7 percent and Colorado's 4.2 percent.

Per Capita GSP and GSP per Employed Person

The measurement of productivity is important in analyzing the overall strength of an economy. Analyzing GSP per capita or per employed person may give some idea as to whether or not Utahns are more or less productive than the nation. This is a valid assumption provided it can be assumed that the national and state industrial mixes are the same.

Looking at per capita real GSP one would see Utah as one of the least productive states in the nation. As can be seen in Table 12, Utah ranked thirty-seventh nationally in total GSP in 1986. But, when taking into account gross state product per capita Utah's rank fell to forty-third, $2,968 below the national per capita GSP. In Utah real GSP per capita has grown 0.9 percent compared to the U.S. rate of 1.8 percent since 1963. Much of the lag can be attributed to the higher population growth rate in Utah. Total real Utah GSP has grown faster than real U.S. GSP, 3.2 percent compared to 3.0 percent. Table 13 shows Utah's per capita constant GSP growth from 1963 to 1986.

Because of Utah's unique demographic characteristics a better way of looking at productivity and gross state product is gross state product per employed person in real dollars. Utah began the time period with a GSP per employed person higher than the national average. In 1963 Utahns produced $30,300 per employed person compared to the national figure of $27,500 per employed person. Since then the national rate caught up and surpassed Utah's rate. Currently employed Utahns produce $29,900 of gross state product compared to the U.S. average of $33,600 of GSP per employed person (see Table 14).

The Utah growth rate in real gross state product has followed an opposite path than the national growth rate. The national rate fell from 1.4 percent annual growth during the 1960s to 0.3 percent during the 1970's. While Utah displayed a dramatic turnaround, growing from a -1.3 percent annual growth rate during the 1960's to 0.7 percent in the 1970s. During the 1980s the national annual rate has recovered again to 1.2 percent. Utah, on the other hand, to declined during the 1980s to 0.1 percent per year.

GSP by Industry

By analyzing real GSP by industry we can see how the industrial mix of Utah's economy has changed over the past two decades. (Tables 15-17) The contribution of mining to total real GSP has fallen from 13.0 percent in 1963 to 3.4 percent in 1986. Mining's share of GSP only varied between 6.5 percent and 8.1 percent during the 1970s and early 1980s, but with the decline in international energy prices and the depression in the U.S. energy industries, Utah's mining industry, much of it energy related, share of GSP dropped again to 3.4 percent.

Utah's construction industry has been declining since the late 1970's. It's peak share in gross state product was in 1964 with 9.5 percent of the total.

The service industry has followed the national growth trend. Services grew steadily from 9.3 percent of total gross state product in 1963 to 13.4 percent in 1986. Manufacturing has been on a roller coaster ride during the last two decades. In 1963 manufacturing had 17.9 percent of total GSP, falling as low as 13.8 percent in 1977 and growing to 19.7 percent by 1986. Other industries which have grown have been finance, insurance and real estate, retail trade and transportation, communications and public utilities.

In the mid 1960's the federal government was contributing over 10 percent of the state total gross state product. Since then its share of GSP has fallen to just over 6 percent. State and local governments contribution to total gross state product peaked in 1971 at 9.1 percent and has since fallen to 7.9 percent of total gross state product.

Gross State Product by Component

Table 18 displays the component share of GSP for selected years in current dollars. The relative contribution of proprietors' income to total GSP in Utah has fallen from 12.8 percent to 7.4 percent over the last two decades. Compensation and indirect business taxes have grown from 55.7 and 7.6 percent respectively in 1963 to 58.1 and 9.1 percent in 1986.

TABLE 11

INTERMOUNTAIN GROSS STATE PRODUCT

FOR SELECTED YEARS, 1963 THROUGH 1986

(MILLIONS)

	U.S.	Arizona	Colorado	Idaho	Montana	Nevada	New Mexico	**Utah**	Wyoming
1963	$598,847	$4,231	$6,066	$1,872	$2,016	$1,647	$2,827	$2,979	$1,366
1967	$803,860	$5,600	$7,861	$2,402	$2,482	$2,152	$3,350	$3,479	$1,586
1972	$1,195,975	$10,843	$13,597	$3,822	$3,785	$3,761	$5,151	$5,465	$2,392
1973	$1,340,906	$12,643	$15,890	$4,527	$4,505	$4,350	$5,880	$6,185	$2,806
1974	$1,449,062	$13,961	$17,694	$5,200	$4,931	$4,744	$6,879	$6,970	$3,586
1975	$1,571,442	$14,680	$19,628	$5,600	$5,402	$5,322	$7,806	$7,798	$4,104
1976	$1,750,905	$16,424	$21,884	$6,311	$5,855	$6,074	$8,774	$8,860	$4,669
1977	$1,957,586	$18,996	$24,772	$6,914	$6,317	$7,118	$9,982	$10,122	$5,417
1978	$2,213,303	$22,648	$28,941	$8,202	$7,576	$8,805	$11,690	$11,861	$6,790
1979	$2,458,060	$26,888	$33,435	$8,957	$8,576	$10,394	$13,816	$13,498	$8,434
1980	$2,670,299	$29,931	$37,620	$9,670	$9,525	$11,970	$16,442	$15,121	$10,900
1981	$2,986,855	$33,066	$42,099	$10,384	$10,831	$13,387	$19,399	$17,007	$13,238
1982	$3,104,127	$33,603	$45,252	$10,432	$11,007	$13,796	$20,023	$17,892	$13,056
1983	$3,339,980	$37,631	$48,462	$11,346	$11,381	$14,890	$20,910	$19,381	$12,150
1984	$3,707,011	$43,442	$53,373	$12,299	$11,726	$16,350	$22,665	$21,739	$12,468
1985	$3,963,347	$48,589	$56,713	$13,027	$11,543	$17,918	$23,887	$23,172	$12,777
1986	$4,191,705	$53,253	$59,177	$13,170	$12,163	$19,426	$23,603	$24,008	$11,673
Average Annual Growth Rate*									
	8.8%	11.6%	10.4%	8.9%	8.1%	11.3%	9.7%	9.5%	9.8%

INTERMOUNTAIN GROSS STATE PRODUCT IN REAL DOLLARS

(1982 = 100)

(MILLIONS)

	U.S.	Arizona	Colorado	Idaho	Montana	Nevada	New Mexico	**Utah**	Wyoming
1963	$1,863,146	$13,519	$20,259	$5,744	$6,742	$5,563	$11,619	$10,202	$6,470
1967	$2,230,580	$15,899	$22,623	$6,644	$7,588	$6,156	$12,197	$10,344	$6,966
1972	$2,567,321	$23,289	$29,624	$7,898	$8,524	$8,076	$13,874	$12,083	$7,807
1973	$2,713,214	$25,244	$32,417	$8,352	$8,948	$8,774	$14,588	$12,850	$8,067
1974	$2,697,238	$25,698	$33,039	$8,970	$9,176	$8,861	$15,247	$13,267	$8,831
1975	$2,658,200	$24,915	$33,593	$9,099	$9,288	$9,084	$15,541	$13,482	$8,949
1976	$2,783,318	$26,041	$35,223	$9,709	$9,524	$9,720	$15,932	$14,315	$9,057
1977	$2,913,337	$28,110	$37,429	$9,967	$9,675	$10,673	$16,932	$15,324	$9,779
1978	$3,062,866	$31,062	$40,522	$10,828	$10,580	$12,233	$18,122	$16,611	$11,038
1979	$3,137,538	$33,943	$42,917	$10,924	$10,952	$13,343	$19,078	$17,291	$11,988
1980	$3,111,206	$34,708	$43,888	$11,002	$11,114	$13,991	$19,664	$17,639	$13,027
1981	$3,166,388	$35,244	$44,695	$10,959	$11,394	$14,365	$20,265	$18,093	$13,717
1982	$3,104,127	$33,603	$45,252	$10,432	$11,007	$13,796	$20,023	$17,892	$13,056
1983	$3,205,302	$35,963	$46,523	$10,879	$10,911	$14,013	$20,283	$18,570	$11,922
1984	$3,433,083	$40,010	$49,332	$11,262	$10,817	$14,790	$21,331	$20,177	$12,073
1985	$3,568,628	$43,350	$50,820	$11,815	$10,323	$15,474	$21,741	$20,920	$12,022
1986	$3,681,144	$46,058	$51,781	$11,672	$10,763	$16,092	$21,154	$21,193	$10,870
Average Annual Growth Rate*									
	3.0%	5.5%	4.2%	3.1%	2.1%	4.7%	2.6%	3.2%	2.3%

* Compounded

Source: U.S. Bureau of Economic Analysis.

TABLE 12

GROSS STATE PRODUCT AND PER CAPITA GROSS STATE PRODUCT RANKINGS BY STATE

1986

	GSP 1986 (Millions)	% U.S. Total GSP	Rank	Population 1986 (Thousands)	GSP Per Capita	Rank
Alabama	$55,007	1.3%	24	4,052	$13,575.3	46
Alaska	$19,575	0.5%	39	534	$36,657.3	2
Arizona	$53,253	1.3%	25	3,319	$16,044.9	28
Arkansas	$31,633	0.8%	33	2,372	$13,336.0	47
California	$533,816	12.7%	1	26,981	$19,784.9	9
Colorado	$59,177	1.4%	23	3,267	$18,113.6	14
Connecticut	$70,639	1.7%	22	3,189	$22,150.8	4
Delaware	$11,706	0.3%	47	633	$18,492.9	10
Florida	$177,729	4.2%	6	11,675	$15,223.0	38
Georgia	$102,922	2.5%	12	6,104	$16,861.4	21
Hawaii	$19,320	0.5%	41	1,062	$18,192.1	11
Idaho	$13,170	0.3%	45	1,002	$13,143.7	49
Illinois	$209,666	5.0%	4	11,552	$18,149.8	13
Indiana	$84,922	2.0%	14	5,504	$15,429.1	35
Iowa	$43,836	1.0%	29	2,851	$15,375.7	36
Kansas	$42,472	1.0%	30	2,460	$17,265.0	19
Kentucky	$53,135	1.3%	26	3,729	$14,249.1	44
Louisiana	$74,426	1.8%	20	4,501	$16,535.4	24
Maine	$17,326	0.4%	43	1,173	$14,770.7	42
Maryland	$76,504	1.8%	18	4,463	$17,141.8	20
Massachusetts	$115,526	2.8%	10	5,832	$19,809.0	8
Michigan	$153,240	3.7%	9	9,145	$16,756.7	22
Minnesota	$75,626	1.8%	19	4,214	$17,946.4	17
Mississippi	$31,830	0.8%	32	2,625	$12,125.7	51
Missouri	$83,534	2.0%	15	5,066	$16,489.1	25
Montana	$12,163	0.3%	46	819	$14,851.0	41
Nebraska	$26,521	0.6%	35	1,598	$16,596.4	23
Nevada	$19,426	0.5%	40	963	$20,172.4	7
New Hampshire	$18,518	0.4%	42	1,027	$18,031.2	15
New Jersey	$154,765	3.7%	8	7,619	$20,313.0	6
New Mexico	$23,603	0.6%	38	1,479	$15,958.8	30
New York	$362,736	8.7%	2	17,772	$20,410.5	5
North Carolina	$100,961	2.4%	13	6,333	$15,942.0	31
North Dakota	$10,733	0.3%	49	679	$15,807.1	32
Ohio	$176,102	4.2%	7	10,752	$16,378.5	26
Oklahoma	$49,814	1.2%	27	3,305	$15,072.3	39
Oregon	$41,278	1.0%	31	2,698	$15,299.5	37
Pennsylvania	$183,559	4.4%	5	11,888	$15,440.7	34
Rhode Island	$15,205	0.4%	44	975	$15,594.9	33
South Carolina	$44,727	1.1%	28	3,377	$13,244.6	48
South Dakota	$9,802	0.2%	50	708	$13,844.6	45
Tenessee	$72,328	1.7%	21	4,803	$15,058.9	40
Texas	$303,510	7.2%	3	16,685	$18,190.6	12
Utah	$24,008	0.6%	37	1,665	$14,419.2	43
Vermont	$8,636	0.2%	51	541	$15,963.0	29
Virginia	$104,155	2.5%	11	5,787	$17,998.1	16
Washington	$77,683	1.9%	16	4,462	$17,409.9	18
Washington D.C.	$28,791	0.7%	34	626	$45,992.0	1
West Virginia	$24,096	0.6%	36	1,918	$12,563.1	50
Wisconsin	$76,922	1.8%	17	4,785	$16,075.7	27
Wyoming	$11,673	0.3%	48	507	$23,023.7	3
U.S. Total	$4,191,705	--	--	241,078	$17,387.3	--

Sources: U.S. Bureau of Economic Analysis,
U.S. Bureau of the Census.

TABLE 13

REAL UTAH GROSS STATE PRODUCT PER CAPITA

(1982 = 100)

Year	Total Real Utah GSP (Millions)	Population	Real GSP per Capita (Thousand)	Annual % Change
1963	$10,202	974,000	$10.5	--
1964	$10,158	978,000	$10.4	-0.8%
1965	$10,292	992,000	$10.4	-0.1%
1966	$10,427	1,009,000	$10.3	-0.4%
1967	$10,344	1,019,000	$10.2	-1.8%
1968	$10,388	1,029,000	$10.1	-0.6%
1969	$10,599	1,047,000	$10.1	0.3%
1970	$10,750	1,065,700	$10.1	-0.4%
1971	$11,242	1,100,700	$10.2	1.3%
1972	$12,083	1,134,600	$10.6	4.3%
1973	$12,850	1,168,800	$11.0	3.2%
1974	$13,267	1,198,800	$11.1	0.7%
1975	$13,482	1,233,900	$10.9	-1.3%
1976	$14,315	1,272,400	$11.3	3.0%
1977	$15,324	1,316,400	$11.6	3.5%
1978	$16,611	1,364,200	$12.2	4.6%
1979	$17,291	1,416,100	$12.2	0.3%
1980	$17,639	1,472,600	$12.0	-1.9%
1981	$18,093	1,515,600	$11.9	-0.3%
1982	$17,892	1,558,800	$11.5	-3.9%
1983	$18,570	1,596,000	$11.6	1.4%
1984	$20,177	1,623,800	$12.4	6.8%
1985	$20,920	1,645,100	$12.7	2.3%
1986	$21,193	1,665,400	$12.7	0.1%
Average Annual Growth Rate*				
1963-86	3.2%	2.4%	0.9%	
1960s	0.8%	1.3%	-0.5%	
1970s	5.1%	3.3%	1.7%	
1980s	3.1%	2.1%	1.0%	

* Compounded

Sources: U.S. Bureau of Economic Analysis,
U.S. Bureau of the Census.

TABLE 14

UTAH AND U.S.

REAL GROSS STATE PRODUCT PER EMPLOYED PERSON*

(1982 = 100)

Year	U.S. Real GSP (Millions)	U.S. Employed Persons (Thousands)	Real GSP Per Employed Person (Thousands)	Utah Real GSP (Millions)	Utah Employed Persons	Real GSP Per Employed Person (Thousands)
1963	$1,863,146	67,762	$27.5	$10,202	337,000	$30.3
1964	$1,955,809	69,305	$28.2	$10,158	336,000	$30.2
1965	$2,069,139	71,088	$29.1	$10,292	339,000	$30.4
1966	$2,178,417	72,895	$29.9	$10,427	355,000	$29.4
1967	$2,230,580	74,372	$30.0	$10,344	365,000	$28.3
1968	$2,321,383	75,920	$30.6	$10,388	372,000	$27.9
1969	$2,395,442	77,902	$30.7	$10,599	382,000	$27.7
1970	$2,384,793	78,678	$30.3	$10,750	389,000	$27.6
1971	$2,437,585	79,367	$30.7	$11,242	403,000	$27.9
1972	$2,567,321	82,153	$31.3	$12,083	425,000	$28.4
1973	$2,713,214	85,064	$31.9	$12,850	448,000	$28.7
1974	$2,697,238	86,794	$31.1	$13,267	465,000	$28.5
1975	$2,658,200	85,846	$31.0	$13,482	465,500	$29.0
1976	$2,783,318	88,752	$31.4	$14,315	498,000	$28.7
1977	$2,913,337	92,017	$31.7	$15,324	519,000	$29.5
1978	$3,062,866	96,048	$31.9	$16,611	540,000	$30.8
1979	$3,137,538	98,824	$31.7	$17,291	579,000	$29.9
1980	$3,111,206	99,303	$31.3	$17,639	594,000	$29.7
1981	$3,166,388	100,397	$31.5	$18,093	604,000	$30.0
1982	$3,104,127	99,526	$31.2	$17,892	622,000	$28.8
1983	$3,205,302	100,834	$31.8	$18,570	628,000	$29.6
1984	$3,433,083	105,055	$32.7	$20,177	658,000	$30.7
1985	$3,568,628	107,150	$33.3	$20,920	687,000	$30.5
1986	$3,681,144	109,597	$33.6	$21,193	709,000	$29.9
Annual Average Growth Rate**						
1963-86	3.0%	2.1%	0.9%	3.2%	3.3%	-0.1%
1960s	3.6%	2.2%	1.4%	0.8%	2.1%	-1.3%
1970s	2.7%	2.4%	0.3%	5.1%	4.3%	0.7%
1980s	2.8%	1.7%	1.2%	3.1%	3.0%	0.1%

* Civilian employed persons

** Compounded

Sources: U.S. Bureau of Economic Analysis,
U.S. Bureau of Labor Statistics,
Utah Department of Employment Security, Labor Market Information Services.

TABLE 15

UTAH GROSS STATE PRODUCT BY MAJOR INDUSTRY

CURRENT DOLLARS
(MILLIONS)

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Total	$2,979	$3,061	$3,203	$3,380	$3,479	$3,719	$4,021	$4,366	$4,825	$5,465	$6,185	$6,970
Private Industries	$2,549	$2,596	$2,694	$2,795	$2,813	$2,997	$3,248	$3,498	$3,849	$4,433	$5,091	$5,774
Ag, Forestry, & Fisheries	$83	$78	$95	$99	$113	$115	$124	$133	$140	$159	$225	$206
Mining	$259	$216	$203	$180	$137	$170	$187	$204	$179	$197	$249	$364
Construction	$158	$165	$166	$176	$162	$170	$193	$216	$266	$349	$403	$443
Manufacturing	$617	$613	$617	$631	$600	$629	$646	$676	$733	$840	$960	$1,066
Durable Goods	$470	$454	$449	$452	$413	$438	$458	$468	$508	$602	$679	$782
Nondurable Goods	$146	$159	$169	$179	$187	$192	$189	$209	$225	$239	$281	$284
TCPU	$295	$310	$326	$353	$370	$389	$418	$446	$503	$566	$626	$701
Wholesale Trade	$202	$213	$225	$238	$248	$268	$299	$317	$344	$394	$455	$536
Retail Trade	$283	$303	$318	$337	$356	$387	$425	$456	$515	$586	$667	$723
FIRE	$375	$397	$423	$450	$476	$492	$530	$582	$649	$747	$822	$969
Services	$277	$302	$321	$331	$351	$378	$426	$468	$521	$595	$684	$767
Federal Civilian Government	$203	$213	$233	$279	$328	$357	$367	$405	$458	$445	$448	$510
Federal Military Government	$29	$32	$34	$37	$40	$44	$46	$50	$60	$74	$83	$83
State & Local Government	$199	$220	$242	$269	$299	$321	$361	$414	$458	$513	$563	$602

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Total	$7,798	$8,860	$10,122	$11,861	$13,498	$15,121	$17,007	$17,892	$19,381	$21,739	$23,172	$24,008
Private Industries	$6,476	$7,393	$8,482	$10,039	$11,523	$12,924	$14,561	$15,216	$16,466	$18,590	$19,699	$20,319
Ag, Forestry, & Fisheries	$189	$212	$216	$257	$345	$355	$362	$382	$352	$393	$374	$400
Mining	$385	$449	$517	$579	$777	$1,037	$1,298	$1,043	$914	$862	$762	$625
Construction	$498	$638	$774	$877	$990	$967	$922	$945	$1,033	$1,267	$1,296	$1,220
Manufacturing	$1,180	$1,322	$1,501	$1,772	$2,049	$2,298	$2,724	$2,797	$3,026	$3,658	$3,904	$3,989
Durable Goods	$825	$918	$1,038	$1,244	$1,461	$1,653	$1,944	$1,926	$2,052	$2,520	$2,664	$2,669
Nondurable Goods	$354	$403	$463	$528	$588	$645	$780	$871	$974	$1,138	$1,240	$1,320
TCPU	$801	$925	$1,038	$1,243	$1,397	$1,678	$2,008	$2,262	$2,598	$2,845	$2,965	$3,035
Wholesale Trade	$591	$636	$720	$853	$984	$1,080	$1,203	$1,221	$1,264	$1,422	$1,529	$1,576
Retail Trade	$838	$968	$1,096	$1,250	$1,368	$1,409	$1,559	$1,680	$1,855	$2,095	$2,283	$2,402
FIRE	$1,100	$1,208	$1,405	$1,780	$2,009	$2,265	$2,387	$2,567	$2,863	$3,086	$3,323	$3,574
Services	$893	$1,035	$1,215	$1,428	$1,604	$1,834	$2,099	$2,318	$2,562	$2,962	$3,263	$3,500
Federal Civilian Government	$541	$585	$616	$665	$698	$773	$866	$915	$992	$1,086	$1,208	$1,244
Federal Military Government	$86	$100	$111	$124	$141	$167	$189	$207	$231	$247	$269	$284
State & Local Government	$695	$782	$913	$1,034	$1,135	$1,256	$1,390	$1,554	$1,691	$1,815	$1,997	$2,162

Source: U.S. Bureau of Economic Analysis.

TABLE 16
REAL UTAH GROSS STATE PRODUCT BY MAJOR INDUSTRY

(1982 = 100)
(MILLIONS)

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Total	$10,202	$10,158	$10,292	$10,427	$10,344	$10,388	$10,599	$10,750	$11,242	$12,083	$12,850	$13,267
Private Industries	$8,461	$8,368	$8,407	$8,354	$8,104	$8,167	$8,379	$8,510	$8,935	$9,878	$10,665	$11,040
Ag, Forestry, & Fisheries	$246	$236	$259	$241	$295	$282	$282	$306	$308	$301	$277	$258
Mining	$1,322	$1,120	$1,025	$893	$813	$809	$855	$833	$814	$888	$967	$1,035
Construction	$970	$968	$927	$902	$777	$745	$729	$705	$767	$925	$976	$964
Manufacturing	$1,821	$1,765	$1,733	$1,704	$1,540	$1,549	$1,508	$1,513	$1,588	$1,760	$1,987	$1,970
Durable Goods	$1,439	$1,358	$1,302	$1,260	$1,097	$1,117	$1,110	$1,081	$1,123	$1,274	$1,417	$1,461
Nondurable Goods	$382	$406	$431	$443	$443	$432	$398	$432	$465	$487	$571	$509
TCPU	$780	$811	$861	$943	$965	$993	$1,044	$1,054	$1,105	$1,196	$1,297	$1,375
Wholesale Trade	$528	$546	$575	$591	$610	$640	$686	$706	$750	$829	$883	$904
Retail Trade	$823	$854	$887	$920	$913	$943	$959	$979	$1,053	$1,177	$1,291	$1,278
FIRE	$1,026	$1,065	$1,112	$1,147	$1,171	$1,169	$1,223	$1,279	$1,360	$1,510	$1,588	$1,792
Services	$945	$1,004	$1,028	$1,013	$1,019	$1,036	$1,092	$1,134	$1,190	$1,292	$1,399	$1,464
Federal Civilian Government	$909	$900	$940	$1,075	$1,210	$1,188	$1,148	$1,121	$1,141	$974	$921	$965
Federal Military Government	$129	$133	$138	$143	$147	$146	$143	$138	$149	$161	$172	$158
State & Local Government	$703	$757	$807	$855	$883	$886	$929	$981	$1,018	$1,070	$1,092	$1,103

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Total	$13,482	$14,315	$15,324	$16,611	$17,291	$17,639	$18,093	$17,892	$18,570	$20,177	$20,920	$21,193
Private Industries	$11,242	$12,027	$12,913	$14,100	$14,747	$15,024	$15,438	$15,216	$15,816	$17,383	$18,009	$18,224
Ag, Forestry, & Fisheries	$245	$272	$263	$263	$314	$349	$346	$382	$356	$348	$387	$435
Mining	$982	$977	$1,074	$1,081	$1,117	$1,187	$1,290	$1,043	$910	$957	$832	$712
Construction	$974	$1,171	$1,305	$1,341	$1,308	$1,135	$982	$945	$1,018	$1,176	$1,154	$1,037
Manufacturing	$1,875	$2,001	$2,111	$2,351	$2,556	$2,647	$2,871	$2,797	$3,026	$3,674	$4,017	$4,166
Durable Goods	$1,323	$1,389	$1,453	$1,628	$1,781	$1,880	$2,031	$1,926	$2,110	$2,677	$2,973	$3,090
Nondurable Goods	$552	$612	$658	$723	$775	$767	$841	$871	$917	$996	$1,044	$1,076
TCPU	$1,415	$1,503	$1,578	$1,779	$1,906	$2,048	$2,217	$2,262	$2,425	$2,558	$2,554	$2,536
Wholesale Trade	$934	$971	$1,052	$1,157	$1,191	$1,189	$1,228	$1,221	$1,239	$1,354	$1,460	$1,511
Retail Trade	$1,328	$1,461	$1,563	$1,671	$1,704	$1,650	$1,673	$1,680	$1,800	$1,961	$2,051	$2,132
FIRE	$1,927	$1,987	$2,113	$2,442	$2,563	$2,658	$2,540	$2,567	$2,625	$2,730	$2,801	$2,862
Services	$1,561	$1,683	$1,855	$2,017	$2,087	$2,160	$2,291	$2,318	$2,417	$2,625	$2,753	$2,834
Federal Civilian Government	$930	$921	$920	$931	$908	$933	$935	$915	$949	$978	$1,036	$1,050
Federal Military Government	$147	$158	$166	$174	$184	$202	$204	$207	$221	$222	$230	$240
State & Local Government	$1,162	$1,210	$1,324	$1,406	$1,451	$1,481	$1,516	$1,554	$1,584	$1,594	$1,645	$1,679

Source: U.S. Bureau of Economic Analysis.

TABLE 17

UTAH GROSS STATE PRODUCT BY MAJOR INDUSTRY SHARE

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Private Industries	82.9%	82.4%	81.7%	80.1%	78.3%	78.6%	79.1%	79.2%	79.5%	81.8%	83.0%	83.2%
Ag, Forestry, & Fisheries	2.4%	2.3%	2.5%	2.3%	2.9%	2.7%	2.7%	2.8%	2.7%	2.5%	2.2%	1.9%
Mining	13.0%	11.0%	10.0%	8.6%	7.9%	7.8%	8.1%	7.7%	7.2%	7.3%	7.5%	7.8%
Construction	9.5%	9.5%	9.0%	8.7%	7.5%	7.2%	6.9%	6.6%	6.8%	7.7%	7.6%	7.3%
Manufacturing	17.8%	17.4%	16.8%	16.3%	14.9%	14.9%	14.2%	14.1%	14.1%	14.6%	15.5%	14.8%
Durable Goods	14.1%	13.4%	12.7%	12.1%	10.6%	10.8%	10.5%	10.1%	10.0%	10.5%	11.0%	11.0%
Nondurable Goods	3.7%	4.0%	4.2%	4.2%	4.3%	4.2%	3.8%	4.0%	4.1%	4.0%	4.4%	3.8%
TCPU	7.6%	8.0%	8.4%	9.0%	9.3%	9.6%	9.8%	9.8%	9.8%	9.9%	10.1%	10.4%
Wholesale Trade	5.2%	5.4%	5.6%	5.7%	5.9%	6.2%	6.5%	6.6%	6.7%	6.9%	6.9%	6.8%
Retail Trade	8.1%	8.4%	8.6%	8.8%	8.8%	9.1%	9.0%	9.1%	9.4%	9.7%	10.0%	9.6%
FIRE	10.1%	10.5%	10.8%	11.0%	11.3%	11.3%	11.5%	11.9%	12.1%	12.5%	12.4%	13.5%
Services	9.3%	9.9%	10.0%	9.7%	9.9%	10.0%	10.3%	10.5%	10.6%	10.7%	10.9%	11.0%
Federal Civilian Government	8.9%	8.9%	9.1%	10.3%	11.7%	11.4%	10.8%	10.4%	10.1%	8.1%	7.2%	7.3%
Federal Military Government	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%	1.3%	1.3%	1.3%	1.3%	1.3%	1.2%
State & Local Government	6.9%	7.5%	7.8%	8.2%	8.5%	8.5%	8.8%	9.1%	9.1%	8.9%	8.5%	8.3%

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Private Industries	83.4%	84.0%	84.3%	84.9%	85.3%	85.2%	85.3%	85.0%	85.2%	86.2%	86.1%	86.0%
Ag, Forestry, & Fisheries	1.8%	1.9%	1.7%	1.6%	1.8%	2.0%	1.9%	2.1%	1.9%	1.7%	1.8%	2.1%
Mining	7.3%	6.8%	7.0%	6.5%	6.5%	6.7%	7.1%	5.8%	4.9%	4.7%	4.0%	3.4%
Construction	7.2%	8.2%	8.5%	8.1%	7.6%	6.4%	5.4%	5.3%	5.5%	5.8%	5.5%	4.9%
Manufacturing	13.9%	14.0%	13.8%	14.2%	14.8%	15.0%	15.9%	15.6%	16.3%	18.2%	19.2%	19.7%
Durable Goods	9.8%	9.7%	9.5%	9.8%	10.3%	10.7%	11.2%	10.8%	11.4%	13.3%	14.2%	14.6%
Nondurable Goods	4.1%	4.3%	4.3%	4.4%	4.5%	4.3%	4.6%	4.9%	4.9%	4.9%	5.0%	5.1%
TCPU	10.5%	10.5%	10.3%	10.7%	11.0%	11.6%	12.3%	12.6%	13.1%	12.7%	12.2%	12.0%
Wholesale Trade	6.9%	6.8%	6.9%	7.0%	6.9%	6.7%	6.8%	6.8%	6.7%	6.7%	7.0%	7.1%
Retail Trade	9.9%	10.2%	10.2%	10.1%	9.9%	9.4%	9.2%	9.4%	9.7%	9.7%	9.8%	10.1%
FIRE	14.3%	13.9%	13.8%	14.7%	14.8%	15.1%	14.0%	14.3%	14.1%	13.5%	13.4%	13.5%
Services	11.6%	11.8%	12.1%	12.1%	12.1%	12.2%	12.7%	13.0%	13.0%	13.0%	13.2%	13.4%
Federal Civilian Government	6.9%	6.4%	6.0%	5.6%	5.3%	5.3%	5.2%	5.1%	5.1%	4.8%	5.0%	5.0%
Federal Military Government	1.1%	1.1%	1.1%	1.0%	1.1%	1.1%	1.1%	1.2%	1.2%	1.1%	1.1%	1.1%
State & Local Government	8.6%	8.5%	8.6%	8.5%	8.4%	8.4%	8.4%	8.7%	8.5%	7.9%	7.9%	7.9%

Source: U.S. Bureau of Economic Analysis.

TABLE 18

UTAH GROSS STATE PRODUCT BY COMPONENT

FOR SELECTED YEARS
1963 THROUGH 1986

	Gross State Product	Compensation	Propietors' Income	Capital Charges	Indirect Business Taxes
1963	$2,979	$1,660	$380	$787	$225
1967	$3,479	$2,046	$403	$747	$283
1972	$5,465	$3,328	$629	$1,071	$438
1973	$6,185	$3,758	$735	$1,205	$487
1974	$6,970	$4,245	$805	$1,381	$538
1975	$7,798	$4,695	$891	$1,613	$598
1976	$8,860	$5,370	$1,045	$1,782	$663
1977	$10,122	$6,148	$1,218	$2,015	$741
1978	$11,861	$7,129	$1,383	$2,511	$839
1979	$13,498	$8,143	$1,523	$2,901	$931
1980	$15,121	$9,072	$1,603	$3,310	$1,134
1981	$17,007	$10,239	$1,323	$4,003	$1,443
1982	$17,892	$10,944	$1,276	$4,187	$1,485
1983	$19,381	$11,587	$1,327	$4,803	$1,665
1984	$21,739	$12,772	$1,538	$5,482	$1,946
1985	$23,172	$13,564	$1,605	$5,869	$2,133
1986	$24,008	$13,943	$1,781	$6,105	$2,179

UTAH GROSS STATE PRODUCT BY COMPONENT SHARE

	Gross State Product	Compensation	Propietors' Income	Capital Charges	Indirect Business Taxes
1963	100.0%	55.7%	12.8%	26.4%	7.6%
1967	100.0%	58.8%	11.6%	21.5%	8.1%
1972	100.0%	60.9%	11.5%	19.6%	8.0%
1973	100.0%	60.8%	11.9%	19.5%	7.9%
1974	100.0%	60.9%	11.5%	19.8%	7.7%
1975	100.0%	60.2%	11.4%	20.7%	7.7%
1976	100.0%	60.6%	11.8%	20.1%	7.5%
1977	100.0%	60.7%	12.0%	19.9%	7.3%
1978	100.0%	60.1%	11.7%	21.2%	7.1%
1979	100.0%	60.3%	11.3%	21.5%	6.9%
1980	100.0%	60.0%	10.6%	21.9%	7.5%
1981	100.0%	60.2%	7.8%	23.5%	8.5%
1982	100.0%	61.2%	7.1%	23.4%	8.3%
1983	100.0%	59.8%	6.8%	24.8%	8.6%
1984	100.0%	58.8%	7.1%	25.2%	9.0%
1985	100.0%	58.5%	6.9%	25.3%	9.2%
1986	100.0%	58.1%	7.4%	25.4%	9.1%

Source: U.S. Bureau of Economic Analysis.

DEMOGRAPHIC CHARACTERISTICS

Demographic characteristics play an important role in the analysis of a state's economy. Population growth, for instance, can indicate a robust economy. A slow growing or unchanging population can be a sign of economic stagnation. Population change, natural increase, migration, household formation and changes in age structure are all important economic and demographic occurrences. Each of these factors provide insight into the economic health of Utah.

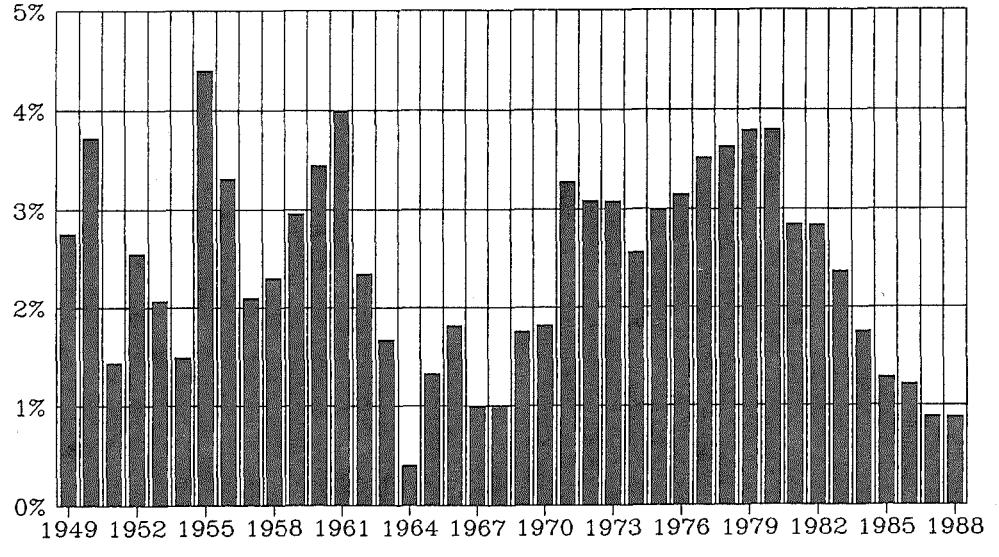
State Population Change

On July 1, 1988, the estimated population of Utah reached 1,695,000, a 0.9 percent increase over the revised 1987 estimate of 1,680,000. This 0.8 percent increase represents the smallest year to year increase in Utah population since 1964 and is slightly lower than the national growth rate for the same period. Utah's 1988 estimate includes a natural increase of 26,526 persons and an implied net out-migration of 11,526.

For the entire period from 1980 to 1988, Utah's population has increased rapidly in comparison to other states. The census count taken on April 1, 1980 showed 1,461,037 inhabitants for Utah. Since the 1980 Census, Utah's population has expanded by approximately 234,000 persons, for an average annual growth rate of 1.9 percent. This growth rate nearly doubles the comparable national growth rate of 1.0 percent. Furthermore, from 1980 to 1988 Utah ranks as the ninth fastest growing state.

Despite Utah's high rate of population growth for the 1980 to 1988 period, population growth in Utah has slowed considerably during the latter part of the 1980's. In fact, in both 1987 and 1988, Utah's population has increased at a rate slower than the nation. Consequently, claims that Utah is among the fastest growing states in the country are true for the entire 1980's but not for the last two years.

Figure 12
Utah Population: 1949 to 1988
Annual Percent Change



Source: U.S. Bureau of the Census and
Utah Population Estimates Committee.

The slowdown in Utah's population growth is explained by two significant economic and demographic events. First, many Utahns have chosen to have fewer children and so the state's natural increase has dropped considerably. Second, a sluggish economy has contributed to a net out-migration of Utah residents. Table 19 and Figure 13 provide a history of Utah population, net migration and natural increase from 1947 to 1988.

County Population Change

Among Utah's 29 counties, 13 gained population from 1987 to 1988. Not surprisingly, Davis and Washington County continue to be the fastest growing counties in the state. The other counties with increasing populations are generally located in the more urban counties. In fact every county in Utah's two metropolitan areas gained population from 1987 to 1988. These counties are Davis, Salt Lake, Weber and Utah.

In contrast to the metropolitan counties, many of the counties which lost population or experienced no population change from 1987 to 1988 were in rural Utah. For example, every county in the Uintah Basin and Southeastern Utah either lost or showed no change in population. These counties are Carbon, Daggett, Duchesne, Emery, Grand, San Juan and Uintah. Eastern Utah has been hurt by the high unemployment and out-migration brought on by the depressed energy industry. Utah population estimates by county from 1980 to 1988 are shown in Table 20.

Natural Increase

Natural increase is the measure of births minus deaths. The number of live births in the state peaked in 1982 and dropped steadily through 1987. This decline in births in the eighties is taking place in every county and every age specific group. However, the period from July 1, 1987 through July 1, 1988 showed a slight increase in births (35,648) compared to the previous twelve months (35,469), a 0.5 percent increase. Deaths during the same period increased from 8,813 to 9,122, therefore a slight deline occured in the overall natural increase.

Total fertility rates have fallen steadily in every year of the 1980's, from 3.2 (3.2 children per woman during a lifetime) to an estimated 2.5 in 1987. These declining fertility rates have occurred because Utahns have been choosing to have fewer children. Although total births during fiscal year 1988 increased slightly, there is not yet any indication of whether the total fertility rate has stopped its decline. Table 21 and Figure 14 show total fertility rates in Utah and the nation during the 1980's.

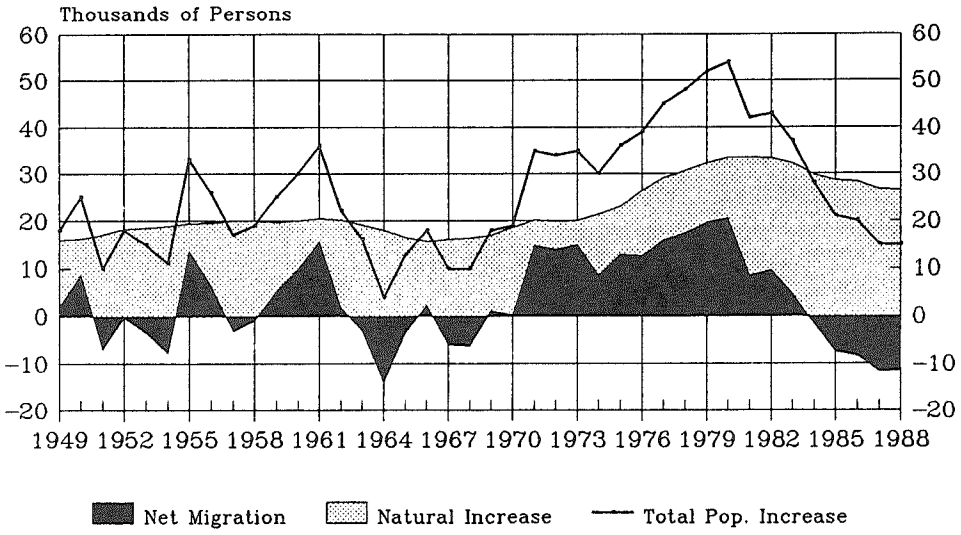
The reasons why women in Utah are choosing to have fewer children are difficult to identify. Indeed, a woman's choice to have children is influenced by many factors which cannot be quantified. Generally, researchers point to a combination of factors to explain the decline such as increased educational attainment, delayed first births, increased effectiveness and availability of birth control and higher female labor force participation. Of course, these components only include some of the most obvious factors. Certainly, many other explanations have contributed to the decline as well.

Over this period, mortality rates have remained relatively stable. Therefore, as the population has grown, deaths have increased at a similar rate. Since mortality rates have remained relatively stable during the 1980's and total fertility rates have dropped significantly, natural increase has dropped because of fewer births and slowly increasing deaths.

Migration

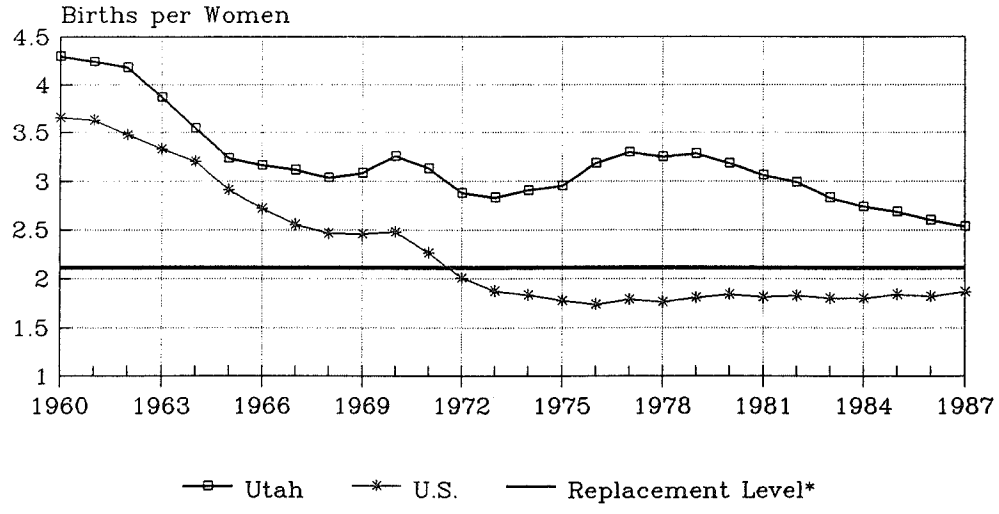
In addition to declining total fertility rates, net out-migration has also contributed to slower population growth. After 15 years of net in-migration, Utah experienced the first of five consecutive years of net out-migration in 1984. At no time in the 41 year history of migration data shown in Figure 13 and Table 19 has Utah experienced five consecutive years of net out-migration.

Figure 13
Annual Population Increase in Utah
Net Migration, Natural Increase, & Total



Source: U.S. Bureau of the Census and
Utah State Office of Planning & Budget.

Figure 14
Total Fertility: 1960–1987
for Utah and the U.S.



*rate (2.1) needed to maintain
population without immigration.
Source: E.Brown–Fertility in Ut; Ut OPB

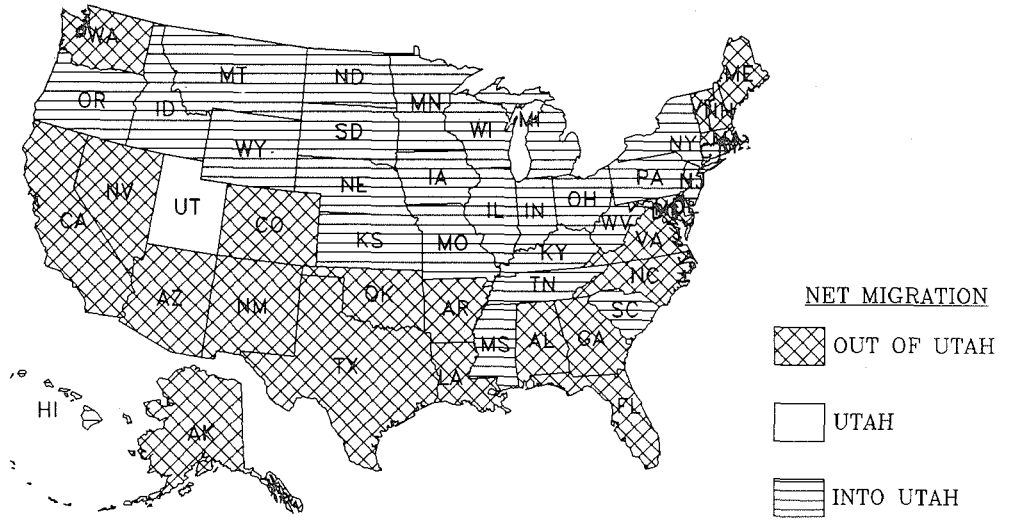
Although the reasons why people migrate out of Utah are varied and complex, the primary reason is for employment opportunities. Imbalances in the labor market occur when a large number of new entrants enter the labor force but the economy fails to create the number of new jobs needed to employ the new entrants. As a result, many persons leave the state to find jobs.

Because of the net out-migration of the last five years, Utah's population in the 1980's has grown entirely because of natural increase. From July 1, 1980 to July 1, 1988, births measured 308,255 and deaths 69,396. This is a natural increase of 238,859. With an overall population increase of 221,000 persons since July 1, 1980, Utah has had approximately 18,000 more people move out of Utah during the 1980's than have moved in.

Due to the current pattern of net out-migration, information about migration patterns in Utah are particularly relevant. The U.S. Internal Revenue Service (IRS) in cooperation with the U.S. Bureau of the Census tabulates migration data from information derived from federal income tax returns. Currently, this data base is available for the 1981 to 1985 period. Because the IRS migration data base is not inclusive of the entire population, total net migration does differ from that reported in Table 19. The migration data reported in Table 19 is considered the most reliable in terms of the total magnitude of net migration. The value of the IRS data base is not in the total magnitude of migration that it shows but in the ability it provides to track migration flows among geographic areas.

According to the IRS data, people who move to Utah tend to come from the north, while Utahns who leave the state generally go south. Utah, like the rest of the states, has been a part of the frostbelt to sunbelt movement, a movement of people from the Midwest and Northeast regions to the South and West regions. Table 22 and Figure 15 show which states lost and which states gained population to or from Utah for the 1981 to 1985 period.

Figure 15
Net Migration Flows Into and Out of Utah From Other States: 1981–1985



Source: U.S. Bureau of the Census

Households

From 1981 to 1985, Utah gained population from every state north of Utah except Washington and four New England states. Utah attracted a net gain in population from 28 states and gained the most from Idaho, Illinois, Michigan and Montana. These four states accounted for 52 percent of the total in-migration to Utah.

For the same time period, Utah lost population to states in the West and South regions. Utah lost population to 22 states. Of all of the these states, 62 percent of the movers went to Arizona, Texas, and Colorado.

Since many economic commodities are made specifically for households businesses often base decisions on household counts rather than population counts. Recognizing these data needs, the Bureau of the Census recently released state household estimates and, for the first time ever, county household estimates. Tables 23 and 24 provide these data.

Nationwide household growth from 1980 to 1987 significantly exceeded population growth. Households across the nation increased by 12.0 percent, compared with the 7.4 percent population growth. Households increase more rapidly because of the age structure of the population. As the baby boomers are aging a higher percentage of the population are in the household formation years (over 18 years of age). Conversely, the population under 18 years of age has been declining in the country.

Utah's household formation shows a marked difference from the nation. In Utah, households are growing at about the same rate as the population. This occurs because, unlike the nation, the growth in Utah's population 18 years and over and the population under age 18 has been relatively balanced. From 1980 to 1987, Utah households increased by 15.5 percent and population increased by 15.0 percent.

Another unique characteristic of Utah households is the household size. Utah has the largest household size of any state in the country at 3.19 persons per household. The U.S. average household size is 2.69.

Among Utah's counties household sizes range from 4.24 in San Juan County to 2.94 in Grand County. San Juan County registers a large household size primarily because of the large American Indian population in the county. American Indians tend to have above average household sizes. Most of the counties have household sizes very close to the state average.

Age Structure

Utah's young population stands out as possibly the most unique demographic characteristic in the state. The Utah population, by almost every measure, is the youngest population in the country. This demographic characteristic represents both a challenge and an opportunity for the Utah economy.

To demonstrate just how young Utah's population is relative to the nation, a few statistics need to be examined. First, the U.S. Bureau of the Census recently published median age estimates for the 50 states. The median age is the point at which half of the population are older than that age and half are younger. According to the Census Bureau figures, Utah's 1987 median age of 25.5 ranks lower than any state and is 6.6 years younger than the national median age of 32.1. In fact, Utah's current median age is still below the national median age recorded all the way back in the 1930 Census of 26.4. Table 25 shows the Utah and U.S. median ages for the 1980's.

Another example of Utah's young population can be shown by breaking the population down into age groups and examining these age groups as a percent of the total population. Four useful age breakdowns are the under 5 age group (pre-school ages), the 5 to 17 age group (school age), the 18 to 64 age group (working ages), and the 65 and over age group (retirement ages). Table 26 provides this age breakdown as a percent of the total population for all 50 states and the District of Columbia.

According to Table 26, Utah ranks second among states in the percent of the population under 5 years and first in the percent of the population 5 to 17 years of age. In contrast, Utah ranks fifty-first in the percent of the population 18 to 64 years of age and fiftieth in the 65 years and over category.

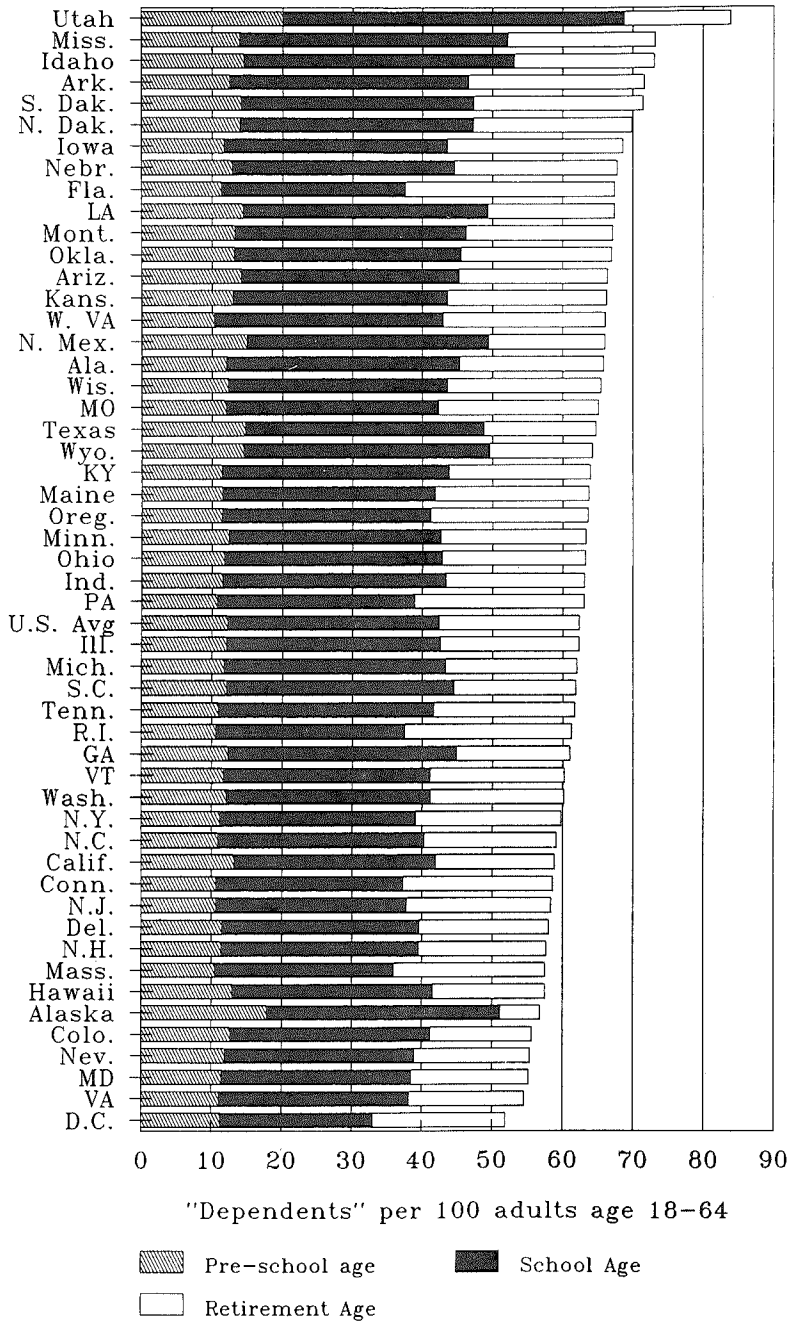
The significance of these rankings can be summarized by using a statistic known as the dependency ratio. The dependency ratio is calculated by dividing the number of dependents, defined as persons of retirement age (65 years and over) and children (0 to 17 years of age) by the working age population (18 to 64 years of age). The dependency ratio, then, is defined as the number of dependents per 100 persons of working age.

Figure 16 and Table 27 show that Utah's dependency ratio of 84 is the highest of any state and the District of Columbia. Not only does Utah have the highest, but the ratio is far above the rest. These data show that for every 100 workers in Utah, these workers must support 22 more dependents than the national average.

The dependency burden placed on working persons in Utah can be explained by examining the size and growth of Utah's school age population. During the 1980's Utah has sustained the largest growth of any state in the number of children of school age with an increase of 27 percent. Over this same period, only 13 states had increases in school age population and on average the school age population across the country dropped by about 5 percent. Consequently, in 1987 for every 100 adults of working age, Utah supported 19 more school age children than the nation. This significant load impacts every household in Utah as each Utah worker must pay to educate more children than their national counterparts.

Though educating this large school age population is a challenge, this young population is also Utah's greatest resource. The working age population of other states continues to age out of the labor force without replacement by younger workers. This is already creating serious labor shortages in many states. Utah's workforce, by contrast, is projected to grow twice as fast as the nation's over the next twelve years.

Figure 16
Dependency Ratio in 1987 for States, D.C., and U.S. Average



Source: U.S. Bureau of the Census

TABLE 19

UTAH POPULATION ESTIMATES, NATURAL INCREASE, NET MIGRATION, BIRTHS & DEATHS

1947 TO 1988

Year	July 1, Population	Percent Change	Increase	Net Migration	Natural Increase	Fiscal Year Births*	Fiscal Year Deaths*
1947	636,000	-0.31%	-2,000	-17,082	15,082	19,972	4,891
1948	653,000	2.67%	17,000	814	16,186	21,219	5,033
1949	671,000	2.76%	18,000	2,061	15,940	20,939	5,000
1950	696,000	3.73%	25,000	8,774	16,227	21,178	4,952
1951	706,000	1.44%	10,000	-7,046	17,046	21,981	4,935
1952	724,000	2.55%	18,000	-209	18,209	23,251	5,042
1953	739,000	2.07%	15,000	-3,522	18,522	23,658	5,136
1954	750,000	1.49%	11,000	-7,906	18,906	23,944	5,038
1955	783,000	4.40%	33,000	13,589	19,412	24,454	5,042
1956	809,000	3.32%	26,000	6,372	19,629	24,787	5,158
1957	826,000	2.10%	17,000	-3,058	20,058	25,518	5,460
1958	845,000	2.30%	19,000	-972	19,972	25,724	5,753
1959	870,000	2.96%	25,000	5,330	19,671	25,515	5,844
1960	900,000	3.45%	30,000	9,980	20,021	25,959	5,938
1961	936,000	4.00%	36,000	15,608	20,392	26,431	6,039
1962	958,000	2.35%	22,000	1,802	20,199	26,402	6,203
1963	974,000	1.67%	16,000	-3,148	19,148	25,583	6,435
1964	978,000	0.41%	4,000	-13,924	17,924	24,398	6,474
1965	991,000	1.33%	13,000	-3,515	16,515	23,053	6,538
1966	1,009,000	1.82%	18,000	2,330	15,670	22,431	6,761
1967	1,019,000	0.99%	10,000	-6,092	16,092	22,775	6,683
1968	1,029,000	0.98%	10,000	-6,372	16,372	23,071	6,699
1969	1,047,000	1.75%	18,000	1,124	16,876	23,713	6,837
1970	1,066,000	1.81%	19,000	327	18,674	25,601	6,927
1971	1,101,000	3.28%	35,000	14,800	20,200	27,407	7,207
1972	1,135,000	3.09%	34,000	14,090	19,910	27,146	7,236
1973	1,170,000	3.08%	35,000	14,955	20,045	27,562	7,517
1974	1,200,000	2.56%	30,000	8,620	21,380	28,876	7,496
1975	1,236,000	3.00%	36,000	12,949	23,051	30,566	7,515
1976	1,275,000	3.16%	39,000	12,605	26,395	33,773	7,378
1977	1,320,000	3.53%	45,000	15,886	29,114	36,709	7,595
1978	1,368,000	3.64%	48,000	17,422	30,578	38,265	7,687
1979	1,420,000	3.80%	52,000	19,712	32,288	40,134	7,846
1980	1,474,000	3.80%	54,000	20,517	33,483	41,591	8,108
1981	1,516,000	2.85%	42,000	8,601	33,399	41,511	8,112
1982	1,559,000	2.84%	43,000	9,630	33,370	41,774	8,404
1983	1,596,000	2.37%	37,000	4,789	32,211	40,557	8,346
1984	1,624,000	1.75%	28,000	-1,757	29,757	38,643	8,886
1985	1,645,000	1.29%	21,000	-7,585	28,585	37,508	8,923
1986	1,665,000	1.22%	20,000	-8,355	28,355	37,145	8,790
1987	1,680,000	0.90%	15,000	-11,656	26,656	35,469	8,813
1988	1,695,000	0.89%	15,000	-11,526	26,526	35,648	9,122

* From 1947 to 1970 fiscal year births and deaths are estimated by averaging calender year births and deaths in the two years that are partially covered by each fiscal year (i.e. July to June). After 1970 actual fiscal year births and deaths are shown.

Sources: Utah Department of Health, Bureau of Vital Records,
Utah Population Estimates Committee.

TABLE 20

UTAH POPULATION ESTIMATES BY COUNTY

1980 TO 1988

County	July 1 1980	July 1 1981	July 1 1982	July 1 1983	July 1 1984	July 1 1985	July 1 1986	July 1 1987*	July 1 1988**	% Change 1980-88	% Change 1987-88
Beaver	4,400	4,600	4,650	5,000	5,150	5,050	4,950	4,900	4,800	9.1%	-2.0%
Box Elder	33,500	34,000	34,700	35,300	35,800	36,600	37,300	37,800	38,000	13.4%	0.5%
Cache	57,700	59,800	62,000	64,500	65,600	66,700	67,800	69,200	70,600	22.4%	2.0%
Carbon	22,400	23,100	24,700	24,500	23,700	23,400	23,000	22,500	22,000	-1.8%	-2.2%
Daggett	750	850	850	750	750	700	700	700	700	-6.7%	0.0%
Davis	148,000	153,000	158,000	162,000	166,000	170,000	175,000	179,000	184,000	24.3%	2.8%
Duchesne	12,700	13,100	13,700	14,400	14,800	14,700	14,300	13,700	13,100	3.1%	-4.4%
Emery	11,600	12,100	13,000	13,100	12,400	11,800	11,800	11,600	11,300	-2.6%	-2.6%
Garfield	3,700	3,700	3,750	3,950	3,950	4,050	4,050	4,050	4,050	9.5%	0.0%
Grand	8,250	8,400	8,100	7,950	7,650	7,050	6,850	6,700	6,550	-20.6%	-2.2%
Iron	17,500	17,900	18,300	18,900	19,300	19,400	19,500	19,500	19,200	9.7%	-1.5%
Juab	5,550	5,600	5,700	5,900	6,150	6,250	5,800	5,700	5,700	2.7%	0.0%
Kane	4,050	4,050	4,150	4,350	4,500	4,700	4,800	4,850	4,900	21.0%	1.0%
Millard	9,050	9,600	10,400	11,400	13,500	14,200	13,600	13,000	12,900	42.5%	-0.8%
Morgan	4,950	5,050	5,200	5,250	5,350	5,450	5,500	5,650	5,700	15.2%	0.9%
Piute	1,350	1,400	1,350	1,450	1,500	1,550	1,550	1,550	1,550	14.8%	0.0%
Rich	2,150	2,250	2,400	2,300	2,150	2,100	2,050	1,950	1,850	-14.0%	-5.1%
Salt Lake	625,000	640,000	655,000	667,000	679,000	689,000	697,000	701,000	705,000	12.8%	0.6%
San Juan	12,400	12,700	12,600	13,000	12,800	12,500	12,700	12,900	12,900	4.0%	0.0%
Sanpete	14,800	15,400	16,100	16,900	17,000	16,900	16,500	16,600	16,700	12.8%	0.6%
Sevier	14,900	15,200	15,500	15,800	16,100	16,200	15,800	15,900	15,900	6.7%	0.0%
Summit	10,400	10,900	11,300	11,800	12,200	12,400	12,700	13,300	13,400	28.8%	0.8%
Tooele	26,200	26,800	27,100	27,300	28,200	28,300	28,100	28,100	27,800	6.1%	-1.1%
Uintah	20,700	21,900	24,300	25,300	24,500	24,000	23,000	21,800	21,500	3.9%	-1.4%
Utah	220,000	228,000	235,000	242,000	247,000	250,000	253,000	258,000	262,000	19.1%	1.6%
Wasatch	8,650	8,900	8,750	9,050	9,200	9,200	9,450	9,700	9,800	13.3%	1.0%
Washington	26,400	27,700	29,400	30,700	32,600	35,700	39,100	41,300	43,000	62.9%	4.1%
Wayne	1,950	2,000	2,000	2,150	2,150	2,100	2,100	2,050	2,100	7.7%	2.4%
Weber	145,000	148,000	151,000	154,000	155,000	155,000	157,000	157,000	158,000	9.0%	0.6%
State Total	1,474,000	1,516,000	1,559,000	1,596,000	1,624,000	1,645,000	1,665,000	1,680,000	1,695,000	15.0%	0.9%

*Revised
**Preliminary

Source: Utah Population Estimates Committee.

TABLE 21

UTAH AND U.S.
TOTAL FERTILITY RATES
1960 TO 1987

	Utah	U.S.		Utah	U.S.
1960	4.3	3.7	1974	2.9	1.8
1961	4.2	3.6	1975	3.0	1.8
1962	4.2	3.5	1976	3.2	1.7
1963	3.9	3.3	1977	3.3	1.8
1964	3.6	3.2	1978	3.3	1.8
1965	3.2	2.9	1979	3.3	1.8
1966	3.2	2.7	1980	3.2	1.8
1967	3.1	2.6	1981	3.1	1.8
1968	3.0	2.5	1982	3.0	1.8
1969	3.1	2.5	1983	2.8	1.8
1970	3.3	2.5	1984	2.7	1.8
1971	3.1	2.3	1985	2.7	1.8
1972	2.9	2.0	1986	2.6	1.8
1973	2.8	1.9	1987	2.5	1.9

Sources: Eileen Brown, "Fertility in Utah: 1960-1985",
Utah Office of Planning and Budget,
U.S. Bureau of the Census, Current Population Reports,
Series P-25, No. 1023.

TABLE 22
NET MIGRATION INTO AND OUT OF UTAH BY STATE
1981 TO 1985

	1981	1982	1983	1984	1985	Total 1981-85
Alabama	62	39	-136	-101	-20	-156
Alaska	-114	-301	-225	-168	-72	-880
Arizona	27	-111	-698	-1,792	-2,403	-4,977
Arkansas	38	90	-132	-33	-25	-62
California	3,462	2,474	-860	-1,774	-4,277	-975
Colorado	-370	-392	233	-433	-262	-1,224
Connecticut	55	49	-12	-14	-40	38
Delaware	12	10	12	-3	22	53
D.C.	-25	2	-22	-33	-33	-111
Florida	290	-24	56	-336	-366	-380
Georgia	69	89	-80	-135	-146	-203
Hawaii	168	129	255	173	27	752
Idaho	974	1,117	968	1,262	1,620	5,941
Illinois	449	466	365	103	77	1,460
Indiana	92	351	176	14	-40	593
Iowa	117	182	136	157	196	788
Kansas	144	95	-33	145	9	360
Kentucky	106	45	-136	116	-1	130
Louisiana	-44	-103	46	22	18	-61
Maine	18	1	-26	14	-27	-20
Maryland	49	84	-319	46	-168	-308
Massachusetts	31	96	-80	-63	-160	-176
Michigan	528	472	252	91	0	1,343
Minnesota	145	144	282	100	-48	623
Mississippi	61	6	79	-1	-18	127
Missouri	118	183	-73	9	-110	127
Montana	157	341	197	359	236	1,290
Nebraska	95	242	-15	71	32	425
Nevada	-235	-70	221	-254	-423	-761
New Hampshire	-7	30	46	-44	-27	-2
New Jersey	215	115	224	-2	-88	464
New Mexico	301	-107	-197	-373	-244	-620
New York	215	187	445	-74	-106	667
North Carolina	109	89	-72	-94	-74	-42
North Dakota	65	10	117	-19	71	244
Ohio	314	409	75	14	-88	724
Oklahoma	-103	-441	-194	-106	16	-828
Oregon	6	743	204	-352	-162	439
Pennsylvania	211	327	62	91	50	741
Rhode Island	-6	-7	-3	16	10	10
South Carolina	145	-5	-82	-34	-14	10
South Dakota	20	172	21	-19	19	213
Tennessee	124	56	3	3	-78	108
Texas	-575	-954	-1,099	-1,129	-934	-4,691
Utah	0	0	0	0	0	0
Vermont	-2	-18	-12	-1	0	-33
Virginia	-37	-62	-37	-260	-239	-635
Washington	-164	292	270	-225	-550	-377
West Virginia	83	47	11	62	-1	202
Wisconsin	117	142	131	118	99	607
Wyoming	-555	-126	575	502	350	746
Total	6,955	6,605	919	-4,384	-8,392	1,703

Note: These total migration figures differ form those shown in Table 19. The two estimates come from different sources. The migration data shown above may not be as complete of a count of total migration as that shown in Table 19, but reflects the best available data on geographic migration flows.

Source: U.S. Internal Revenue Service, Individual Master Files.

TABLE 23
UTAH COUNTY HOUSEHOLD ESTIMATES
1980 AND 1985

	1980 Census	July 1, 1985 Estimate	Percent Change	Persons Per Household 1980	Persons Per Household 1985
Beaver	1,428	1,700	17.1	3.06	3.10
Box Elder	9,808	10,300	5.2	3.31	3.44
Cache	17,558	19,700	11.9	3.16	3.18
Carbon	7,242	7,200	-1.3	3.03	3.13
Daggett	244	200	1.8	3.15	3.11
Davis	39,994	47,200	17.9	3.58	3.64
Duchesne	3,499	4,400	26.9	3.57	3.42
Emery	3,276	3,300	0.6	3.48	3.65
Garfield	1,196	1,300	6.8	3.00	3.08
Grand	2,759	2,500	-9.5	2.98	2.94
Iron	5,168	5,900	14.7	3.28	3.23
Juab	1,707	1,800	7.3	3.21	3.29
Kane	1,286	1,500	15.5	3.12	3.10
Millard	2,728	4,200	55.5	3.28	3.38
Morgan	1,355	1,300	-1.1	3.63	3.82
Piute	435	500	3.7	3.06	3.21
Rich	654	700	5.6	3.21	3.37
Salt Lake	201,742	227,400	12.7	3.03	3.01
San Juan	3,018	2,700	-9.7	4.04	4.24
Sanpete	4,454	4,800	8.4	3.17	3.34
Sevier	4,587	4,900	5.8	3.19	3.21
Summit	3,381	4,100	21.2	3.02	3.04
Tooele	7,966	8,800	10.4	3.23	3.29
Uintah	5,949	7,200	20.8	3.44	3.49
Utah	58,515	65,400	11.7	3.59	3.53
Wasatch	2,595	2,900	13.3	3.26	3.28
Washington	7,801	10,500	34.1	3.28	3.29
Wayne	615	700	6.2	3.11	3.27
Weber	47,643	52,500	10.2	2.99	2.96
State*	448,603	505,000	12.7	3.20	3.20

* County totals may not add to state total due to rounding.

Source: U.S. Bureau of the Census, Current Population Reports, Series P-23, No. 156.

TABLE 24
UTAH HOUSEHOLD ESTIMATES
1980 TO 1987

	Households	Percent Change
1980 Census	448,603	--
1981	465,000	3.7%
1982	476,000	2.4%
1983	483,000	1.5%
1984	496,000	2.7%
1985	505,000	1.8%
1986	514,000	1.8%
1987	518,000	0.8%

Source: U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 1024.

TABLE 25
UTAH AND U.S. MEDIAN AGE
1980 TO 1987

	U.S.	Utah	Difference
1980	30.0	24.2	5.8
1981	30.3	24.3	6.0
1982	30.6	24.6	6.0
1983	30.8	24.8	6.0
1984	31.1	25.0	6.1
1985	31.4	25.2	6.2
1986	31.7	25.5	6.2
1987	32.1	25.5	6.6

Source: U.S. Bureau of the Census Current Population Reports, Series P-25, No. 1024.

TABLE 26

RANKING OF THE PERCENT DISTRIBUTION BY AGE OF THE RESIDENT POPULATION OF STATES AND THE DISTRICT OF COLUMBIA

JULY 1, 1987

Rank		Under 5 Years	Rank		5-17 Years	Rank		18-64 Years	Rank		65 and Over
1	Alaska	11.4	1	**Utah**	26.5	1	D.C.	65.9	1	Florida	17.8
2	**Utah**	10.9	2	Idaho	22.3	2	Virginia	64.7	2	Iowa	14.9
3	New Mexico	9.0	3	Mississippi	22.1	3	Maryland	64.4	3	Pennsylvania	14.8
4	Texas	8.9	4	Wyoming	21.4	4	Nevada	64.3	4	Rhode Island	14.7
5	Wyoming	8.8	5	Alaska	21.2	5	Colorado	64.2	5	Arkansas	14.6
6	Louisiana	8.6	6	Louisiana	20.9	6	Alaska	63.8	6	South Dakota	14.0
7	Arizona	8.5	7	New Mexico	20.8	7	Hawaii	63.5	7	West Virginia	13.9
8	Idaho	8.4	8	Texas	20.7	8	Massachusetts	63.5	8	Nebraska	13.8
9	California	8.3	9	Georgia	20.2	9	New Hampshire	63.4	9	Missouri	13.8
10	Hawaii	8.2	10	Alabama	20.1	10	Delaware	63.3	10	Oregon	13.7
11	North Dakota	8.2	11	South Carolina	20.0	11	New Jersey	63.2	11	Massachusetts	13.7
12	South Dakota	8.2	12	Arkansas	19.9	12	Connecticut	63.1	12	Kansas	13.6
13	Colorado	8.1	13	Kentucky	19.8	13	California	63.0	13	Maine	13.4
14	Mississippi	8.0	14	Montana	19.8	14	North Carolina	62.8	14	Connecticut	13.4
15	Montana	7.9	15	West Virginia	19.7	15	New York	62.6	15	North Dakota	13.3
16	Oklahoma	7.9	16	North Dakota	19.6	16	Vermont	62.5	16	Wisconsin	13.2
17	Kansas	7.8	17	Indiana	19.5	17	Washington	62.5	17	New Jersey	13.0
18	Georgia	7.7	18	Michigan	19.5	18	Georgia	62.1	18	New York	13.0
19	Nevada	7.7	19	South Dakota	19.4	19	Rhode Island	62.1	19	Oklahoma	12.8
20	Nebraska	7.6	20	Oklahoma	19.4	20	Tennessee	61.9	20	Arizona	12.7
21	Minnesota	7.6	21	Ohio	19.1	21	South Carolina	61.8	21	Minnesota	12.6
22	Washington	7.5	22	Tennessee	19.0	22	Michigan	61.7	22	Montana	12.5
23	South Carolina	7.5	23	Wisconsin	19.0	23	Illinois	61.6	23	Ohio	12.5
24	Illinois	7.4	24	Nebraska	18.9	24	Pennsylvania	61.3	24	Tennessee	12.4
25	Wisconsin	7.4	25	Iowa	18.9	25	Indiana	61.3	25	D.C.	12.4
26	D.C.	7.4	26	Illinois	18.8	26	Ohio	61.3	26	Alabama	12.4
27	Maryland	7.3	27	Arizona	18.7	27	Minnesota	61.3	27	Kentucky	12.3
28	Vermont	7.3	28	Minnesota	18.6	28	Oregon	61.1	28	Illinois	12.1
29	Delaware	7.2	29	Maine	18.5	29	Maine	61.1	29	Mississippi	12.1
30	Arkansas	7.2	30	North Carolina	18.5	30	Kentucky	61.0	30	Indiana	12.1
31	Missouri	7.2	31	Kansas	18.4	31	Wyoming	60.9	31	Vermont	11.9
32	Michigan	7.2	32	Vermont	18.4	32	Texas	60.7	32	Washington	11.8
33	Alabama	7.2	33	Missouri	18.4	33	Missouri	60.6	33	North Carolina	11.8
34	New Hampshire	7.2	34	Colorado	18.4	34	Wisconsin	60.5	34	Delaware	11.6
35	Ohio	7.2	35	Washington	18.2	35	New Mexico	60.3	35	Idaho	11.5
36	Virginia	7.1	36	Oregon	18.2	36	Alabama	60.3	36	Michigan	11.5
37	Indiana	7.1	37	Hawaii	18.2	37	West Virginia	60.3	37	New Hampshire	11.5
38	New York	7.0	38	California	18.1	38	Kansas	60.1	38	Louisiana	10.8
39	Maine	7.0	39	New Hampshire	17.9	39	Arizona	60.1	39	Maryland	10.7
40	Oregon	7.0	40	Delaware	17.9	40	Oklahoma	59.9	40	South Carolina	10.7
41	Kentucky	6.9	41	Virginia	17.6	41	Montana	59.8	41	California	10.6
42	Iowa	6.9	42	New York	17.5	42	Louisiana	59.8	42	Virginia	10.6
43	North Carolina	6.8	43	Maryland	17.5	43	Florida	59.7	43	Nevada	10.5
44	Tennessee	6.8	44	Nevada	17.4	44	Nebraska	59.6	44	Hawaii	10.1
45	Florida	6.8	45	Pennsylvania	17.3	45	Iowa	59.3	45	Georgia	10.0
46	New Jersey	6.7	46	New Jersey	17.2	46	North Dakota	58.8	46	New Mexico	10.0
47	Connecticut	6.7	47	Connecticut	16.9	47	Arkansas	58.3	47	Texas	9.7
48	Massachusetts	6.6	48	Rhode Island	16.7	48	South Dakota	58.3	48	Colorado	9.2
49	Rhode Island	6.6	49	Massachusetts	16.2	49	Idaho	57.8	49	Wyoming	8.9
50	Pennsylvania	6.6	50	Florida	15.7	50	Mississippi	57.7	50	**Utah**	8.2
51	West Virginia	6.2	51	D.C.	14.4	51	**Utah**	54.4	51	Alaska	3.6
	U.S. Average	7.5		U.S. Average	18.6		U.S. Average	61.6		U.S. Average	12.3

Source: U.S. Bureau of the Census, Current Population Reports, P-25, No. 1024.

TABLE 27

DEPENDENCY RATIOS FOR STATES AND THE DISTRICT OF COLUMBIA

JULY 1, 1987

Rank	Dependents Per 100 of Working Age	Rank	Pre-School Per 100 of Working Age	Rank	School Age Per 100 of Working Age	Rank	Retirement Age Per 100 of Working Age
1 **Utah**	84	1 **Utah**	20	1 **Utah**	49	1 Florida	30
2 Mississippi	73	2 Alaska	18	2 Idaho	39	2 Arkansas	25
3 Idaho	73	3 New Mexico	15	3 Mississippi	38	3 Iowa	25
4 Arkansas	72	4 Texas	15	4 Wyoming	35	4 Pennsylvania	24
5 South Dakota	71	5 Idaho	15	5 Louisiana	35	5 South Dakota	24
6 North Dakota	70	6 Wyoming	14	6 New Mexico	34	6 Rhode Island	24
7 Iowa	69	7 Louisiana	14	7 Arkansas	34	7 Nebraska	23
8 Nebraska	68	8 Arizona	14	8 Texas	34	8 West Virginia	23
9 Florida	67	9 South Dakota	14	9 Alabama	33	9 Missouri	23
10 Louisiana	67	10 North Dakota	14	10 North Dakota	33	10 North Dakota	23
11 Montana	67	11 Mississippi	14	11 South Dakota	33	11 Kansas	23
12 Oklahoma	67	12 Montana	13	12 Alaska	33	12 Oregon	22
13 Arizona	66	13 California	13	13 Montana	33	13 Maine	22
14 Kansas	66	14 Oklahoma	13	14 West Virginia	33	14 Wisconsin	22
15 West Virginia	66	15 Kansas	13	15 Georgia	33	15 Massachusetts	22
16 New Mexico	66	16 Hawaii	13	16 Kentucky	32	16 Oklahoma	21
17 Alabama	66	17 Nebraska	13	17 Oklahoma	32	17 Connecticut	21
18 Wisconsin	65	18 Colorado	13	18 South Carolina	32	18 Arizona	21
19 Missouri	65	19 Arkansas	12	19 Iowa	32	19 Mississippi	21
20 Texas	65	20 Minnesota	12	20 Indiana	32	20 Montana	21
21 Wyoming	64	21 Georgia	12	21 Nebraska	32	21 New York	21
22 Kentucky	64	22 Wisconsin	12	22 Michigan	32	22 Minnesota	21
23 Maine	64	23 South Carolina	12	23 Wisconsin	31	23 Alabama	21
24 Oregon	64	24 Washington	12	24 Ohio	31	24 New Jersey	21
25 Minnesota	63	25 Illinois	12	25 Arizona	31	25 Ohio	20
26 Ohio	63	26 Alabama	12	26 Tennessee	31	26 Kentucky	20
27 Indiana	63	27 Missouri	12	27 Kansas	31	27 Tennessee	20
28 Pennsylvania	63	28 Nevada	12	28 Illinois	31	28 Idaho	20
29 Illinois	62	29 Michigan	12	29 Missouri	30	29 Indiana	20
30 Michigan	62	30 Ohio	12	30 Maine	30	30 Illinois	20
31 South Carolina	62	31 Iowa	12	31 Minnesota	30	31 Vermont	19
32 Tennessee	62	32 Vermont	12	32 Oregon	30	32 Washington	19
33 Rhode Island	61	33 Indiana	12	33 Vermont	29	33 D.C.	19
34 Georgia	61	34 Delaware	11	34 North Carolina	29	34 North Carolina	19
35 Vermont	60	35 Maine	11	35 Washington	29	35 Michigan	19
36 Washington	60	36 Oregon	11	36 California	29	36 Delaware	18
37 New York	60	37 Maryland	11	37 Colorado	29	37 Louisiana	18
38 North Carolina	59	38 Kentucky	11	38 Hawaii	29	38 New Hampshire	18
39 California	59	39 New Hampshire	11	39 New Hampshire	28	39 South Carolina	17
40 Connecticut	59	40 Florida	11	40 Delaware	28	40 California	17
41 New Jersey	58	41 D.C.	11	41 Pennsylvania	28	41 Maryland	17
42 Delaware	58	42 New York	11	42 New York	28	42 New Mexico	17
43 New Hampshire	58	43 Virginia	11	43 New Jersey	27	43 Nevada	16
44 Massachusetts	57	44 Tennessee	11	44 Virginia	27	44 Virginia	16
45 Hawaii	57	45 North Carolina	11	45 Maryland	27	45 Georgia	16
46 Alaska	57	46 Pennsylvania	11	46 Nevada	27	46 Texas	16
47 Colorado	56	47 Rhode Island	11	47 Rhode Island	27	47 Hawaii	16
48 Nevada	55	48 New Jersey	11	48 Connecticut	27	48 **Utah**	15
49 Maryland	55	49 Connecticut	11	49 Florida	26	49 Wyoming	15
50 Virginia	55	50 Massachusetts	10	50 Massachusetts	26	50 Colorado	14
51 D.C.	52	51 West Virginia	10	51 D.C.	22	51 Alaska	6
-- U.S. Average	62	-- U.S. Average	12	-- U.S. Average	30	-- U.S. Average	20

Dependency Ratio = The number of preschool children (ages 0-4), school age children (ages 5-17), and persons of retirement age (ages 65 and over) per 100 persons of working age (ages 18-64).

Source: U.S. Bureau of the Census, Current Population Reports, P-25, No. 1024.

GROSS TAXABLE SALES

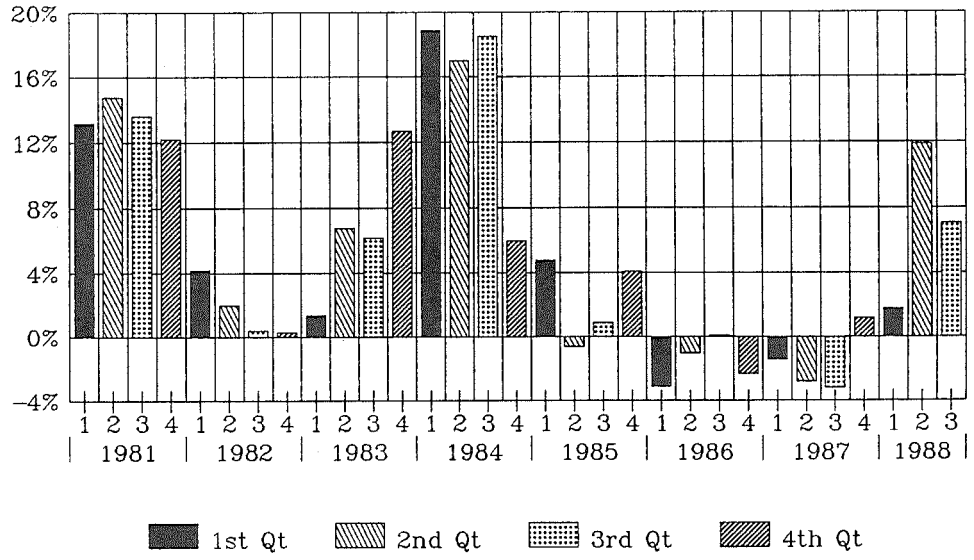
Utah's gross taxable sales can be divided into three major components: retail trade sales, business investment (which includes business equipment purchases and utility sales) and taxable service sales. Taxable sales and use tax purchases represent a rather significant portion (about 53 percent) of the production side of Utah's gross state product. Between 1986 and 1987 Utah gross taxable sales fell in six out of eight quarters (Figure 17). If inflation is considered, real taxable sales fell in nine consecutive quarters from the first quarter of 1986 through the first quarter of 1988. However, due to collection from a large audit and to a rebound in both retail sales and business investment, gross taxable sales increased 11.9 percent in the second quarter of 1988. Preliminary sales tax data suggest that the third calendar quarter 1988 taxable sales may have grown 6 to 8 percent over 1987 sales.

As Figure 18 points out the largest portion of the tax base consists of retail trade sales. Significant exemptions from the retail sales base include prescription drugs and sales of gasoline. In some cases, such as sales of electrical goods or sales by truck dealers, the Standard Industrial Classification code forces retail trade sales into the wholesale trade category, simply because most electrical goods sales are made by wholesalers to contractors. According to Utah law, the final saleof tangible personal property is taxable, whether by wholesaler or retailer.

The second major component, business equipment purchases and utility sales, comprises 28 percent of the tax base. Equipment and supply purchases by Utah's mines, contractors, manufacturers, railroads and airlines generally represent final purchases of equipment. The taxable base of Utah's utilities represent their sales of electricity, natural gas and communication services in addition to their own equipment purchases. Final sales by wholesalers, whether to business or individuals, are also included in this category.

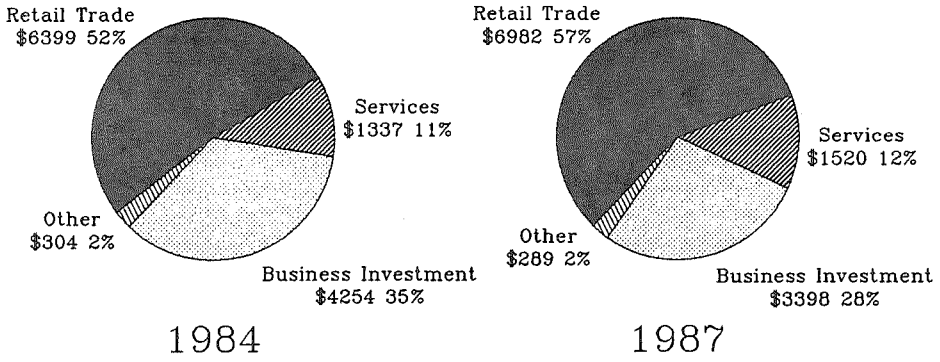
The final major component, comprising 12 percent of the tax base, is the "taxable services" sector. Only certain services are taxable in the state. Repairs on or leases of tangible property are taxable as are admissions to motion pictures or certain sporting and amusement events. Hotel and lodging services are also

Figure 17
Percent Change in Gross Taxable Sales
Compared to the Same Quarter a Year Ago



Source: Utah State Tax Commission

Figure 18
Shares of Utah's Sales Tax Base
Four Major Sectors (In Million $)



Source: Utah State Tax Commission

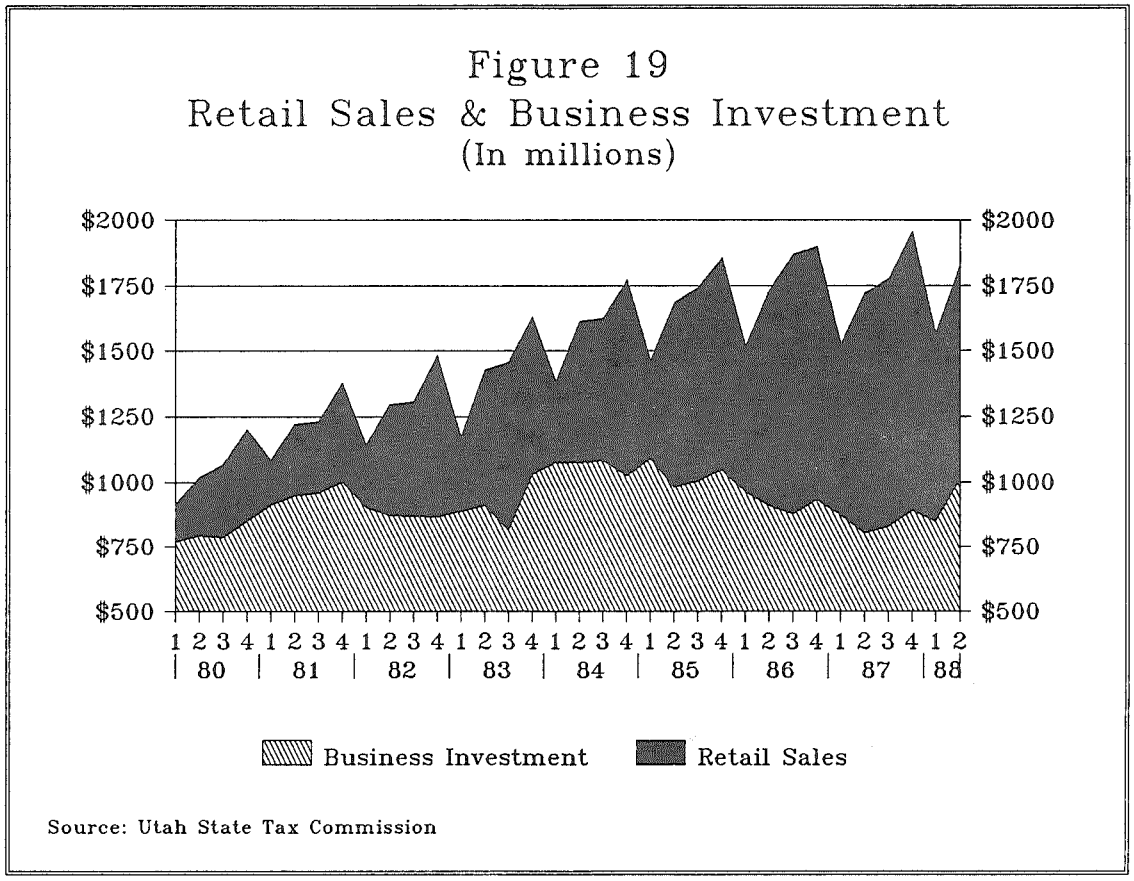
taxable. Only about 16 percent of all consumer services relative to gross state product accounts are taxable. In general, real estate, financial, medical, and other professional services are not taxable under Utah's sales and use tax law. These professional and personal service companies do pay use taxes on equipment purchased from out of state vendors.

Retail Trade Sales

After sliding almost 1 percent in 1987, Utah's taxable retail sales should grow between 5 and 6 percent in 1988 (Figure 19). During the first half of 1988 retail sales were up 4.5 percent. This is slightly lower than the 5.9 percent forecast made in June 1988. Nationally, retail sales grew 7 percent in the first half of 1988.

About two-thirds of retail trade sales can be categorized as sales of nondurable goods (those lasting less than three years). During the first half of 1988 nondurable retail sales increased 3.4 percent, one percentage point lower than the 1988 forecast of 4.4 percent. Somewhat surprising were flat food store sales during the first half. Similarly, eating and drinking place sales were up less than 1 percent. General merchandise and apparel, including department and variety, store sales were up 2.4 percent, quite a bit less than our overall forecast of 4.5 percent for the year. In contrast, retail miscellaneous store sales, including sports, books, jewelry, hobby, gift and camera stores increased a healthy 15 percent in the first half of 1988.

The remaining third portion of retail trade is the volatile durable goods (lasting three years or more) sector. In 1987 durable goods sales sank almost 10 percent from $2.5 billion in 1986 to $2.3 billion. This $240 million shrinkage resulted in a $14 million loss in sales taxes. During the first half of 1988 durable goods sales rose 6.9 percent, slightly less than the anticipated 8.8 percent expected growth. Motor vehicle dealer sales have increased almost 16 percent in the first half of 1988. However, building, garden and furniture store sales dropped 5.5 percent in the first two quarters, the effect of a 25 percent drop in Utah housing starts. For the remaining half of 1988, motor vehicle dealer sales are expected to remain strong, while building, garden, and furniture store sales should continue to ebb. Despite the recession in residential construction, durable goods sales should approach $2.4 billion in 1988, an increase of 7.8 percent.



An important indicator used to determine the direction of retail trade sales is the degree of consumer confidence in the economy, as measured by the Index of Consumer Confidence. As shown in Figure 20, consumer confidence in Utah has rebounded after falling to an all time low in the fourth quarter of 1987. However, the Consumer Confidence Index in Utah still remains below the national index.

Business Equipment and Utility Sales

The decline in Utah's business equipment investment from $4.254 billion in 1984 to only $3.398 billion in 1987 contributed to the need for the 1987 sales tax increase. The $856 million drop in investment (Figure 19, Table 28) at a 6 percent sales tax rate equates to a $51.4 million loss in revenue. This decline in taxable sales contributed to the significant revenue shortfall during fiscal years 1985-86 and 1986-87, and continued even into the first two quarters of fiscal year 1987-88.

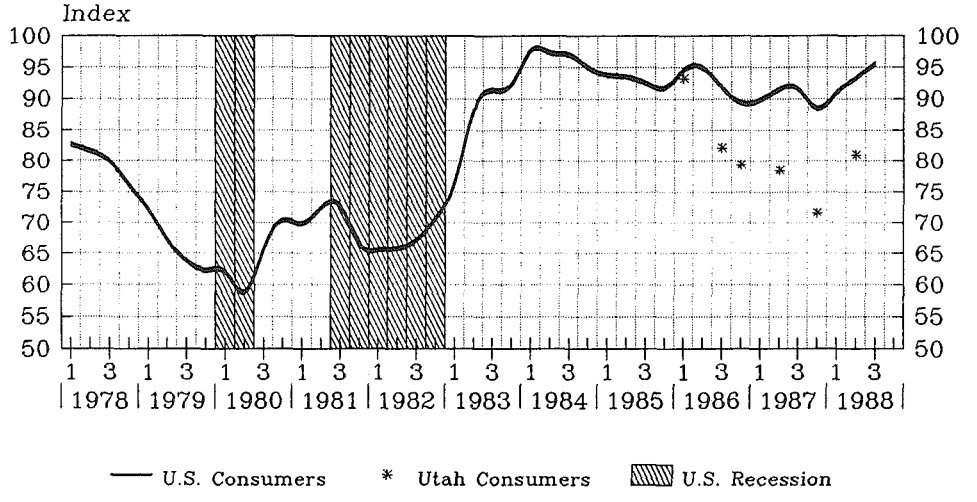
Detailed reporting on exempt sales required by the legislature and effective July 1, 1986 indicate that three major business equipment investment exemptions account for approximately $10 million of the $51 million drop in sales taxes from this major sector. Econometric analysis indicates that the exemptions may be playing a much more significant role.

Nevertheless, it appears that the decline in this sector has finally subsided. After falling 2.6 percent in the first quarter of 1988, business investment and utility sales jumped 26 percent in the second quarter. Excluding a one time audit, the actual growth in purchases was 12 percent. Thus, during the first half of 1988 taxable business investment rose 4.4 percent.

Sparking the modest, overall gains was a substantial increase in taxable metal mining investment purchases from $8 million during the first half of 1987 to $48 million in 1988's first two quarters. Continued tightness in the international copper supplies has buoyed up prices, and as a result quickened further investment.

Taxable transportation, utility and wholesale trade sales and purchases made modest gains, while

Figure 20
Consumer Sentiment Surveys for the U.S. and Utah



1966 = 100

Source: U of U, Survey Research Center

manufacturing and construction fell almost 3 percent. Second quarter electric and natural gas sales rose 22 percent from $144 million to $175 million (excluding the $113 million audit). Since the weather was warmer than usual, the increase may be due to a pick up in industrial production relating to Utah's rebirth of its steel and copper industries. In addition, telephone services jumped 12.4 percent form $80 million to $90 million in the second quarter of 1988.

Taxable Services

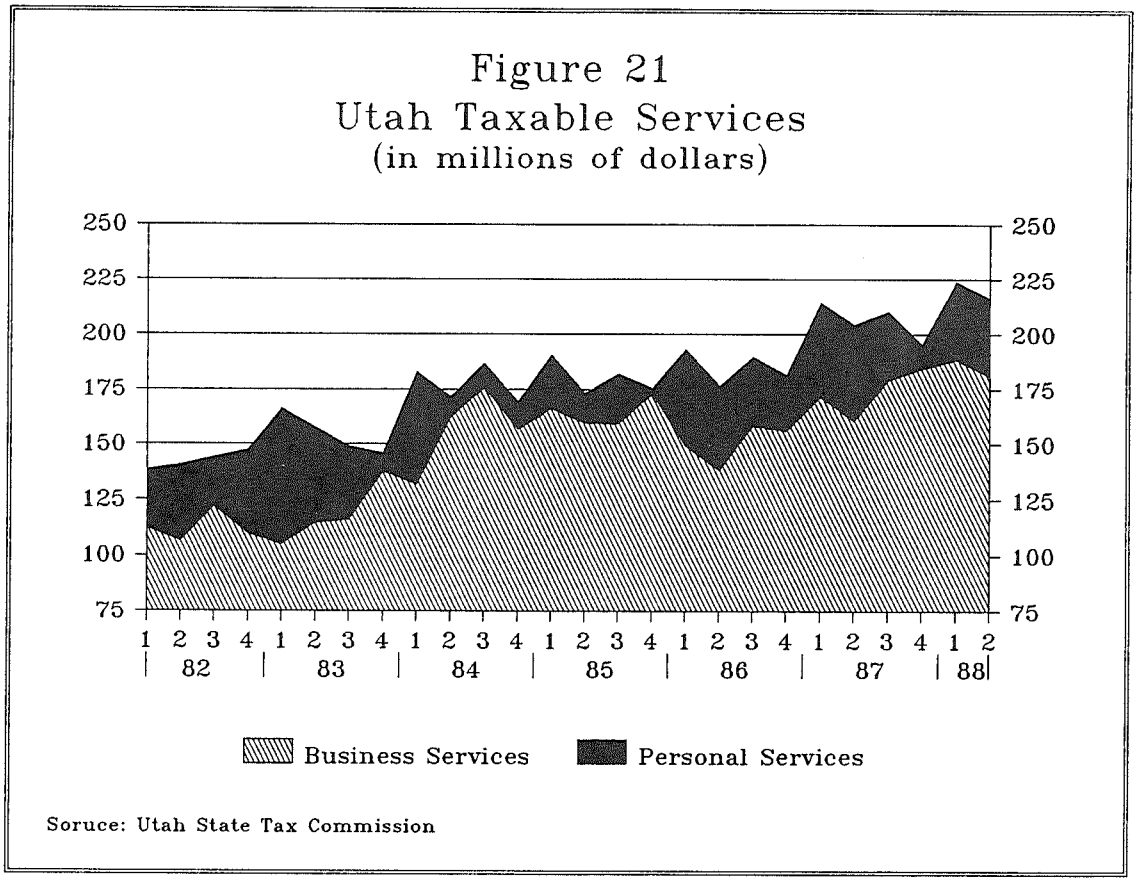
Last year a 3 percent increase in taxable services was forecast for 1988. It was not expected that significant improvement could be made to the 13 percent advance recorded in 1987. However, during the first half of 1988 taxable services increased almost 8 percent.

In order to understand more completely this sector we have further segregated the services category into two sub-categories (Figure 21): business services and personal services.

It appears from Figure 21 that business services (including business and hotel services) are much more cyclical in nature, rising more during business booms and, conversely, falling sharply during business recessions. Personal services (including auto repairs and rentals, amusements, recreation, health, education, legal and social services), while slowing down during recessions, appear to track more closely with nonagricultural wage growth.

Personal services, comprising almost 54 percent of taxable services, and dominated by the auto repairs and rentals experienced 5.6 percent growth during the first two quarters of 1988. Auto rentals jumped over 20 percent in the first half, while auto repair improved by almost 12 percent.

Business services, which comprise about 46 percent of taxable services, rose 8.6 percent in the first half of 1988. One area, computer and data processing services, increased 52 percent, with sales of $83 million



in the first half of 1988 compared to $55 million in the first half of 1987. Also within the business services category is hotel and lodging services which jumped 16 percent in the first half of 1988.

1989 Taxable Sales Outlook

The 7 percent growth rate for taxable sales projected for 1988 is expected to be more than cut in half in 1989. Retail trade sales, expected to grow 5.6 percent in 1988, will moderate to 4.3 percent growth in 1989. At $2.39 billion, durable retail sales are expected to be flat in 1989, after an almost 6 percent gain in 1988. Non-durable good sales are projected to post a 6.2 percent gain in 1989, rising to $5.3 billion. The retail trade outlook hinges on a 5.7 percent expected gain in Utah nonagricultural wages to $12.9 billion in 1989.

Business investment equipment purchases and utility sales should also moderate in 1989, after the 10.4 percent gain in 1988. Mining purchases are expected to decline from the rapid advances made in 1988 made by Utah's metal mines. Transportation and utility sales and purchases, in taxable terms, will decline about 5 percent, due in part to the one time audit sales in 1988.

On the bright side, manufacturing and construction purchases are expected to rebound 8.2 percent in 1988. Similarly, wholesale trade's final sales may increase almost 3 percent in 1989.

Projecting taxable service sales is indeed very difficult. The double digit percentage gains in 1987 have already moderated between 7 and 9 percent in the first half of 1988. The 5 percent overall gain in 1988 will probably be followed by a 4 to 5 percent gain in 1989 as the service sector settles back into its long term trend line.

TABLE 28

UTAH GROSS TAXABLE SALES*

1984 TO 1989
(MILLIONS)

Year	Retail Sales	Business Purchases	Services	All Other	Total Gross Taxable Sales
1984	$6,399	$4,254	$1,337	$304	$12,293
1985	$6,749	$4,122	$1,379	$324	$12,574
1986	$7,022	$3,689	$1,342	$325	$12,378
1987	$6,982	$3,398	$1,520	$289	$12,189
1988e	$7,376	$3,753	$1,591	$336	$13,056
1989f	$7,693	$3,764	$1,659	$316	$13,431
Percent Change					
1986	4.0%	-3.1%	-2.7%	0.0%	-1.6%
1987	-0.6%	-7.9%	13.2%	-11.1%	-1.5%
1988e	5.6%	10.4%	4.6%	16.1%	7.1%
1989f	4.3%	0.3%	4.3%	-5.9%	2.9%

* It should be noted that various exemptions of sales taxes have been granted by the Utah State Legislature during the period 1984 to 1988.

e = Estimate
f = Forecast

Numbers may not add to total due to rounding.

Source: Utah State Tax Commission.

CONSTRUCTION ACTIVITY

Construction is an important employer in Utah as it is in any area. Construction activity is also a good indicator of investment being made in the state and generally results in longer term, more permanent economic activity. Construction activity is influenced heavily by performance of the overall economy.

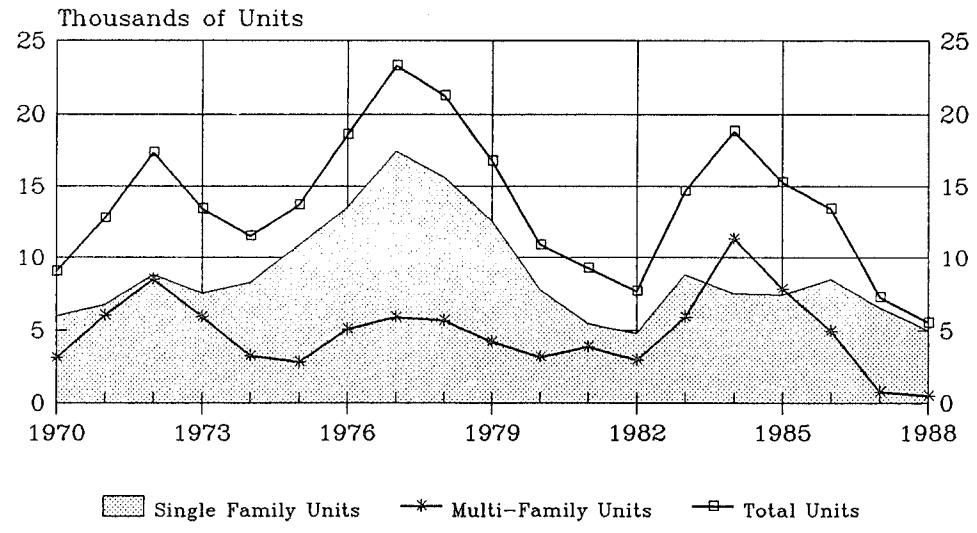
Residential Construction

Residential construction (single and multi-family construction) continued its downward trend in 1988. Total dwelling units authorized declined 24.7 percent in 1988 to 5,500 units compared to 7,305 in 1987. In the last two years residential construction activity has declined 60 percent.

The declines experienced in 1988 (though not as sharp as in 1987) were caused by similar factors. Over building of multi-family units in the early eighties created a surplus. Single-family units were down due to slightly higher mortgage interest rates and demographic changes resulting from out-migration and slow economic expansion in Utah's economy. It appears that the rate of decrease is slowing in the construction industry. Recent increases in employment in other sectors, such as manufacturing, indicate that construction is lagging behind the other sectors, of the economy in expanding and should improve as the economy strengthens. It is projected that 1989 will show a slight improvement over 1988 with between 5,500 and 6,000 units being authorized. Residential construction activity from the 1970 to 1988 is shown in Table 29 and Figure 22.

Multi-family construction was down 35 percent from 775 units authorized in 1987 to 500 units in 1988. Over building and slow economic expansion of the economy will continue to slow multi-family building in 1989 but a slight increase should occur. Between 600 and 700 multi-family units are projected for 1989 with the majority of these located along the Wasatch Front counties.

Figure 22
Utah Residential Construction Activity
Permit-Authorized Construction



Source: U of U, Bureau of Economic and Business Research.

Vacancy rates for multi-family units in Salt Lake County reflect a segmented market. One vacancy rate of less than 10 percent exists for the newer larger projects built in the last 4-5 years. Another rate above 10 percent is the rule for the smaller, older projects built before the 1980's. Although vacancy rates have declined for some projects the general vacancy rate remains sufficiently high to thwart any attempts to raise rental rates in Salt Lake County.

Single family construction will continue to dominate residential construction activity in 1989. Ninety percent of the housing authorized in the last two years has been single-family units. In 1988, single family dwellings decreased 23 percent to 5,000 units compared to 6,530 units in 1987. It is projected that, with the slight expansion in the economy, and if mortgage interest rates remain at current levels, there will be 5,300 to 5,500 single family homes authorized in 1989.

Nonresidential Construction

Nonresidential construction value decreased 27 percent to $300 million in 1988. Weak demand for office and professional buildings, because of over building, and decreased expenditures for public buildings were the main reasons for the sharp decline in nonresidential activity.

Construction in the major nonresidential sectors, hotels and motels, office buildings, industrial buildings and retail stores (these four areas account for more that 55 percent of all nonresidential construction) has also declined. Over building, the recent tax law changes and slow economic growth are the major reasons for the decrease in activity during 1987 and 1988 as shown in Tables 30 and 31.

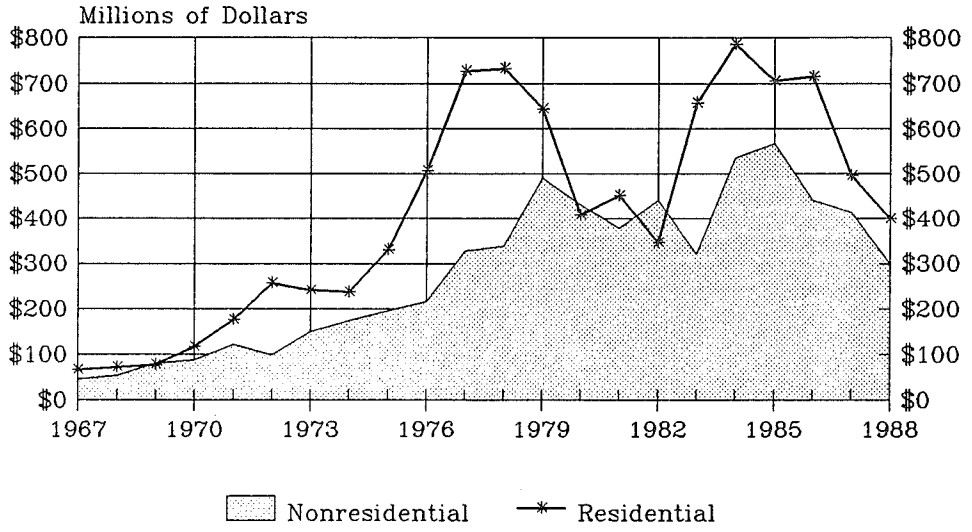
Employment growth is a key factor in nonresidential construction activity. The recent growth rates of around 3 percent in employment, indicate a slight expansion in the Utah economy and this bodes well for residential construction activity in 1989.

Associated with the increase in employment is a firmer market for industrial, office and retail space. Vacancy rates in 1988 for industrial space in Salt Lake decreased by 3 percentage points to 9 percent, while the vacancy rate for office space remained stable at 18 percent. Vacancy rates for retail space in Salt Lake County decreased 2 percent over last year. Lease rates are stabilizing and fewer concessions are being offered by landlords. Although 1989 will not be a year of tremendous expansion, a firmer real estate market should ensure that each sector has increased activity.

With projects like Western Gear in Summit County and the explosive plant near Cedar City as well as other possible projects on the horizon yet to be authorized, nonresidential construction activity in 1989 is projected to increase to around $400 million. The value of residential and nonresidential construction activity in Utah for 1960 to 1988 is shown in Figure 23.

Nonbuilding construction (roads, bridges, power plants and dams) continues to be a growth sector for nonresidential construction activity. Most of these projects are not included in the construction valuation figures, nevertheless they do provide high wage construction jobs. Continued work on the Central Utah Project, highway improvements and other similar projects should keep nonbuilding construction activity at current levels or higher in 1989.

Figure 23
Value of New Construction in Utah, Residential and Nonresidential



Source: U of U, Bureau of Economic and Business Research.

TABLE 29

RESIDENTIAL CONSTRUCTION ACTIVITY IN UTAH

1970 TO 1988

Year	Single Family Units	Multi-Family Units	Total Units	Value (Millions)
1970	5,962	3,108	9,070	$117.0
1971	6,768	6,009	12,777	$176.8
1972	8,807	8,513	17,320	$256.5
1973	7,546	5,904	13,450	$240.9
1974	8,284	3,217	11,501	$237.9
1975	10,912	2,800	13,712	$330.6
1976	13,546	5,075	18,621	$507.0
1977	17,424	5,856	23,280	$728.0
1978	15,618	5,646	21,264	$734.0
1979	12,570	4,179	16,749	$645.8
1980	7,760	3,141	10,901	$408.3
1981	5,413	3,840	9,253	$451.5
1982	4,767	2,904	7,671	$347.6
1983	8,806	5,858	14,664	$657.8
1984	7,496	11,327	18,823	$786.7
1985	7,403	7,844	15,247	$706.2
1986	8,512	4,932	13,444	$715.5
1987	6,530	775	7,305	$495.2
1988p	5,000	500	5,500	$400.0

p=Preliminary

Source: Bureau of Economic and Business Research.

TABLE 30

NONRESIDENTIAL CONSTRUCTION ACTIVITY IN UTAH

1970 TO 1988

Year	Value of Nonresidential Construction (Millions)
1970	$87.3
1971	$121.6
1972	$99.0
1973	$150.3
1974	$174.2
1975	$196.5
1976	$216.8
1977	$327.1
1978	$338.6
1979	$490.3
1980	$430.0
1981	$378.2
1982	$440.1
1983	$321.0
1984	$535.2
1985	$567.7
1986	$439.9
1987	$413.4
1988p	$300.0

p=Preliminary

Source: Bureau of Economic and Business Research.

TABLE 31

UTAH NONRESIDENTIAL CONSTRUCTION BY SECTOR

(MILLIONS)

Sector	1985	1986	1987	1988p	Percent of Total*
Hotels and Motels	$39.9	$14.4	$4.6	$20.0	5.2%
Churches	$35.3	$35.1	$25.4	$21.5	6.3%
Industrial Buildings	$76.6	$86.4	$67.5	$55.0	19.6%
Offices and Banks	$111.7	$55.8	$79.9	$50.3	18.4%
Stores and Retail Buildings	$82.9	$55.8	$59.6	$50.1	14.1%
Public Buildings	$102.4	$49.4	$84.2	$22.7	13.4%
Other	$118.9	$142.9	$92.2	$80.6	23.7%

p = Preliminary
* Data represents ten-year average.

Source: Bureau of Economic and Business Research.

PRICES, INFLATION AND UTAH COST OF LIVING

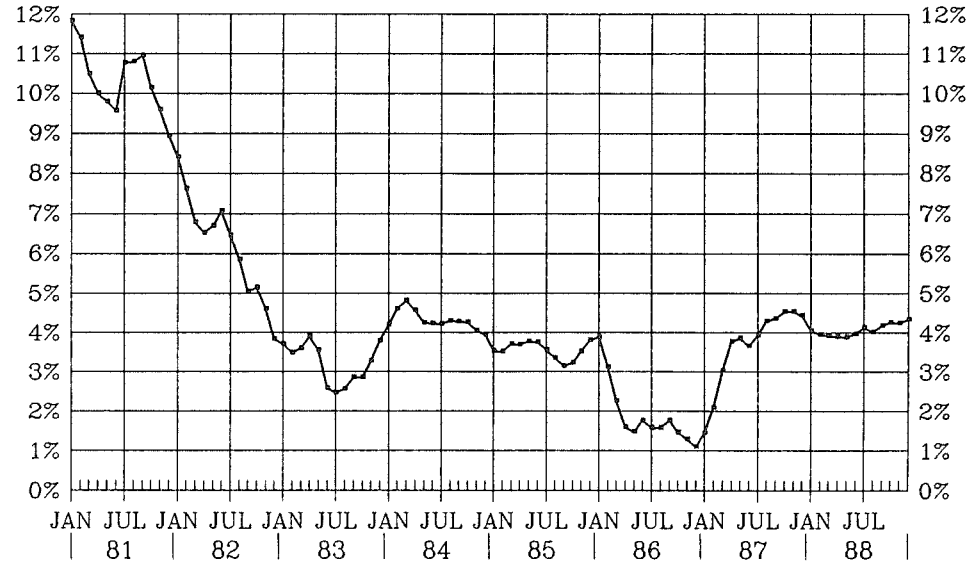
By the second quarter of 1988, recessionary fears relating to the stock market crash had diminished sharply and were being replaced by concerns of renewed inflation. Revised data for Real GNP showed fourth-quarter 1987 annual growth at a very rapid 6.1 percent. By June, capacity utilization had reached 83 percent, while the nation's unemployment rate had dipped to 5.3 percent. In addition to excess demand pressures bumping against capacity limitations, import prices were significantly higher, a drought was pushing up food prices, and wage rates were showing some initial evidence of moderate acceleration.

The Federal Reserve, having eased monetary policy in the fourth quarter of 1987, recognized the need to contain these emerging inflationary pressures and therefore reversed their policy prescription. The Federal Reserve Board pushed short-term interest rates higher in both the second and third quarters of 1988. By the end of third quarter 1988, slower economic growth, along with lower oil and gold prices and an appreciated U.S. dollar exchange rate, left inflationary expectations in a holding pattern — somewhere in the 4.5 to 5 percent range.

In September 1988, the Consumer Price Index was 119.8, an increase of 4.2 percent over the previous year. By year-end inflation, as measured by the CPI, is expected to be up 4.3 percent, (see Figure 24) the annual average increase will be approximately 4.1 percent. This anticipated 1988 rate of inflation is less than one percentage point above the 1987 rate of increase. (See Table 32).

There are two commonly used GNP-related measures of inflation. The Implicit Price Deflator is a comprehensive measure of price changes also impacted by variations in the composition of output. The Fixed Weight Deflator is another broad measure of price change, but it measures price changes for a fixed number of goods and services and, therefore, is not influenced by alterations in the output composition of GNP. These measures are shown on Table 33.

Figure 24
Increase in Prices Over the Previous 12 Months measured by CPI: Jan 81 to Dec 88



Source: U.S. Department of Labor

In the third quarter of 1988, the GNP implicit deflator rose at an annual rate of 4.7 percent, down from 5.5 percent in the second quarter, but up from 1.7 percent in the first quarter. The GNP fixed-weight deflator has been less volatile, showing an annual increase of 5.1 percent in the third quarter, 5.0 percent in the second quarter, and 3.4 percent in the first quarter.

In 1989, the outlook for inflation in the first half suggests rates of increase in the 4.8 to5.3 percent range, dropping below a 5 percent rate of gain in the second half. Wage rates are likely to be moderately higher, but slower economic growth in the latter part of 1989 will probably reduce overall inflationary pressures.

Utah Cost of Living

As the Bureau of Labor Statistics does not produce a Utah consumer price index, comparable local inflation measurements are not available. There are, however, two other sources of price information which provide some data pertaining to local cost patterns.

The American Chamber of Commerce Researchers Association (ACCRA) surveys consumer prices in 256 cities each quarter. This analysis measures relative price levels in participating cities, as compared with a national average of 100 (See Table 34). These price comparisons are for a single point in time. The survey does not measure inflation or price changes over time. In the second quarter of 1988, the all-items index for Salt Lake City was 98.3 percent of the national average — unchanged from the first quarter. The Provo index for the second quarter was 90.8 percent.

Utah Inflation

Beginning in March 1988, First Security Bank contracted with a private research firm to develop a consumer price index for the Wasatch Front. Each month, price changes of more than 500 items are measured and analyzed. The individual price changes are categorized into eight standard areas: clothing, food at home, food away from home, health care, housing, transportation, utilities, and other. The weights used to combine these categories are the same as those used nationally by the Bureau of Labor Statistics and reflect an average family's spending patterns.

During the seven-month period from March to September, the cumulative price change in the Wasatch Front Cost of Living Index was 0.4 percent, compared with a national increase of 3.1 percent. The major differences were in the areas of housing and clothing. Housing, which accounts for 34 percent of the consumer budget, was down 1.4 percent along the Wasatch Front, compared with a 2.7 percent gain nationwide. Clothing costs locally during the seven-month period dropped 3.2 percent, a sharp divergence from the 6.8 percent rise recorded nationally (See Table 35).

TABLE 32

CONSUMER PRICE INDEX
ALL URBAN CONSUMERS (CPI-U)
(1982-1984 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Average	Percent Change Dec to Dec	Percent Change Annual Average
1954	26.9	26.9	26.9	26.8	26.9	26.9	26.9	26.9	26.8	26.8	26.8	26.7	26.9	-0.7	0.7
1955	26.7	26.7	26.7	26.7	26.7	26.7	26.8	26.8	26.9	26.9	26.9	26.8	26.8	0.4	-0.4
1956	26.8	26.8	26.8	26.9	27.0	27.2	27.4	27.3	27.4	27.5	27.5	27.6	27.2	3.0	1.5
1957	27.6	27.7	27.8	27.9	28.0	28.1	28.3	28.3	28.3	28.3	28.4	28.4	28.1	2.9	3.3
1958	28.6	28.6	28.8	28.9	28.9	28.9	29.0	28.9	28.9	28.9	29.0	28.9	28.9	1.8	2.8
1959	29.0	28.9	28.9	29.0	29.0	29.1	29.2	29.2	29.3	29.4	29.4	29.4	29.1	1.7	0.7
1960	29.3	29.4	29.4	29.5	29.5	29.6	29.6	29.6	29.6	29.8	29.8	29.8	29.6	1.4	1.7
1961	29.8	29.8	29.8	29.8	29.8	29.8	30.0	29.9	30.0	30.0	30.0	30.0	29.9	0.7	1.0
1962	30.1	30.1	30.1	30.2	30.2	30.2	30.3	30.3	30.4	30.4	30.4	30.4	30.2	1.3	1.0
1963	30.4	360.4	30.5	30.5	30.5	30.6	30.7	30.7	30.7	30.8	30.8	30.9	30.6	1.6	1.3
1964	30.9	30.9	30.9	30.9	30.9	31.1	31.1	31.0	31.1	31.1	31.2	31.2	31.0	1.0	1.3
1965	31.2	31.2	31.3	31.4	31.4	31.6	31.6	31.6	31.6	31.7	31.7	31.8	31.5	1.9	1.6
1966	31.8	32.0	32.1	32.3	32.3	32.4	32.5	32.7	32.7	32.9	32.9	32.9	32.4	3.5	2.9
1967	32.6	32.9	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	33.4	3.0	3.1
1968	34.1	34.2	34.3	34.4	34.5	34.7	34.9	35.0	35.1	35.3	35.4	35.5	34.8	4.7	4.2
1969	35.6	35.8	36.1	36.3	36.4	36.6	36.8	37.0	37.1	37.3	37.6	37.7	36.7	6.2	5.5
1970	37.8	38.0	38.2	38.5	38.6	38.8	39.0	39.0	39.2	39.4	39.6	39.8	38.8	5.6	5.7
1971	39.8	39.9	40.0	40.1	40.3	40.6	40.7	40.8	40.8	40.9	40.9	41.1	40.5	3.3	4.4
1972	41.1	41.3	41.4	41.5	41.6	41.7	41.9	42.0	42.1	42.3	42.4	42.5	41.8	3.4	3.2
1973	42.6	42.9	43.3	43.6	43.9	44.2	44.3	45.1	45.2	45.6	45.9	46.2	44.4	8.7	6.2
1974	46.6	47.2	47.8	48.0	48.6	49.0	49.4	50.0	50.6	51.1	51.5	51.9	49.3	12.3	11.0
1975	52.1	52.5	52.7	52.9	53.2	53.6	54.2	54.3	54.6	54.9	55.3	55.5	53.8	6.9	9.1
1976	55.6	55.8	55.9	56.1	56.5	56.8	57.1	57.4	57.6	57.9	58.0	58.2	56.9	4.9	5.8
1977	58.5	59.1	59.5	60.0	60.3	60.7	61.0	61.2	61.4	61.6	61.9	62.1	60.6	6.7	6.5
1978	62.5	62.9	63.4	63.9	64.5	65.2	65.7	66.0	66.5	67.1	67.4	67.7	65.2	9.0	7.6
1979	68.3	69.1	69.8	70.6	71.5	72.3	73.1	73.8	74.6	75.2	75.9	76.7	72.6	13.3	11.3
1980	77.8	78.9	80.1	81.0	81.8	82.7	82.7	83.3	84.0	84.8	85.5	86.3	82.4	12.5	13.5
1981	87.0	87.9	88.5	89.1	89.8	90.6	91.6	92.3	93.2	93.4	93.7	94.0	90.9	8.9	10.3
1982	94.3	94.6	94.5	94.9	95.8	97.0	97.5	97.7	97.9	98.2	98.0	97.6	96.5	3.8	6.2
1983	97.8	97.9	97.9	98.6	99.2	99.5	99.9	100.2	100.7	101.0	101.2	101.3	99.6	3.8	3.2
1984	101.9	102.4	102.6	103.1	103.4	103.7	104.1	104.5	105.0	105.3	105.3	105.3	103.9	3.9	4.3
1985	105.5	106.0	106.4	106.9	107.3	107.6	107.8	108.0	108.3	108.7	109.0	109.3	107.6	3.8	3.6
1986	109.6	109.3	108.8	108.6	108.9	109.5	109.5	109.7	110.2	110.3	110.4	110.5	109.6	1.1	1.9
1987	111.2	111.6	112.1	112.7	113.1	113.5	113.8	114.4	115.0	115.3	115.4	115.4	113.6	4.4	3.6
1988	115.7	116.0	116.5	117.1	117.5	118.0	118.5	119.0	119.8	120.2	120.3(f)	120.4(f)	118.3(f)	4.3(f)	4.1(f)

f = Forecast

Sources: U.S. Bureau of Labor Statistics and Utah Office of Planning and Budget.

TABLE 33

U.S. IMPLICIT PRICE DEFLATOR & FIXED WEIGHTED DEFLATOR

1984 TO 1988

	GNP Implicit Price Deflator			GNP Fixed Weighted Deflator		
	Index (1982=100)	% Change Last Quarter*	% Change Year Ago*	Index (1982=100)	% Change Last Quarter*	% Change Year Ago*
1984						
Q1	106.5	4.2%	3.9%	106.8	4.2%	4.1%
Q2	107.3	3.0%	3.9%	107.8	3.7%	4.0%
Q3	108.2	3.4%	3.8%	108.7	3.4%	3.9%
Q4	109.0	3.0%	3.4%	109.6	3.4%	3.7%
Annual Ave.	107.7	--	3.7%	108.3	--	4.0%
1985						
Q1	109.7	2.6%	3.0%	110.6	3.7%	3.6%
Q2	110.6	3.3%	3.1%	111.5	3.3%	3.4%
Q3	111.3	2.6%	2.9%	112.3	2.9%	3.3%
Q4	112.2	3.3%	2.9%	113.2	3.2%	3.3%
Annual Ave.	110.9	--	3.0%	111.9	--	3.3%
1986						
Q1	112.4	0.7%	2.5%	113.8	2.1%	2.9%
Q2	113.4	3.6%	2.5%	114.5	2.5%	2.7%
Q3	114.7	4.7%	3.1%	115.4	3.2%	2.8%
Q4	115.3	2.1%	2.8%	116.2	2.8%	2.7%
Annual Ave.	113.9	--	2.7%	115.0	--	2.8%
1987						
Q1	116.3	3.5%	3.5%	117.4	4.2%	3.2%
Q2	117.3	3.5%	3.4%	118.6	4.2%	3.6%
Q3	118.2	3.1%	3.1%	119.7	3.8%	3.7%
Q4	118.9	2.4%	3.1%	120.8	3.7%	4.0%
Annual Ave.	117.7	--	3.3%	119.1	--	3.6%
1988						
Q1	119.4	1.7%	2.7%	121.8	3.4%	3.7%
Q2	121.0	5.5%	3.2%	123.3	5.0%	4.0%
Q3	122.3	4.3%	3.5%	124.8	4.9%	4.3%
Q4f	123.4	3.6%	3.8%	126.1	4.2%	4.4%
Annual Ave.(f)	121.5	--	3.2%	124.0	--	4.1%

*Compounded Annually.
f = Forecast

Sources: U.S. Department of Commerce,
WEFA Group.

TABLE 34

ACCRA COMPOSITE COST-OF-LIVING COMPARISONS FOR SELECTED METROPOLITAN AREAS

SECOND QUARTER 1988

Component Index Weight	100%	17%	22%	11%	13%	7%	30%
City	All Items	Groceries	Housing	Utilities	Transportation	Health Care	Miscellaneous
U.S. Average	100	100	100	100	100	100	100
Salt Lake City	98.3	94.6	88.4	94.0	105.4	106.1	104.4
Provo, Utah	90.8	89.7	83.2	87.9	98.9	94.7	93.6
Western States							
Phoenix, Arizona	105.0	104.6	105.7	93.3	101.3	120.5	106.9
Sacramento, California	107.0	102.5	106.5	106.6	113.1	133.7	101.2
San Diego, California	124.0	105.5	179.7	78.5	134.7	120.9	106.4
Denver, Colorado	103.9	91.0	119.7	90.4	108.1	117.3	99.5
Boise, Idaho	96.3	93.0	107.4	68.4	98.0	99.6	99.0
Great Falls, Montana	94.4	104.4	78.3	88.1	94.5	101.6	101.1
Reno, Nevada	108.1	105.7	118.8	96.9	102.6	115.2	106.7
Albuquerque, New Mexico	100.8	95.4	108.7	93.7	107.2	103.5	97.4
Seattle, Washington	106.7	103.4	105.2	79.7	115.4	135.6	108.9
Casper, Wyoming	91.8	97.1	83.3	70.7	88.4	108.5	100.3
Other Areas							
Atlanta, Georgia	108.9	101.8	116.6	116.8	99.3	121.4	105.5
Indianapolis, Indiana	97.0	95.5	97.0	98.5	106.0	96.3	93.5
Kansas, MO/KS	95.2	102.9	92.7	94.5	92.7	90.5	95.1
New York, New York	154.5	111.1	249.9	189.3	108.0	140.0	120.0
Houston, Texas	101.3	106.8	80.2	117.1	112.8	105.5	102.0
Highest City	Boston, MA	Midland, TX	Boston, MA	New York, NY	San Diego, CA	Boston, MA	New York, NY
	164.8	113.3	332.2	189.3	134.7	145.9	120.0
Lowest City	Pueblo, Co	Salem, OR	Pueblo, CO	Eugene, OR	Sharon, PA	Fayetteville, AR	R Sharon, PA
	89.0	87.8	72.7	57.2	81.0	71.0	81.3

Source: American Chamber of Commerce Researchers Association (ACCRA).

TABLE 35
WASATCH FRONT COST-OF-LIVING INDEX

	Wasatch Front Non-Seasonally Adjusted		National Non-Seasonally Adjusted		National Seas. Adj.
	7 Mos. Cum.	September	7 Mos. Cum.	September	September
All Catagories	0.4%	0.2%	3.1%	0.7%	0.3%
Housing	-1.4%	0.7%	2.7%	0.3%	0.3%
Transportation	0.9%	-2.2%	2.7%	0.1%	0.1%
Health Care	3.2%	0.3%	3.5%	0.4%	0.6%
Food at Home	4.0%	1.7%	4.4%	0.8%	1.0%
Clothing	-3.2%	-1.7%	6.8%	4.6%	2.0%
Food Away	1.9%	-0.8%	2.6%	0.4%	0.4%
Utilities	-0.4%	4.6%	3.5%	0.3%	0.4%
Other	1.1%	0.2%	4.1%	1.8%	-0.9%

Source: First Security Bank,
U.S. Bureau of Labor Statistics.

ENERGY AND MINERALS PRODUCTION AND PRICES

There were positive and negative aspects to Utah's energy and minerals industry in 1987. Copper production surged following the reactivation of Kennecott's Bingham mine and, driven by electricity demand, coal production approached an all-time high. However, uranium mining sputtered due to a nationwide glut which has kept prices low, although yellowcake production managed a resurgence. Meanwhile, petroleum output continued to slide as soft and uncertain prices inhibited new drilling.

The year's highlights for the major energy and minerals sectors are discussed in the sections that follow.

Non-Fuel Minerals

The value of non-fuel minerals produced in Utah during 1987 approached $700 million. This was 87 percent more than the $374 million reached in 1986. This dramatic increase is primarily attributable to the reopening of B.P. Minerals' Utah Copper Division (formerly known as Kennecott). Copper was by far the major contributor to this surge of non-fuel minerals value, bolstered by both increased production and prices. During the early weeks of 1987 copper was trading in the New York metal market on both sides of 60/lb. By the closing day of the same year it had touched $1.46/lb., an almost 240 percent rise within 12 months. Copper prices were driven by a general rise in demand coupled with labor and capital problems in third world producing countries. Utah production of copper during 1987 reached 70 percent of designed capacity while the actual distribution was half that amount. During 1988 both production and distribution of copper will be nearer to designed capacity. Its annual average price will be 63 percent higher than 1987, even though prices were softening somewhat at the end of 1988.

The return to production of Geneva Works on August 31, 1987 under new ownership one year after its closure has led to increased production and consumption of iron ore. On the negative side, the destruction of AMAX Magnesium's solar evaporation ponds during a June 1986 storm caused Utah magnesium production to decline.

In 1988 the total value of non-fuel minerals will approach the $1 billion mark. Copper, gold, magnesium and silver production will account for more than three quarters of this value.

Coal

The level of production of coal during 1987 was one of the most significant in the hundred-year history of coal production in the state of Utah. Net production from the state's 20 producing mines reached 16.5 million tons — just 0.4 million tons less than the record-setting production of 1982. In fact, coal distribution was actually 1.6 million tons greater than in 1982.

More than 85 percent of the Utah coal production was consumed to generate electricity in Utah, Nevada, California, Arizona and Colorado. Utah used less than one-third of the generated electricity while the other two-thirds was exported as coal or coal by wire (electricity). During 1987, 28 percent of Utah coal production was consumed to generate power at the Intermountain Power Project near Delta.

The total value of coal production in 1987 was $417 million while the average productivity in all Utah mines was about 3.25 tons per man hour. This is more than 5 percent higher than the level of productivity reached in 1986 and the highest ever achieved in Utah. The average price of coal was $25.26 per short ton during 1987, and it is expected to reach $26.76 in 1988.

Utah's coal industry is healthy at present. Production in the current year will exceed 18 million tons, establishing a new all-time high. Production for 1989 will probably be slightly less than 1988 although it should be close to the 18 million ton mark. To remain competitive, the industry has had to improve productivity by modernizing capital equipment; one consequence of this investment is that coal-mining employment has

actually fallen 38 percent since 1982, even though production is nearly the same.

The future of Utah's coal industry will depend upon the success of operators in renegotiating and renewing long-term contracts with out-of-state utilities, further improving productivity, negotiating lower transportation costs, and maintaining public pressure to use Utah coal for local needs.

Petroleum

The petroleum industry is not one industry but many, with few firms in Utah spanning all activities and many specializing in only one branch. Four major activities are easily identifiable: crude oil production, transportation by pipeline, refining, and sales and distribution. Each is represented in Utah's economy.

Crude oil and its derived products play a significant role in Utah's economy. Utah's oil producers enhance the economies of the state and local areas through drilling and production activities, royalty payments to private and public land owners, and revenues to the state and local governments in the form of production royalties. Gasoline products operate our automobiles; middle distillate fuel oils and industrial fuels compete with natural gas to heat commercial buildings and run our industrial processes.

Oil production ranked first in estimated value of production among Utah's energy resources in 1987. Though contributing only 23 percent of the total energy produced when measured in BTU equivalents. On the basis of value, oil accounted for an estimated $611 million or 48 percent of the total value of energy produced in the state (see Table 36). After coal, oil is the largest source of energy consumed in Utah on a BTU basis. In 1987 the state consumed 36.7 million barrels of petroleum products, 84 percent of which was consumed by the transportation sector as gasoline, diesel fuel, and jet fuels.

The petroleum industry is also a significant employer in the state. Year-end figures for 1987 indicate that Utah's petroleum industry employed 5,205 persons, accounting for 36 percent of total employment in the energy sector and contributing $113,585,000 of wages and salaries in the state.

Crude Oil Prices, Drilling, and Production

In summer of 1987, crude oil prices approached $19.50 a barrel in Utah, having risen from prices below $11.00 a barrel the year before. By December of 1987 prices had dropped $3.33 a barrel to $16.15 and continued to fluctuate within a range of $15.00 to $16.00 throughout the first six months of 1988. In the second half of the year prices paid for Utah crude oils again softened, slipping below $14.00 a barrel.

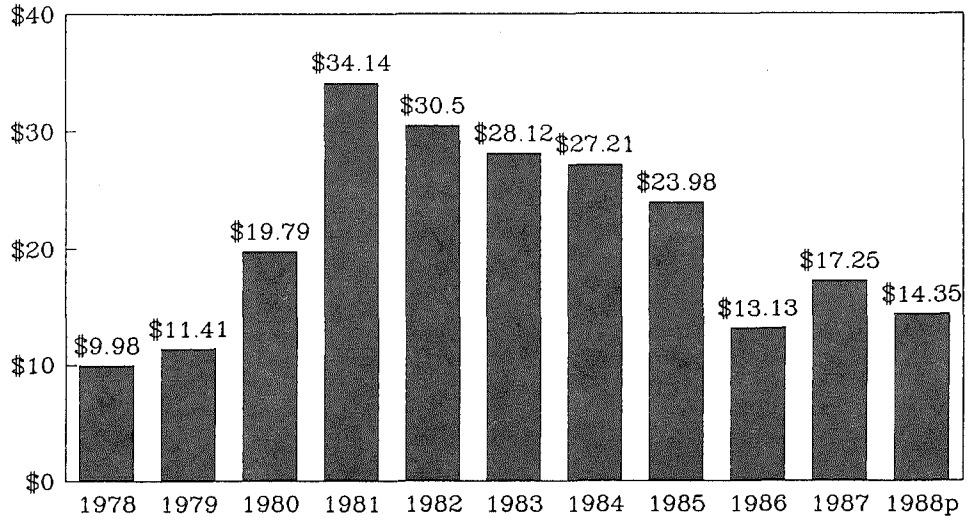
Oil prices are experiencing their most volatile period since 1986. The decline in crude prices, and perhaps more critically, the degree of instability of those prices, have kept the level of drilling and development activity low, albeit at a pace ahead of the even more depressed levels of 1987 (seeFigure 25).

During November and December of 1987, with posted prices hovering between $16.00 to $17.50, there were 14 rotary rigs drilling wells in Utah's oil provinces. By the end of the following March, with crude oil selling for $3.00 less per barrel, the rig count had slipped to five operating rigs. Since that time it has steadied at seven.

The number of new permits issued increased by 25 percent in the first eight months of 1988 with most of that gain coming in development work. Well starts in Utah are up 19 percent from 1987 levels, while completions have increased by more than 58 percent. These improvements must be kept in perspective, however, because they represent gains over a very low base which is dramatically smaller than levels of five years ago.

Utah's crude oil production continues to decline after peaking at 41 million barrels in 1985 (see Table 37). In the first six months of 1988 crude oil production totaled 17 million barrels, a 2.8 percent drop from the same period in 1987. In the absence of a dramatic discovery or sustained increase in price to at least $25.00 per

Figure 25
Average Oil Price per Barrel in Utah: 1978–1988



p – preliminary estimate
Source: U.S. Department of Enery and Utah State Energy Office.

barrel, drilling and development activity will remain depressed and production will continue to slide.

Utah Refining and Distribution Network

In the last half of 1988 the refining and marketing sectors of the petroleum industry in Utah appear to be in a relatively strong position with respect to crude oil supplies. Though Utah's crude production continues to fall, Utah's downstream operations have not experienced problems in gaining access to crude oil supplies. Receipts of crude oil through the first half of 1988 are 9 percent above those for the same period in 1987. Utah refineries imported approximately 50 percent of their crude oil feedstocks from Colorado, Wyoming, and Nevada in 1987 with the balance of receipts coming from Utah fields in Duchesne, Uintah and Summit counties. This represents a significant shift from the late 1970's and early 1980's when Utah imported over 65 percent of the crude oil processed at in-state refineries.

A signal that Utah's downstream operations are doing well is the significant increase in the refinery utilization rate. Currently Utah's refineries are utilizing 88 percent of their refining capacity processing crude oil. This is higher than any level achieved during the past 10 years. As might be expected by the stronger demand and higher utilization rates in 1988, crude oil processed by Utah's refiners is up by 6 percent, while stocks of crude oil have been drawn down to 78 percent of their 1987 levels.

Due to the large geographic area supplied by Utah's refineries and limited access to products from other refining centers, supplies of petroleum products are typically tight in the Utah market. This situation tends to support higher petroleum product prices compared to other metropolitan areas in the Rocky Mountain region. This has certainly been the case during 1988. Despite crude oil prices that have fallen below 1987 levels, product prices have resisted this downward pressure and have remained relatively stable through the entire year.

For the present, the petroleum refining and supply network is functioning smoothly. However, there may be a change coming in the future that could significantly tighten supplies of crude oil and products in the region. Preliminary analysis suggests there may be some fundamental shifts in the crude oil supply balance in the next three to four years. Lower crude oil prices of the past two years have significantly reduced drilling activity in Utah and surrounding states, resulting in a net drop in production throughout the Rocky Mountain region. This is especially true with the higher quality crude oils that are processed by Utah refineries. The existing crude pipeline network serving Salt Lake has only limited access to the bulk of the crude produced in the Rockies and virtually no access to crude oil from the west coast and mid-continent regions. If current trends continue there could be a tightening of supplies of the higher quality crudes for Utah refiners in the early 1990's.

Natural Gas Production

Marketed production of natural gas is expected to increase in 1988 for the first time since 1985. Low spot prices, an upturn in industrial activity in the local economy, new applications of gas technology, and recent regulatory actions allowing direct gas purchases have each contributed to increased demand for Utah natural gas. In 1988, marketed production is expected to reach 62.3 million MCFs, an 8.5 percent increase over 1987 production (see Table 36).

Natural Gas Consumption

Natural gas consumption will increase 15 percent in 1988 on the strength of a growing residential sector load and a 50 percent increase in demand for gas by large industrial consumers. Growth in the residential sector has occurred despite above-normal temperatures during the 1987-88 heating season, and despite stiff price competition from fuel oils.

Natural gas consumption is expected to remain strong in 1988-89. Customer growth in the residential and commercial sectors will be buoyed by the addition of customers to Mountain Fuel's service load in southern and central Utah. The return of important industrial gas users such as B.P. Minerals and Geneva Steel, in addition to a generally stronger Utah economy in 1988, will also contribute to increased gas consumption.

Institutional Changes in Energy Industry Markets

Important institutional changes are impacting the natural gas market. The Public Utilities Regulatory Policies Act of 1978 improved the opportunities for cogeneration, which involves the sequential conversion of useful thermal and electrical energy from a single fuel source. One of the lower-capital-cost applications of cogeneration uses natural gas. While cogeneration technology has been slow in penetrating the Utah market, its presence is being increasingly felt, and it appears to be setting the stage for more direct competition between electrical and gas utilities.

Further, recent rulings by the Federal Energy Regulatory Commission and the Utah Public Service Commission are making it possible for industrial and commercial end-users to contract directly with gas producers and marketers for their supplies, rather than relying on traditional utility service. These market opportunities are reducing the gas costs faced by large users by as much as 30 percent, bolstering the quantity of natural gas they are demanding.

Uranium

Falling market prices since 1980 have sharply curtailed uranium exploration and mining activity in Utah as well as in the rest of the United States. With the closure of Rio Algom's mining operation in September of 1988, there are now only five mines listed as producing ore in Utah and all of these mines are infrequent producers at best.

During the 1980's, Utah's uranium industry experienced a dramatic decline in production of yellowcake followed by just as dramatic a resurgence in production. In 1980 2.4 million pounds of yellowcake, or 5.5 percent of the U.S. total, was produced in Utah. This rose to 4.5 million pounds in 1981, then declined each year to a low of 858 thousand pounds in 1984. By then there were only two mills operating in Utah. The Atlas Minerals Mill at Moab had ceased operations and permanently closed in 1988. The brand new Plateau Resources Mill at Ticaboo was mothballed without ever commencing commercial operations.

Then in 1986, Utah production of yellowcake surged to 5.8 million pounds -- nearly 42 percent of the total U.S. production — followed in 1987 by about 5.3 million pounds, again 42 percent of total U.S. production. This resurgence was due primarily to the acquisition by Utah's principal uranium mill of firm sales contracts with foreign utilities. The White Mesa uranium mill in Blanding has remained competitive by using the highest-grade, lowest-cost uranium ore reserves in the country. These reserves are being mined from special geological formations located on the Arizona Strip between the Utah border and the Grand Canyon.

All of this activity has made Utah the largest producer of yellowcake in the U.S., a position the state will likely continue to hold for the foreseeable future as production is decreasing elsewhere in the U.S. due to the general downturn in the industry.

Although Utah is currently out-producing all other states, its uranium industry still faces an uncertain future. The history of the U.S. uranium industry is characterized by rapid and dramatic change. This has been nowhere more evident than here in Utah. Nevertheless, there are reasons to suggest that the industry may be beginning a period of relative stability.

Current producers of uranium, such as Utah, are survivors. They have survived the worst decline in the industry's history. At today's prices and today's demand, Utah is leading the nation in production and sales. A recent agreement made with Japan will result in that nation purchasing 15.8 million pounds of uranium from five U.S. suppliers over the next 12 years. Both Energy Fuels and Rio Algom of Utah are involved in this deal, apparently assuring survival of the Utah uranium industry for at least the near future.

TABLE 36
ENERGY RESOURCES IN UTAH
PRICES, PRODUCTION AND VALUE OF PRODUCTION
1980 TO 1988

	Crude Oil			Natural Gas		
Year	Price ($/Barrel)	Production (Million Barrel)	Value of Production (Million)	Price ($/MCF)	Marketed Production (Million MCF)	Value of Production (Million)
1980	19.79	24.88	$492.38	1.86	49.94	$92.89
1981	34.14	24.25	$827.90	2.40	68.53	$164.47
1982	30.50	22.97	$700.58	3.06	80.11	$245.12
1983	28.12	31.04	$872.84	3.18	59.44	$189.02
1984	27.21	37.90	$1,031.26	3.16	70.98	$224.29
1985	23.98	40.79	$978.14	3.23	75.88	$245.09
1986	13.13	39.09	$513.25	2.42	63.97	$154.81
1987	17.25	35.42	$610.99	1.82	57.40	$104.46
1988e	14.35	33.61	$482.30	1.67	62.30	$104.04

	Coal			Yellow Cake		
Year	Price ($/Short Ton)	Production (Million Tons)	Value of Production (Million)	Price ($/Pound)	Production (Thousand Pounds)	Value of Production (Million)
1980	25.63	13.26	$339.93	28.15	2,397	$67.48
1981	26.90	13.81	$371.44	34.65	4,487	$155.47
1982	29.42	16.91	$497.55	38.37	2,895	$111.08
1983	28.30	11.83	$334.76	32.21	1,372	$44.19
1984	29.20	12.26	$357.96	32.65	858	$28.01
1985	27.69	12.83	$355.29	31.43	1,564	$49.16
1986	27.64	14.27	$394.42	30.01	5,767	$173.07
1987	25.26	16.50	$416.79	27.37	5,320	$145.61
1988e	26.76	18.29	$489.44	NA	3,200	NA

e=Estimate
NA=Not Available

Sources: U.S. Department of Energy,
Utah Division of Oil, Gas, and Mining,
Utah State Tax Commission,
Utah Energy Office.

TABLE 37
UTAH CRUDE OIL PRICES AND PRODUCTION
1960 TO 1988

	Production (Million Barrels)	Price ($/Barrel)
1960	37.60	$2.61
1961	33.08	$2.69
1962	30.95	$2.56
1963	33.45	$2.64
1964	28.55	$2.63
1965	25.32	$2.26
1966	24.15	$2.64
1967	24.04	$2.63
1968	23.50	NA
1969	23.31	$2.80
1970	23.37	$2.81
1971	23.63	$3.04
1972	26.50	$2.94
1973	32.54	$3.59
1974	39.36	$7.39
1975	40.03	$8.06
1976	34.32	$8.80
1977	32.16	$8.96
1978	31.45	$9.98
1979	27.56	$11.41
1980	24.88	$19.79
1981	24.25	$34.14
1982	22.97	$30.50
1983	31.04	$28.12
1984	37.90	$27.21
1985	40.97	$23.98
1986	39.09	$13.13
1987	35.42	$17.25
1988e	33.61	$14.35

e = Estimate

Sources: Price: 1960-1979 Utah Department of Natural Resources, Division of Oil, Gas, & Mining, "Annual Oil and Gas Sales Report." 1980-1988, U.S. Department of Energy, Energy Information Administration, "Petroleum Marketing Monthly", DOE/EIA-0380.
Production: 1960-1975, 1984-1987, Utah Department of Natural Resources, "Monthly Oil and Gas Production Report." 1976-1984, Petroleum Information Corporation "Utah Oil and Gas Production, 1976-1984."

TABLE 38
UTAH DRILLING ACTIVITY
1960 TO 1988

Year	Active Rotary Rigs	Exploratory Oil	Exploratory Gas	Exploratory Dry	Developmental Oil	Developmental Gas	Developmental Dry	Total
1960	29	10	15	81	102	9	19	265
1961	33	12	20	115	81	26	16	303
1962	29	29	21	91	80	21	39	310
1963	22	18	13	103	74	18	30	278
1964	17	18	5	92	40	7	11	190
1965	14	20	8	51	40	20	16	169
1966	14	12	3	66	55	6	10	166
1967	15	17	2	62	39	12	13	160
1968	12	7	4	70	44	8	20	165
1969	12	8	6	53	36	5	16	136
1970	12	16	4	30	32	6	14	114
1971	17	16	3	51	20	4	9	120
1972	34	34	6	53	43	8	6	184
1973	38	21	20	54	88	10	16	247
1974	42	5	4	50	126	8	16	251
1975	26	8	4	54	109	6	16	223
1976	19	2	4	35	52	9	27	148
1977	30	11	10	82	124	40	20	317
1978	32	11	17	68	64	88	30	310
1979	29	12	16	66	58	93	29	303
1980	43	10	28	98	61	71	42	353
1981	68	44	49	144	155	119	61	640
1982	41	45	29	100	127	107	56	505
1983	36	44	26	88	123	84	62	463
1984	46	44	7	75	184	73	66	495
1985	29	11	5	46	190	63	54	398
1986	13	9	5	33	100	48	24	232
1987	8	15	8	40	54	27	21	173
1988	7	10	4	25	33	12	11	102

Sources: 1960-1987, Pertoleum Information Corporation, "State of Utah Drilling Success Summary Report."
1988, Utah Department of Natural Resources, Division of Oil, Gas, and Mining.

TAX COLLECTIONS

Actual and estimated historic tax collections and trends are presented in Table 39 for fiscal years 1975 to 1990. Fiscal years 1975 through 1982 were years of strong growth for sales and income taxes. This was a period of in-migration and relatively high growth in employment and wages. The strong growth in nonagricultural wages, could account for the growth in sales tax collections exceeding the growth in incomes during this period.

A sharp decrease in the rate of growth in taxes occurred in fiscal year 1983 due to the recession which lingered on during most of that year. Fiscal year 1984 collections increased due to economic recovery, tax rate increases and windfall payments. Major tax increases affecting fiscal year 1984 included an 1/8th cent sales tax increase effective July 1, 1983, and another 1/2 cent increase effective October 1, 1983; increases in corporate taxes from 4 to 4.65 percent effective January 1, 1983, and an additional increase from 4.65 to 5 percent effective January 1, 1984; an increase from 2 to 4 percent on January 1, 1984 in the oil and gas occupation tax; and, an increase from $4.12 to $11 per barrel in the beer tax effective July 1, 1983. Sales tax and oil occupation tax payments were also accelerated in fiscal year 1984.

Fiscal year 1985 brought moderate growth in taxes as the economic recovery continued. Also contributing to the growth in revenues in fiscal year 1985 was a 3 cent increase in motor and special fuels taxes which became effective on July 1, 1984. Fiscal year 1986 showed another sharp decrease in collections. This decline was largely due to the closure of Kennecott, out-migration, depressed oil prices, declining wages and employment, new sales tax exemptions, and stronger growth in tax exempt services industries than in taxable goods industries.

Increased tax collections in fiscal year 1987 resulted from tax increases, accelerated corporate payments, income tax surcharges, and windfalls from federal tax reform. The increases were not the result of improvements or growth in the general economy. Without these increases revenue receipts would have fallen due to the ripple effects of the Geneva Steel and B.P. Minerals (Kennecott) closures, continued out-migration, the construction downturn (particularly IPP), lower oil prices, sluggish economic activity in surrounding states, and lower employment, population, and wage growth in general.

Revenue collections in fiscal year 1988 improved largely due to tax increases, increased oil prices, and the reopening of Geneva Steel and B.P. Minerals. Geneva Steel closed in August of 1986 and reopened in September of 1987. B.P. Minerals closed in September of 1985 and reopened in June of 1987. The tax increases included a 1/2 cent increase in the sales tax effective March 31, 1987; an 11 cents increase per pack in cigarette taxes effective April 27, 1987; a 5 cents per gallon increase in motor and special fuels effective April 1, 1987; and, windfalls from federal income tax reform effective January 1, 1987. Since Utah couples its income taxes to federal taxable income, and the federal Tax Reform Act of 1986 eliminated many deductions in exchange for lower rates, the state realized higher tax yields from an expanded tax base.

Improvements in economic activity in calendar year 1988 should help increase revenue collections in fiscal year 1989. Tax collections should improve in fiscal year 1989 due to higher profits and bonus payments at B.P. Minerals and Geneva Steel, strong growth in the service sector, growth in tourism, expansions of new and existing firms and increased employment and productivity in general.

TABLE 39

SELECTED ANNUAL FORECAST AND HISTORIC TAX COLLECTIONS

FISCAL YEARS 1975 TO 1990

DECEMBER 1988

	Sales Tax Rate	Sales Taxes (Thousands)	Percent Change	Income Taxes (Thousands)	Percent Change	Corporate Taxes (Thousands)	Percent Change	Mineral Production Taxes (Thousands)	Percent Change	Mineral Lease Payments (Thousands)	Percent Change
FY75	4.00000	$173,737		$104,919		$18,003		0		$5,532	
FY76	4.00000	$194,799	12.12%	$140,562	33.97%	$24,502	36.10%	0	0.00	$5,512	-0.36%
FY77	4.00000	$225,794	15.91%	$158,268	12.60%	$24,867	1.49%	0	0.00	$9,018	63.61%
FY78	4.00000	$257,988	14.26%	$183,894	16.19%	$29,448	18.42%	0	0.00	$9,639	6.89%
FY79	4.00000	$288,603	11.87%	$225,956	22.87%	$32,874	11.63%	0	0.00	$12,325	27.87%
FY80	4.00000	$320,454	11.04%	$265,327	17.42%	$40,377	22.82%	0	0.00	$14,933	21.16%
FY81	4.00000	$347,382	8.40%	$294,947	11.16%	$40,667	0.72%	0	0.00	$18,153	21.56%
FY82	4.00000	$385,260	10.90%	$331,139	12.27%	$40,894	0.56%	0	0.00	$26,891	48.14%
FY83	4.00000	$388,726	0.90%	$347,728	5.01%	$33,763	-17.44%	$4,341	0.00	$36,162	34.48%
FY84	4.30000	$515,202	32.54%	$389,959	12.14%	$53,228	57.65%	$10,812	149.07%	$37,468	3.61%
FY85	4.50000	$539,699	4.75%	$434,873	11.52%	$65,918	23.84%	$18,120	67.59%	$34,190	-8.75%
FY86	4.50000	$542,955	0.60%	$454,521	4.52%	$83,817	27.15%	$22,923	26.51%	$32,578	-4.71%
FY87	4.59375	$559,256	3.00%	$533,190	17.31%	$68,898	-17.80%	$9,519	-58.47%	$22,385	-31.29%
FY88	5.09375	$616,228	10.19%	$607,519	13.94%	$79,103	14.81%	$10,414	9.40%	$28,836	28.82%
FY89	5.09375	$655,000	6.29%	$572,000	-5.85%	$68,000	-14.04%	$8,600	-17.42%	$48,300	67.50%
FY90	5.04688	$668,000	1.98%	$600,000	4.90%	$70,000	2.94%	$7,300	-15.12%	$26,700	-44.72%

1) FY89 and FY90 values are forecast amounts.
2) Corporate and income taxes include mineral production taxes.
3) The sales tax rate will be reduced by 6/64th's on December 31, 1989.
4) Income tax collections in FY88 were $633.8 million; however, $27.8 million was placed in a reserve account to cover overwithholding resulting from the restoration of 1/3 of the federal deduction and a 5% rate reduction.
5) FY89 income taxes are expected to decrease by about $73 million due to the above mentioned reforms.
6) $20.1 million in mineral lease monies plus $5 million in interest will accue in FY89 from an Interior Department settlement with coal companies.

	Mine Occupation Taxes (Thousands)	Percent Change	Motor Fuels Taxes (Thousands)	Percent Change	Special Fuels Taxes (Thousands)	Percent Change	B, C & T Taxes (Thousands)	Percent Change	Insurance Premium Taxes (Thousands)	Percent Change
FY75	$5,769		$40,485		$5,753		$8,700		$9,520	
FY76	$11,259	95.16%	$43,515	7.48%	$6,241	8.48%	$9,197	5.71%	$8,384	-11.93%
FY77	$8,489	-24.60%	$45,694	5.01%	$6,865	10.00%	$9,617	4.57%	$10,098	20.44%
FY78	$8,446	-0.51%	$48,808	6.81%	$7,391	7.66%	$9,989	3.87%	$11,917	18.01%
FY79	$8,423	-0.27%	$61,372	25.74%	$9,852	33.30%	$10,156	1.67%	$13,452	12.88%
FY80	$9,821	16.60%	$60,451	-1.50%	$10,470	6.27%	$12,445	22.54%	$14,718	9.41%
FY81	$14,757	50.26%	$56,508	-6.52%	$10,107	-3.47%	$13,520	8.64%	$15,778	7.20%
FY82	$20,694	40.23%	$67,734	19.87%	$12,672	25.38%	$14,108	4.35%	$21,494	36.23%
FY83	$24,329	17.57%	$68,685	1.40%	$12,603	-0.54%	$16,211	14.91%	$17,102	-20.43%
FY84	$36,243	48.97%	$68,979	0.43%	$14,449	14.65%	$19,897	22.74%	$19,986	16.86%
FY85	$46,880	29.35%	$89,337	29.51%	$17,791	23.13%	$21,309	7.10%	$22,262	11.39%
FY86	$43,797	-6.58%	$92,164	3.16%	$19,369	8.87%	$21,503	0.91%	$26,077	17.14%
FY87	$21,530	-50.84%	$99,985	8.49%	$20,627	6.49%	$23,995	11.59%	$27,762	6.46%
FY88	$29,156	35.42%	$129,370	29.39%	$27,554	33.58%	$29,153	21.50%	$28,223	1.66%
FY89	$25,300	-13.23%	$130,700	1.03%	$29,500	7.06%	$29,300	0.50%	$30,000	6.30%
FY90	$21,100	-16.60%	$131,300	0.46%	$30,900	4.75%	$28,900	-1.37%	$31,300	4.33%

1) FY89 and FY90 values are forecast amounts.
2) Mine occupation taxers include oil and metals.
3) Fuels taxes include the April 1, 1987, 5 cents tax increase.
4) Beer, cigarette and tobacco taxes include the April 27, 1987, 11 cents per pack tax increase.

Sources: Utah State Tax Commission and Utah Office of Planning and Budget.

INTERMOUNTAIN REGION

The Intermountain Region (or Mountain Division as defined by the Bureau of the Census) includes the states of Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming.

The past five years (1982 to 1987) have not been kind to the regional economy of the intermountain states. This energy rich region has suffered from the drop in oil prices during the 1980's. In addition, the agricultural sector has been depressed. Agriculture and energy are major elements in the economy, as are other natural resource based industries such as timber and metal mining. Weakness in these natural resource based industries has spread to related industries such as construction and financial services. As a result of these influences the economy of the mountain region has not preformed as well as that of the nation during the current economic expansion.

Personal Income Growth

Total personal income for the region grew at an average annual rate of 6.9 percent from 1982 to 1987, just below the rate of 7.2 percent nationally. Utah's average annual growth of personal income was 6.3 percent during this period. From 1986 to 1987 income grew by 5.7 percent in the mountain states compared to 7.0 percent in the U.S. The most recent data show that income growth is increasing somewhat. Income grew by 6.3 percent and by 7.6 percent in the mountain states and the U.S. respectively from the second quarter of 1987 to the second quarter of 1988.

Of the eight states in the mountain region, only Arizona and Nevada have had personal income growth rates above the national average since 1982. Wyoming is the only state in the region (as well as in the nation) that has less total personal income in 1987 than in 1982.

Per capita personal income for a region can change relative to the U.S. average because its total personal income, its population, or both, grow at a faster or slower rate than the U.S. average. From 1982 to 1987 income in the mountain region grew a little slower than the national rate and population grew at a much faster rate. The obvious result is that per capita income for the mountain states has deteriorated relative to national per capita income. In 1982 per capita income in the mountain region was $10,791, or 94 percent of the national figure of $11,480. By 1987 per capita income for the mountain states was 89 percent of the national figure; $13,769 compared to $15,481.

Only one of the eight mountain states experienced an increase in per capita personal income relative to the U.S. average. Arizona's per capita income was 90 percent of the national average in 1982, increasing to 92 percent in 1987. Wyoming had the greatest deterioration, going from 107 percent of the U.S. average in 1982, to 82 percent in 1987.

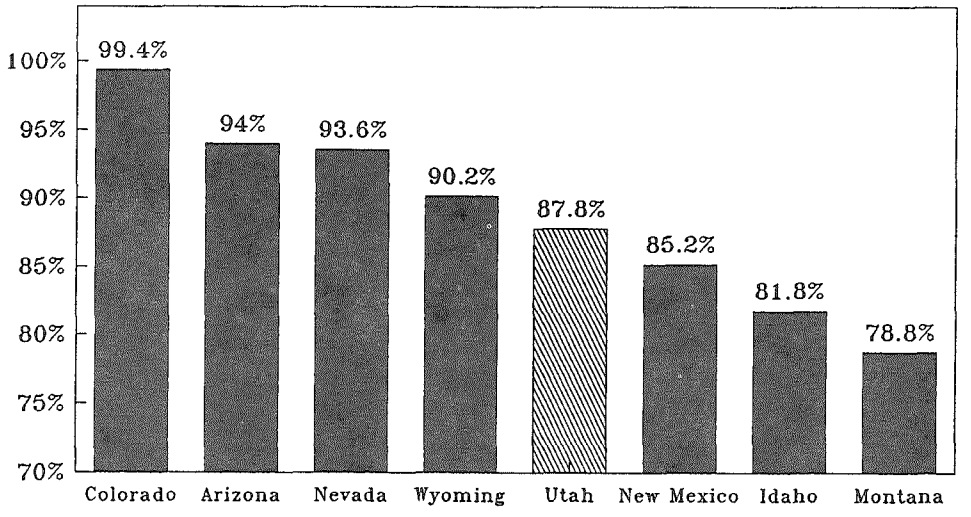
Wages

The most complete measure of relative wages paid between states is average annual pay for all workers covered either by state or federal unemployment insurance programs. Wage growth for the intermountain region averaged 3.3 percent per year from 1982 to 1987 compared to the national growth rate of 4.5 percent. With a slower growth rate in wages for the mountain states, wages dropped from 97 percent of the U.S. average in 1982 to 92 percent by 1987. Average wages dropped in each of the eight mountain states over this five year period when measured as a percent of the U.S. average. In 1982, Colorado and Wyoming had pay greater than the U.S. average. By 1987 none of the mountain states had wages above the national average. In 1987 average pay in Utah was 87.8 percent of the national average, ranking fifth among the eight mountain states (see Figure 26).

Population Growth

Population growth in the mountain states was a little more than twice as fast in 1982 than was seen

Figure 26
Average Annual Pay* as a Percent of U.S. Average Annual Pay*: 1987



*For workers covered by unemployment insurance.
Source: U.S. Bureau of Labor Statistics

nationally. Significant in-migration from other regions of the country was occurring. Since then, the population growth rate has slowed in this region, while in the nation as a whole it has remained relatively constant.

From 1986 to 1987, there was a 1.4 percent increase in the mountain states population and a 1.0 percent increase nationally. Only 3 of the 8 mountain states experienced net in-migration; Arizona, New Mexico and Nevada. Migration into these three states was high enough, compared to the out-migration in the other states, that the region as a whole had net in-migration of 43,000 people.

The energy bust has had a severe impact on Wyoming, losing population in each year since 1983. The combination of declines in both agriculture and energy have resulted in population losses in 1986 and in 1987 for Idaho and Montana. In order to sustain a population loss a state's net out-migration must be greater than its natural increase (births minus deaths).

Labor Market Activity

From 1982 to 1987, the mountain region's employment growth rate has exceeded that of the nation. Nonagricultural job growth in the region was 12.9 percent, while the national rate was 11.1 percent. Among the eight states of the region, however, job growth varied from a high of 29.9 percent in Arizona to minus 10.0 percent in Wyoming. Over this period, four mountain states increased in employment at a faster rate than the national growth rate; Arizona 29.9 percent, Nevada 16.7 percent, Utah 13.0 percent, and New Mexico 11.4 percent. The most recent complete year for which data is available is 1986 to 1987. During this time, nonagricultural employment growth in the mountain region, at 1.2 percent, was less than half the national rate of 2.8 percent.

Current available information, September 1987 to September 1988, indicates that the job picture in the mountain region and in the U.S. is improving with increases of 1.6 percent and 3.7 percent respectively. The previously booming Arizona economy has dramatically slowed with nonagricultural employment growth of just

1.1 percent. This is not only below the national rate, but below the regional job growth rate as well. Among the mountain states, only Nevada, with an increase of 5.9 percent continues to produce jobs faster than does the nation from September 1987 to September 1988. Utah, Idaho, and New Mexico have gained strength during this period with employment increasing at a rate between 3.2 and 2.2 percent.

Unemployment in the mountain region has been consistently below the national average during the 1980's. In the recent year as the unemployment rate has been dropping nationally, it has also dropped in the West. This relatively favorable unemployment situation for the mountain states has occurred throughout the decade even in the face of many economic reverses. This low unemployment rate is possible because of the geographic and career mobility exhibited by the labor force. When particular industries have sustained significant declines, many workers have either moved on to where they could gain employment, have changed careers, or both. With the dynamic forces that operate in modern economies, continued restructuring of the economy and in and out-migration flows are essential in order to prevent chronic long-term unemployment problems from developing. This has certainly been the case for the mountain states during the 1980's.

The "oil bust" and other weaknesses in natural resource based industries of recent years has required a significant amount of economic restructuring to occur among the intermountain states. There continues to be some residual problems, particularly in the construction industries, as the economy of this region adjusts to the effects of reduced activity in the natural resource industries.

TABLE 40

INTERMOUNTAIN REGION ECONOMIC PERFORMANCE

1982, 1986 AND 1987

	U.S.	Region	Arizona	Colorado	Idaho	Montana	Nevada	New Mexico	**Utah**	Wyoming
Personal Income 1982 (Millions)	$2,663,432	$130,080	$29,756	$38,822	$9,079	$8,118	$10,956	$13,012	$14,091	$6,246
Personal Income 1986 (Millions)	$3,521,393	$171,597	$44,857	$49,364	$11,192	$9,583	$14,949	$16,944	$18,253	$6,455
Personal Income 1987 (Millions)	$3,768,125	$181,296	$48,466	$51,369	$11,847	$9,992	$16,484	$17,812	$19,095	$6,231
Average Annual Growth Rate 1982-87	7.2%	6.9%	10.2%	5.8%	5.5%	4.2%	8.5%	6.5%	6.3%	0.0%
Percent Change 1986-87	7.0%	5.7%	8.0%	4.1%	5.9%	4.3%	10.3%	5.1%	4.6%	-3.5%
Population in 1982 (Thousands)	231,996	12,054	2,884	3,072	978	805	877	1,369	1,559	510
Population in 1986 (Thousands)	241,095	12,982	3,279	3,266	1,002	817	967	1,479	1,664	507
Population in 1987 (Thousands)	243,400	13,167	3,386	3,296	998	809	1,007	1,500	1,680	490
Average Annual Growth Rate 1982-87	1.0%	1.8%	3.3%	1.4%	0.4%	0.1%	2.8%	1.8%	1.5%	-0.8%
Percent Change 1986-87	1.0%	1.4%	3.3%	0.9%	-0.4%	-1.0%	4.1%	1.4%	1.0%	-3.4%
Net Migration 1986 to 1987 (July 1st, Thousands)	623	43	72	-4	-12	-13	32	4	-11	-22
Net Migration as a % of Total Pop	0.3%	0.3%	2.2%	-0.1%	-1.2%	-1.6%	3.3%	0.3%	-0.7%	-4.3%
Median age of pop. in 1987 (years)	32.1	30.4	31.5	31.1	30.2	31.8	32.0	30.1	25.5	29.4
Per Capital Personal Income 1982	$11,480	$10,791	$10,316	$12,639	$9,284	$10,084	$12,499	$9,506	$9,041	$12,236
Per Capital Personal Income 1986	$14,606	$13,218	$13,679	$15,114	$11,172	$11,726	$15,453	$11,459	$10,968	$12,723
Per Capital Personal Income 1987	$15,481	$13,769	$14,315	$15,584	$11,868	$12,347	$16,366	$11,875	$11,366	$12,709
Average Annual Growth Rate 1982-87	6.2%	5.0%	6.8%	4.3%	5.0%	4.1%	5.5%	4.6%	4.7%	0.8%
Percent Change 1986-87	6.0%	4.2%	4.6%	3.1%	6.2%	5.3%	5.9%	3.6%	3.6%	-0.1%
As a percent of U.S., 1982	100%	94%	90%	110%	81%	88%	109%	83%	79%	107%
As a percent of U.S., 1986	100%	90%	94%	103%	76%	80%	106%	78%	75%	87%
As a percent of U.S., 1987	100%	89%	92%	101%	77%	80%	106%	77%	73%	82%
Per Household Personal Income 1982	$31,880	$30,460	$28,890	$33,940	$26,860	$27,610	$32,610	$27,630	$29,600	$34,510
Per Household Personal Income 1986	$39,660	$36,560	$37,600	$39,810	$31,440	$31,520	$39,340	$32,400	$35,510	$35,470
Per Household Personal Income 1987	$41,850	$37,930	$39,090	$40,930	$33,180	$32,980	$41,520	$33,420	$36,860	$35,200

TABLE 40 CONTINUED

	U.S.	Region	Arizona	Colorado	Idaho	Montana	Nevada	New Mexico	**Utah**	Wyoming
Average Annual Growth Rate 1982-87	5.6%	4.5%	6.2%	3.8%	4.3%	3.6%	4.9%	3.9%	4.5%	0.4%
Percent Change 1986-87	5.5%	3.7%	4.0%	2.8%	5.5%	4.6%	5.5%	3.1%	3.8%	-0.8%
As a percent of U.S., 1982	100%	96%	91%	106%	84%	87%	102%	87%	93%	108%
As a percent of U.S., 1986	100%	92%	95%	100%	79%	79%	99%	82%	90%	89%
As a percent of U.S., 1987	100%	91%	93%	98%	79%	79%	99%	80%	88%	84%
Average annual pay for all workers covered										
by unemployment insurance in 1982	$16,736	$16,295	$16,012	$17,392	$14,660	$14,702	$16,473	$15,388	$15,904	$17,990
in 1986	$19,966	$18,670	$18,870	$20,275	$16,623	$16,085	$18,739	$17,301	$17,863	$18,969
in 1987	$20,855	$19,201	$19,610	$20,736	$17,062	$16,438	$19,521	$17,767	$18,303	$18,817
Average Annual Growth Rate 1982-87	4.5%	3.3%	4.1%	3.6%	3.1%	2.3%	3.5%	2.9%	2.8%	0.9%
Percent Change 1986-87	4.5%	2.8%	3.9%	2.3%	2.6%	2.2%	4.2%	2.7%	2.5%	-0.8%
As a percent of U.S., 1982	100%	97%	96%	104%	88%	88%	98%	92%	95%	107%
As a percent of U.S., 1986	100%	94%	95%	102%	83%	81%	94%	87%	89%	95%
As a percent of U.S., 1987	100%	92%	94%	99%	82%	79%	94%	85%	88%	90%
Nonag Employment 1982 (Thousands)	89,566	4,586	1,030	1,317	312	274	401	474	561	218
Nonag Employment 1986 (Thousands)	99,525	5,176	1,338	1,408	328	275	468	528	634	196
Nonag Employment 1987 (Thousands)	102,310	5,239	1,384	1,400	334	274	499	530	639	180
Percent Change 1982-87	11.1%	12.9%	29.9%	6.9%	5.2%	0.5%	16.7%	11.4%	13.0%	-10.0%
Percent Change 1986-87	2.8%	1.2%	3.4%	-0.6%	1.6%	-0.5%	6.6%	0.3%	0.8%	-8.5%
Nonag Employ, Sept 1987 (Thousands)	103,288	5,293	1,390	1,401	345	279	512	536	648	184
Nonag Employ, Sept 1988 (Thousands)	107,129	5,379	1,405	1,400	354	280	542	548	668	182
Percent Change Sept 87 to Sept 88	3.7%	1.6%	1.1%	0.0%	2.7%	0.4%	5.9%	2.2%	3.2%	-1.0%
Unemployement Rate, 1982	9.7%	NA	9.9%	7.7%	9.8%	8.6%	10.1%	9.2%	7.8%	5.8%
Unemployement Rate, 1987	6.2%	NA	6.2%	7.7%	8.0%	7.4%	6.3%	8.9%	6.4%	8.6%
Unemployement Rate, September 1988	5.1%	NA	6.6%	5.3%	4.2%	4.7%	4.5%	7.3%	4.2%	4.9%

Source: U.S. Bureau of Economic Analysis, U.S. C ensus Bureau, U.S. Bureau of Labor Statistics, a nd Utah Office of Planning and Budget.

ECONOMIC OUTLOOK

NATIONAL OUTLOOK

During the campaign, President-elect George Bush pledged to reduce the federal deficit without tax increases by encouraging continued economic growth and by implementing a "flexible freeze". A flexible freeze would allow spending for most programs to grow only enough to cover inflation. Obstacles confronting this plan include the aging of the current expansion and whether or not the new President can win Congressional approval.

Members of Congress have already expressed opposition to the President-elect's plan to spur economic growth through tax incentives and reduced government borrowing and spending. Many Democrats are insisting that a tax increase be part of the deficit reduction package. A deadlock between the President-elect and Congress could bring about across the board Gramm-Rudman spending cuts.

Even if cooperation is received there is no guarantee that the current expansion will continue. The longest expansion in peacetime history could be derailed if cuts in government spending and borrowing are not offset by reductions in real interest rates. The Chairman of the Federal Reserve Board, Alan Greenspan, has all but promised lower interest rates, however, if the deficit is reduced.

Lower interest rates resulting from a reliable deficit reduction plan could bring about increased business and housing investment to offset the contractionary effects of reduced government spending. High real interest rates are currently necessary to attract foreign capital and to finance the deficit. A significant risk is that foreign investors could lose confidence in the new administration's ability to cope with the deficit.

Downward pressure on the dollar could help increase exports; but, it could also hurt the stock market, bring about more inflation from increased import prices, and result in higher interest rates. Investors are reluctant to buy securities denominated in a falling currency. The Federal Reserve seems determined to maintain capital inflows and to combat inflation. The flip side of this strategy is the danger that higher interest rates could dampen economic activity. Foreign investors would be likely to accept lower real interest rates on U.S. securities, however, if they saw progress being made on reducing the federal deficit.

Current Conditions

As is often the case, different economic indicators are signaling different directions for the economy. October employment figures suggested that there may be more strength in the economy than many people realized. The October unemployment rate dropped to 5.3 percent to match a 14-year low achieved in June. A record 62.4 percent of the adult population was employed in September and October. Initial unemployment insurance claims have also been falling for several months. The week just ended October 15th provided the lowest number of claims for the year.

New and unfilled orders for goods are currently placing strains on manufacturing capacity, and a full employment labor market is exerting upward pressure on earnings. Factory overtime, personal income, industrial production, retail sales, consumer confidence and the hourly earnings index increased in October. Consumer spending increased at an annual rate of 3.5 percent in the third quarter compared to 3 percent in the second quarter. The trade deficit improved in September and narrowed to $102.87 billion for the first nine months of 1988 compared to the record $127.34 billion for the same months last year.

Other indicators point to a slowing economy. The index of leading indicators fell in September for the third decline in the past five months. Inflation adjusted GNP grew at an annual rate of 2.6 percent in the third quarter, down from 3 percent in the second quarter and 3.4 percent in the first quarter. Business investment grew at 4.6 percent in the third quarter compared to 15.6 percent in the second quarter. Declines in construction and farm output contributed to the reduction in GNP growth. The Commerce Department expects the recent drought to further reduce GNP growth by 1.25 percent in the fourth quarter.

There are signs that inflation has been cooling off. The GNP deflator rose at an annual rate of 4.3

percent in the third quarter compared to 5.5 percent in the second quarter. And, partly due to lower oil prices, wholesale price inflation slowed to zero percent in October and registered only 2.9 percent above a year ago. Concerns about inflation have recently centered around accelerating labor costs. Much of the increase in labor costs has been due to benefits which increased by 6.7 percent for the year ended in September compared to an increase of 3.7 percent in wages and salaries.

Outlook

The national economy could avoid a recession next year if a budget deficit reduction accord is reached enabling real interest rates to be lowered. Unprecedented levels of individual, business and government debt make continued worldwide economic growth essential. Money is currently being loaned to Third World countries to pay overdue interest and many savings and loans institutions are insolvent. A global recession would make repayment that much more difficult for debtors and could necessitate taxpayer bailouts.

History and the law of averages could suggest that a contraction is overdue. The expansion became six years old this November which is 39 months longer than the average for the previous 30 business cycles. Only the World War II and Vietnam conflict expansions lasted longer. There have been 14 elections since 1929, excluding this most recent election. Nine of the 11 recessions since 1929 started in the first year of a President's term. The other two recessions started the year of the President's election. And, long-term bond and T-Bill rates increased after six of the last seven Presidential elections. The Federal Reserve also raised the discount rate in five of those post election years.

Although a recession is possible in 1989 most economists are forecasting real GNP growth in the 2 to 2.5 percent range. A slowdown in export growth, moderate consumer spending, slightly higher interest rates and a weaker dollar are cited as reasons for the expected slowdown. The onset of a recession would require a collapse of the dollar, a sharp contraction in consumer spending, severe tightening in monetary policy, a financial crisis, or some other unforeseen calamity. The economy has survived six years of unprecedented federal deficits without a crisis and it is possible that it could survive more.

UTAH OUTLOOK

Utah's prosperity is affected largely by international market forces and federal laws and spending. Prices for many Utah commodities are affected by international supply and demand, and the exchange rate of the dollar. A less valuable dollar makes import goods more expensive and export goods less expensive. The exchange rate is in turn affected by the size of the federal debt and deficit. Utah's economy will continue to be affected by both beneficial and adverse outside forces.

Examples of Utah's national and international relationships include, but are not limited to, the following: 1) a U.S. District Court judge recently ruled that the BLM could open up federal lands in the West for commercial development; 2) drought conditions in the Northwest have restricted hydroelectric generation and increased the demand for coal and electricity production in Utah; 3) the loss of deductions due to the federal Tax Reform Act of 1986 contributed to the downturn in construction activity in Utah; 4) Utah ranked fourth in defense expenditures per $1,000 of personal income in 1987; 5) Geneva Steel will become the second largest steel exporter in the U.S. in 1988 with plans to export steel products to Germany, Japan, Belgium and other users; 6), the ongoing Peruvian copper strike has helped raise copper prices from around $1 a pound in August to about $1.50 a pound in November of 1988; 7) international competition, while benefiting many Utah consumers, has contributed to the threat of farm foreclosures in Utah; and, 8) foreign companies will spend, and have spent, millions of dollars expanding and upgrading B.P. Minerals (formerly Kennecott) and the Mercur and Barneys Canyon gold mining operations.

Current Conditions

Utah's economy improved significantly in 1988. Perhaps the best indication of the improvement was the estimated 3.4 percent year-over-year growth in November for nonagricultural jobs. Service and manufacturing growth increased significantly; whereas, declines occurred in defense and construction employment. Initial unemployment claims were down through September, and the unemployment rate has remained below the national average for 1988. Utah's unemployment rate for November was 4.8 percent.

Geneva Steel and B.P. Minerals reopened the second half of 1987. The ripple effects of these successful reopenings has helped boost the 1988 economy. Several additions and new firms also contributed to the expansion. New openings and major expansions included, but were not limited to, Everex Systems, Western Gear, Pepcon, American Metal Foundry, SPS Technology, Grumman Aerospace, Lucus Technologies, Sanyo-Icon, Ute Manufacturing, Shopko, CPS, Great American West, Delta Airlines, McDonnell Douglas, Eastern Airlines, Stouffer Foods, and Word Perfect. Construction of the new regional prison and the Jordanelle Dam also helped lift employment and incomes.

Contractions and closures in 1988 included, but were not limited to, layoffs at Beehive International, Wicat Systems, Holy Cross Hospital, Judkins Co., Utah Title and Abstract, Hewlett-Packard, Bennett Paint, First Interstate Bank, Castle Gate Coal Co., Sunnyside Mine, Fidelity Investments, and Continental Airlines.

Utah should continue to experience out-migration in 1989. This out-migration has contributed to the lowering of the unemployment rate, the increase in housing foreclosures, and the construction slump. Vacancy rates remain stubbornly high in the Salt Lake area, and HUD foreclosures in 1988 stand at 1,467, compared to 866 in 1987 and 455 in 1986. The median price of a home in the Salt Lake City metropolitan area declined by 1.5 percent for the third quarter of 1988 compared to the same quarter of 1987. Home sales in the Salt Lake area declined 2.9 percent in the third quarter compared to the same three months last year.

Outlook

A stable dollar and reductions in the federal deficit could keep real interest rates from rising in 1989 and help prevent a national downturn. A healthy national economy and lower real interest rates could boost the Utah economy. If the federal deficit is decreased with reductions in federal land administration or defense expenditures, however, the Utah economy could be adversely affected. Utah's defense industry is already

experiencing employment reductions. Whether or not additional reductions occur depends largely on decisions made in Washington.

The Reagan administration's last budget will include recommendations for cuts in domestic programs and increases in defense spending 2 percent above the growth in inflation. President-elect Bush's flexible freeze plan would not allow growth in overall defense spending beyond the growth in inflation. If Congress and President-elect Bush fail to agree on a deficit reduction plan then across the board Gramm-Rudman cuts could be imposed. Gramm-Rudman cuts could disproportionately affect defense spending and may be the preferable alternative for liberal members of Congress who believe that the cuts would otherwise come from the domestic budget. Conservatives may also favor Gramm-Rudman cuts in lieu of tax increases as a deficit reduction measure.

The economic outlook for Utah in 1989 mirrors the outlook for the national economy and is one of slower but moderate growth. Population, employment, wages, and incomes should all grow in 1989. Out-migration is expected to continue for the sixth consecutive year. Population is projected to grow by 1.3 percent compared to an increase of only 0.9 percent in 1988. Nonagricultural employment is expected to increase by 2.5 percent for an increase of around 17,000 jobs. And, the average wage is expected to increase by about 3 percent. Finally, nonagricultural wages should increase by about 5.7 percent in 1989.

TABLE 41
FORECAST OF SALIENT ECONOMIC INDICATORS
DECEMBER 1988

Utah and United States Indicators	Units	1987 Actual	1988 Forecast	1989 Forecast	% CHG 87-88	% CHG 88-89
PRODUCTION						
U.S. Gross National Product	Billions Dollars	4,526.7	4,860.9	5,199.2	7.4	7.0
U.S. Real GNP	1982 $	3,847.0	3,997.4	4,085.6	3.9	2.2
U.S. Nonagricultural Employment	Millions	102.3	105.9	107.5	3.5	1.4
U.S. Auto Sales	Millions	10.3	10.6	10.1	2.9	-4.7
U.S. Housing Starts	Millions	1.6	1.5	1.4	-11.0	-5.5
U.S. Industrial Production	1967=100	129.8	137.0	140.4	5.5	2.5
Utah Coal Production	Million Tons	16.5	18.3	18.0	10.9	-1.6
Utah Oil Production	Million Barrells	35.4	33.6	32.5	-5.1	-3.3
Utah Copper Production	Million Pounds	120.0	480.0	480.0	NA	0.0
Utah Gross Taxable Sales	Million Dollars	12,189.0	13,056.0	13,431.0	7.1	2.9
Retail Sales	Million Dollars	6,982.0	7,376.0	7,693.0	5.6	4.3
Business Purchases	Million Dollars	3,398.0	3,753.0	3,764.0	10.4	0.3
Taxable Services	Million Dollars	1,520.0	1,591.0	1,659.0	4.7	4.3
Utah New Car & Truck Sales	Thousands	58.3	60.0	58.5	2.9	-2.5
Utah Dwelling Unit Permits	Thousands	7.3	5.5	5.7	-24.7	3.6
Utah Residential Construction	Millions Dollars	495.2	400.0	405.0	-19.2	1.3
Utah Nonresidential Construction	Millions Dollars	413.4	300.0	400.0	-27.4	33.3
SOCIAL INDICATORS						
Utah Population	Thousands	1,680.0	1,695.0	1,717.0	0.9	1.3
Migration	Thousands	-11.7	-11.5	-5.8	-1.7	-49.6
PRICES						
CPI Urban Consumers	1982-84=100	113.6	118.3	124.3	4.1	5.1
GNP Implicit Deflator	1982=100	117.7	121.5	127.2	3.2	4.7
U.S. Unit Labor Cost	1977=100	173.7	178.7	187.1	2.9	4.7
Utah Crude Oil Prices	$ Per Barrel	17.25	14.35	15.00	-16.8	4.5
Utah Coal Prices	$ Per Short Ton	25.26	26.76	27.30	5.9	2.0
Domestic Copper Prices	$ Per Pound	0.71	1.16	1.05	63.4	-9.5
FINANCING						
U.S. 3-Month Treasury Bills	Percent	5.8	6.6	7.9	13.7	20.0
Home Mortgage Rates, Effective	Percent	9.3	9.2	10.1	-0.8	9.2
U.S. Corp. Profits Before Tax	Billions Dollars	276.7	299.5	314.7	8.2	5.1
UTAH EMPLOYMENT AND WAGES						
Nonagricultural Employment	Thousands	640.3	658.6	675.3	2.9	2.5
Average Nonagricultural Wage	Dollars	18,015	18,538	19,103	2.9	3.0
Total Nonagricultural Wages	Million Dollars	11,535	12,209	12,900	5.8	5.7
Utah Personal Income	Million Dollars	19,095	20,200	21,392	5.8	5.9

UTAH'S LONG TERM OUTLOOK

Utah's long term outlook can be viewed from a "baseline" or "most likely" perspective. A baseline projection depicts the future based on current economic and demographic trends. The projection scenario provided in this report is slightly lower than earlier projections because of lower than expected economic growth in the 1980's and declining fertility rates.

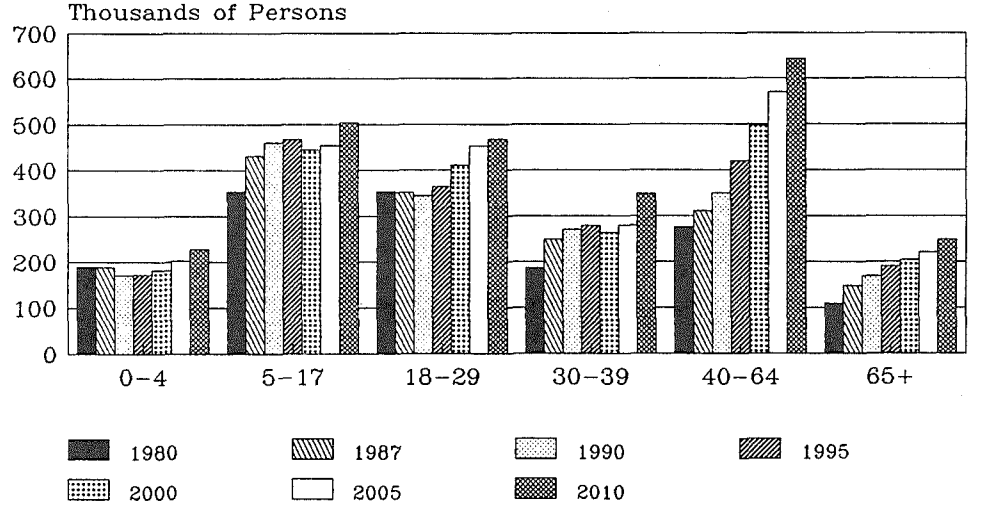
State Population and Total Employment Growth

Utah is projected to have almost one million more inhabitants in the year 2010 than were counted during the census in 1980. The state is projected to reach a population just over 2.4 million in the year 2010. This represents an average annual rate of growth of 1.7 percent from the July 1, 1988 population of 1,695,000. While this rate of growth is significantly lower than that of Utah's rate of 2.5 percent from 1950 to 1980, it is a rate more than double the national growth rate over the same period. However, this 1.7 percent growth per year average is not evenly distributed throughout the three decades between 1980 and 2010. The early 1980's averaged an annual growth rate of over 2 percent, while the next ten years are expected to average less than 1.5 percent per year. For a few years beginning in 1995, population is expected to grow at less than one percent annually. Population growth is then projected to start increasing, averaging over 2 percent per year by the 2005-2010 period. A summary of Utah's long term projections is shown in Table 42. Table 43 and Figure 27 presents population by age for the state through the year 2010. County Population projections are shown in Table 44.

Births

Population change in any area over time results from three phenomena: (1) Births, (2) Deaths, and (3) Net in- or out-migration. Utah's birth rate has historically been the highest in the nation. "Total fertility" (a measure of average births per woman) in Utah is still very high relative to the national average.

Figure 27
Utah Population by Age Group
for Selected Years



Source: State Office of
Planning and Budget

However, Utah's rate has declined steadily during the 1980's, while the national rate has held fairly constant at about 1.8 births per woman. After a historical comparison of Utah and U.S. fertility rates it seems reasonable to assume that the Utah total fertility rate will begin to stabilize at a level above that of the U.S. average. For the purpose of these projections, Utah's total fertility rate was assumed to decline to 2.5 births per woman by 1990 and then held constant for the remainder of the projection period.

It is projected that 910,000 births will occur to Utah residents between 1987 and 2010. While the number of births is expected to taper off for the next few years, another surge of births is expected in the late 1990's as another generation begins to age into the childbearing years.

Deaths

Not surprisingly, the number of deaths in the state is expected to rise continually through 2010 even though the survival rates for each age level are assumed to remain constant. The reason for this increase is that the population as a whole becomes more heavily concentrated in the older, lower survival rate age groups. For example, in 1980, 10.5 percent of the population was 60 years old or older. This same age group is projected to increase to 14.2 percent of the population by 2010.

Net Migration

Migration is typically the most volatile component of population change because it varies with demographic changes and economic conditions. There was a period of net out-migration in the 1950's and into the 1960's, however net in-migration was experienced in Utah in every year from 1969 to 1983. Starting in 1984 Utah has experienced five consecutive years of out-migration from Utah, totaling over 40,000 people.

During the period 1987 to 2010, over 180,000 net in-migration is expected to occur in the state (i.e., in-migration is expected to exceed out-migration by 180,000). Although out-migration is created when the economy is not growing fast enough to provide enough jobs for the growing labor force, population growth frequently occurs during these periods of net out-migration.

School Age Population

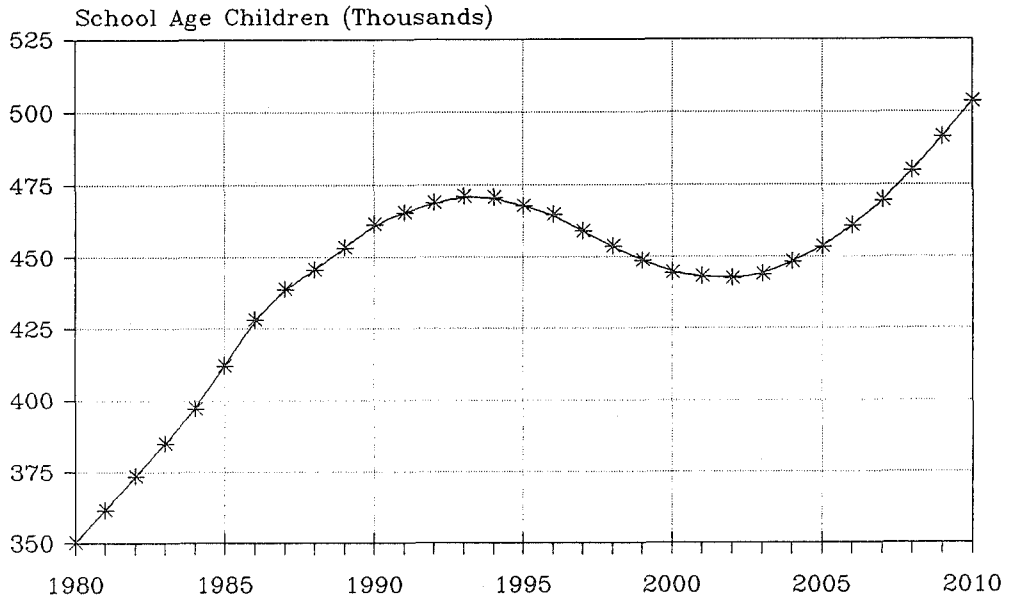
Table 43 and Figure 28 present school age population (ages 5 through 17) growth. Although school age population is still increasing, it is expected to grow at an average of 1.5 percent per year from 1987 through 1993. This is substantially slower than the 3.2 percent annual rate of growth experienced from 1980 to 1987. The decline in fertility rates the age structure of women in the childbearing years and the recent out-migration are responsible for the slowdown in the growth of the school age population. After 1993, there are nine consecutive years that are expected to show an actual decline in the school age population. In 2003 growth resumes, as a new demographic cycle begins when larger age cohorts of women enter the childbearing years. Over the 23 year period (1987-2010), school age population is projected to increase by over 72,000 children, an increase of 17 percent.

Employment

As mentioned earlier, employment growth has slowed considerably during the past few years. However, job growth is not anticipated to be as slow throughout this entire period. Total jobs are projected to increase by an average of 2.5 percent a year between 1988 and 1990. Between 1988 and the year 2010 jobs are expected to grow by 2.1 percent per year, while the national rate of growth is projected to be 1.5 percent. Table 45 shows total employment from 1987 to 2010.

Table 45 and Figure 29 show the changes in the industrial structure projected for Utah's job market. Agriculture, mining, and government are projected to decline as percents of total state employment. The wholesale and retail trade and services sectors are expected to increase their proportions of total Utah jobs. The other sectors remain relatively constant as percents of the state totals. The more specific industries (2-digit

Figure 28
School Age Population (Ages 5-17)



Source: Utah State Office of Planning and Budget

SIC code) which are projected to have the fastest growth rates are:

machinery and electronic equipment
air transportation
transportation services
hotels and lodging
business services
health services.

The overall pattern appears to be one of slight movement away from the state's traditional dependence on natural resource extraction, heavy manufacturing and government toward services and trade as driving sectors in the Utah economy.

Long Term Projection Summary and National Comparisons

The following is a summary of the long term projections for Utah relative to the rest of the nation:

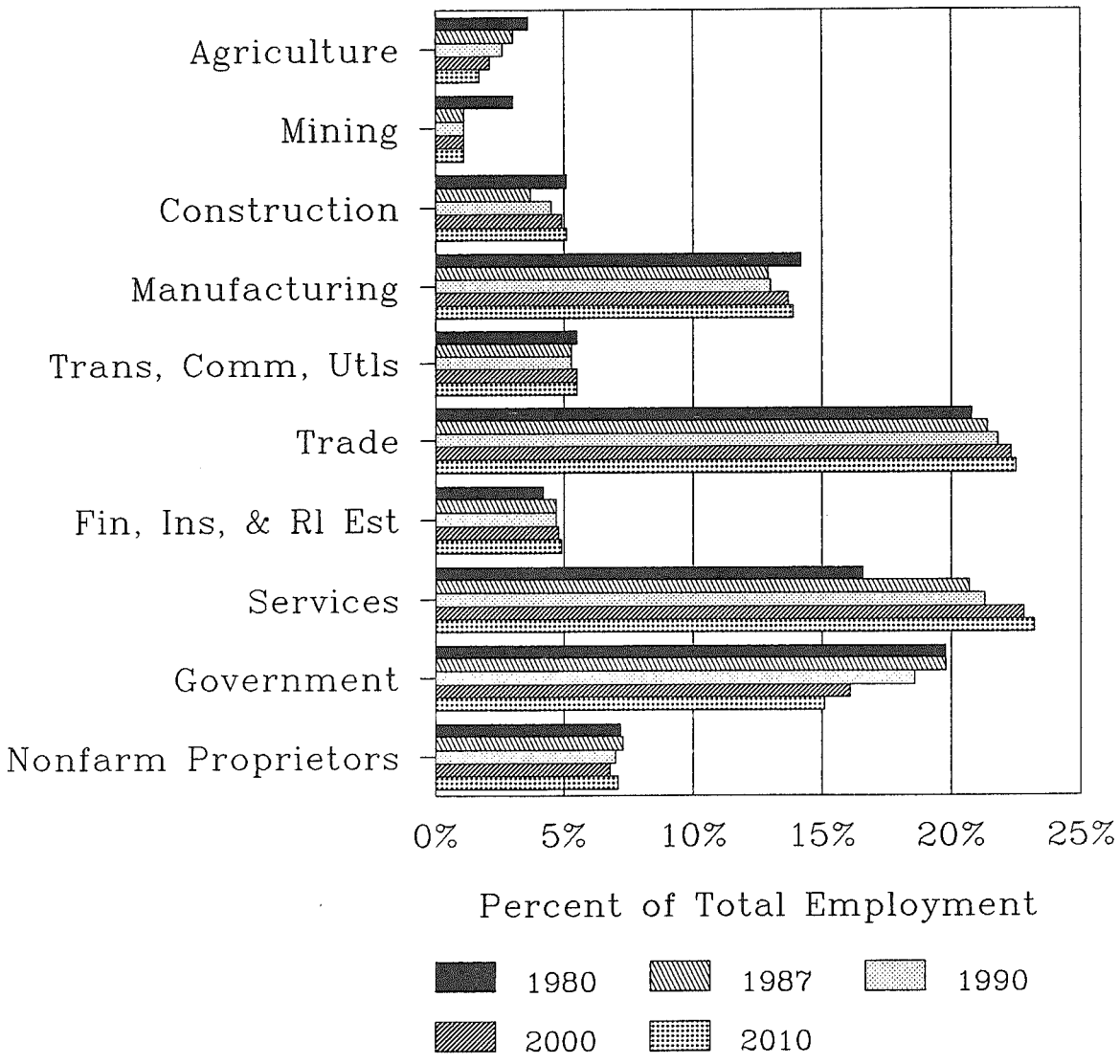
The total fertility rate of Utah women will continue to decline through 1990, and then stabilize at approximately 2.5 average births per woman throughout her childbearing years. Total fertility rates nationally are projected to remain in the 1.8 to 1.9 range.

Due to lower fertility and lower economic growth, the projected rates of population and employment growth are not only lower than previous projections but significantly lower than growth rates of some earlier decades.

Projected rates of growth in Utah are higher than the rest of the nation. Utah is projected to have a 1.7 percent rate of growth between now and 2010 while the nation is projected to grow at 0.7 percent over the same period.

Utah's population projections indicate that the state would be the ninth fastest growing state in the

Figure 29
Utah Employment by Industry for Selected Years



Source: State Office of Planning and Budget

U.S. during the decade of the 1980's and the eight fastest growing state in the 1990's.

Utah ranked thirty-sixth among all 50 states in population in 1980 and is expected to rise to thirty fourth place by the year 2000.

Utah is projected to continue to have the youngest population in the nation. Utah's median age in the year 2010 is projected to be 30.5 years while the nation's median age is projected to be 39.0 years. In fact the age differences between Utah and the U.S. actually increase over the next two decades (See Table 46).

Utah school age population will continue to grow over the next five years. It will then peak and begin to decline until the year 2003 when it begins to increase again. The temporary decline in school age population is primarily due to Utah's declining fertility rate. However, Utah will still have an 17 percent increase in school age population during the period 1987-2010, while the national growth rate will be less than 1 percent.

Utah's labor force will see periods of rapid increase over the next two decades. Utah will continue to have the youngest labor force in the nation. Nationally, labor shortages are occurring now in many parts of the U.S. and will be more prevalent in the future.

Labor force participation rates of women are projected to increase 11 percent or to 64 percent of all women 18 to 64 years of age. This also means an increased proportion of the labor force will be made up of women.

The current out-migration is not expected to continue every year for the next two decades. However, the large increase in the labor force will create periods of some out-migration in Utah's future unless job growth is larger than has been historically experienced.

Implications of the Projections

As has been discussed, the major growth industries of the future are not the traditional natural resource based industries, nor is it likely that energy and synthetic fuels in particular and raw materials in general will be a major source of growth and new wealth creation in this state during the decade of the 1990's. What does that mean for the economic future of Utah? In several places in this report Utah's very unique demographic characteristics have been cited. It is important to understand the future implications of Utah's unique demography. As the projections have shown, regardless of whether the economy has a recession or the energy industry is depressed, Utah currently has and will continue to have a large percentage of its population of school age. Eventually these school age children will enter the labor force.

Currently, however, Utah is experiencing difficulty on both ends of the pipeline. First, children are entering school on the lower side of the pipeline causing funding problems. Second, for those coming out of the upper end of the pipeline there are not enough jobs. The result is out-migration. Out-migration is problematic because it means the state does not receive the full benefits of its investment in education. The out-migration occurs as the existing demographic patterns crash with a slower growing economy.

Even though Utah may not now be reaping all of the benefits of its unique demographic characteristics, Utah's major competitive advantage for the decade of the 1990's and beyond is the state's human resources. Utah has an opportunity, a unique opportunity, to look at human resources as a way to generate wealth for the decade of the 1990's.

The world has marveled at how Japan has recovered from its devastation of World War II. In less than 40 years this tiny island nation with very few natural resources has become an economic giant. Most scholars agree that Japan has prospered because of a highly educated workforce. Instead of exporting raw materials, Japan imports raw materials and exports high quality finished goods.

The experiences of Japan are indeed relevant in Utah today. First, by the middle of the 1990's, Utah will be one of only a few states in this country that will have a growing labor force from an indigenous population. Nationwide, the labor force shortages occur because the birthrate in the nation is below the replacement level. Consequently, in many places of the country there are shortages of trained workers to fill available jobs. In order to establish a human resource based economy, the availability of workers is of critical importance.

Second, Utah has had educational standards and achievements near the top in the nation. It is clearly evident in Utah's past, that the state has made a commitment to education.

Third, although there is little empirical data, Utah has produced a labor force that is more productive than the typical labor force in the U.S. Some of the best evidence to illustrate this is in the testimony of some recent companies that have moved to Utah. Companies like McDonell-Douglas, Fidelity Investments, American Express and others have testified on the productivity of the Utah labor force. McDonell-Douglas claims a 25 percent increase in productivity relative to its Long Beach plant in California. American Express states its Utah office is 30 percent more productive than its other offices nationally.

Some additional factors mentioned elsewhere in this report support Utah's comparative advantages in human resources: 1) Utah wage rates are lower than other major areas around the country (from a manufacturing point of view in terms of finding a place where you can produce at the lowest unit cost of production this is an important factor); 2) currently, leases in Salt Lake City can be obtained to provide relatively cheap occupancy expense relative to other parts of the country. There are numerous things that combine to suggest that Utah could exploit its human capital competitive advantage in a way that could literally make a noticeable differential versus the manufacturing opportunities in Denver, Phoenix and certainly in California.

Therefore, Utah's challenge for the 1990's is to build upon and develop the competitive advantages which the state has, to some degree, because of its unique demographic characteristics. Education is the key to developing this resource and is therefore the key to prosperity. This conclusion is supported by simply examining the prosperous areas in this nation. Some of these prosperous areas include a region centered around Boston where great universities like MIT and Harvard exist; a region centered down in the southeastern United States in a triangle with Duke, and other good universities; and Stanford and Berkley in California. For Utah to find this type of prosperity it must not only have the educated labor force, but the labor force must be better than average. If they are, then Utah can have the opportunity for a significant growth in wealth in the decade of the 1990's.

Also important in the development of this human resource is a conducive environment for starting new export businesses. Essentially, people live in a particular area and begin to congregate there because there is something in that area that can be exported outside the region. Export activity is enhanced in areas that have significantly higher productivity, higher average education of the work force, stronger commitment to a work ethic, lower wages, lower occupancy costs and lower business taxes. Utah rates well in all of these areas.

Related to the development of export business is the development of import replacement or sometimes called import substitution. It's one thing to build something in Utah and take it to California and be able to sell it cheaper than California produced products. However, how do you explain something built in California, paying the transportation to get it here and selling it cheaper than Utah produced products? How can California import and sell to Utah and do it cheaper and better than what Utahns could do for themselves? The point is, as the Utah market gets bigger the state should be able to produce goods relatively cheaper than goods imported from elsewhere. This whole idea of import replacement has been developed by quite a few economists relating to urban and regional development.

If in fact the decade of the 1990's is not going to be the decade of natural resource wealth creation in Utah — again, there are a number of reasonably good factors which suggest this is the case based on the trends of the world right now — Utah must not lose the opportunity to maintain a competitive advantage in human resources. That is the one area that Utah can and should create wealth in the decade of the 1990's. However, in

order to leverage this comparative advantage, the state must develop the resource with educational excellence and be wise in putting the resource to good use.

TABLE 42

UTAH ECONOMIC AND DEMOGRAPHIC SUMMARY

1987 TO 2010

Year	Population	Annual % Change	School Age Population	Annual % Change	Total Employment	Annual % Change	Total W and S Employment	Annual % Change	Households	Annual % Change	Average Households Size
1987	1,680,000	----	432,000	----	714,000	----	640,000	----	539,000	----	3.12
1988	1,711,000	1.8%	445,000	3.0%	743,000	4.1%	667,000	4.2%	550,000	2.0%	3.11
1989	1,739,000	1.6%	453,000	1.8%	761,000	2.4%	685,000	2.7%	562,000	2.2%	3.09
1990	1,767,000	1.6%	462,000	2.0%	781,000	2.6%	706,000	2.9%	576,000	2.5%	3.07
1991	1,792,000	1.4%	465,000	0.6%	799,000	2.3%	722,000	2.4%	588,000	2.1%	3.05
1992	1,819,000	1.5%	469,000	0.9%	819,000	2.5%	741,000	2.6%	600,000	2.0%	3.03
1993	1,844,000	1.4%	471,000	0.4%	839,000	2.4%	759,000	2.4%	612,000	2.0%	3.01
1994	1,871,000	1.5%	471,000	0.0%	859,000	2.4%	779,000	2.6%	625,000	2.1%	2.99
1995	1,893,000	1.2%	468,000	-0.6%	877,000	2.1%	798,000	2.3%	637,000	1.9%	2.97
1996	1,910,000	0.9%	465,000	-0.6%	892,000	1.7%	811,000	1.8%	647,000	1.6%	2.95
1997	1,927,000	0.9%	459,000	-1.3%	908,000	1.8%	826,000	1.8%	658,000	1.7%	2.93
1998	1,950,000	1.2%	454,000	-1.1%	926,000	2.0%	842,000	1.9%	670,000	1.8%	2.91
1999	1,976,000	1.3%	449,000	-1.1%	945,000	2.1%	860,000	2.1%	684,000	2.1%	2.89
2000	2,003,000	1.4%	445,000	-0.9%	963,000	1.9%	878,000	2.0%	698,000	2.0%	2.87
2001	2,033,000	1.5%	444,000	-0.2%	983,000	2.1%	894,000	1.9%	713,000	2.1%	2.85
2002	2,064,000	1.5%	443,000	-0.2%	1,002,000	1.9%	912,000	2.0%	729,000	2.2%	2.83
2003	2,100,000	1.7%	444,000	0.2%	1,023,000	2.1%	931,000	2.1%	745,000	2.2%	2.82
2004	2,140,000	1.9%	448,000	0.9%	1,045,000	2.2%	952,000	2.3%	763,000	2.4%	2.80
2005	2,180,000	1.9%	454,000	1.3%	1,067,000	2.1%	972,000	2.1%	781,000	2.4%	2.79
2006	2,225,000	2.1%	461,000	1.5%	1,089,000	2.1%	992,000	2.1%	801,000	2.6%	2.78
2007	2,273,000	2.2%	469,000	1.7%	1,111,000	2.0%	1,013,000	2.1%	820,000	2.4%	2.77
2008	2,327,000	2.4%	480,000	2.3%	1,136,000	2.3%	1,036,000	2.3%	843,000	2.8%	2.75
2009	2,384,000	2.4%	491,000	2.3%	1,162,000	2.3%	1,060,000	2.3%	865,000	2.6%	2.75
2010	2,442,000	2.4%	504,000	2.6%	1,189,000	2.3%	1,084,000	2.3%	889,000	2.8%	2.75

Note: These projections were developed before the final 1987 population and employment estimates were available. For this reason the short-term projections may seem unrealistically high. These projections are intended to provide a long-term perspective which is relatively unaffected by the level at which they begin. The 1988 population estimate is 1,695,000. More reliable short-term projections for 1989 are 1,717,000 for population and 675,300 for wage and salary employment and for 1990, 1,741,000 for population and 691,000 for wage and salary employment.

Source: Utah Office of Planning and Budget, UPED Model.

TABLE 43

UTAH PROJECTED POPULATION BY AGE GROUP

FOR SELECTED YEARS
1980 TO 2010

	1980	1986	1990	1995	2000	2005	2010
0-4	191,000	189,000	171,000	172,000	182,000	203,000	228,000
5-17	354,000	432,000	462,000	468,000	445,000	454,000	504,000
18-29	354,000	352,000	345,000	364,000	411,000	453,000	469,000
30-39	188,000	249,000	271,000	279,000	264,000	279,000	349,000
40-64	277,000	311,000	350,000	420,000	497,000	570,000	643,000
65+	110,000	147,000	168,000	190,000	204,000	221,000	249,000
Total	1,474,000	1,680,000	1,767,000	1,893,000	2,003,000	2,180,000	2,442,000

POPULATION BY AGE AS A PERCENT OF TOTAL

	1980	1987	1990	1995	2000	2005	2010
0-4	13.0%	11.3%	9.7%	9.1%	9.1%	9.3%	9.3%
5-17	24.0%	25.7%	26.1%	24.7%	22.2%	20.8%	20.6%
18-29	24.0%	21.0%	19.5%	19.2%	20.5%	20.8%	19.2%
30-39	12.8%	14.8%	15.3%	14.7%	13.2%	12.8%	14.3%
40-64	18.8%	18.5%	19.8%	22.2%	24.8%	26.1%	26.3%
65+	7.5%	8.8%	9.5%	10.0%	10.2%	10.1%	10.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: These projections were developed before the final 1987 population and employment estimates were available. For this reason the short term projections may seen unrealistically high. These projections are intended to provide a long-term perspective which is relatively unaffected by the level at which they begin. A more reliable short-term population projection for 1990 is 1,741,000.

Source: Utah Office of Planning and Budget, UPED Model.

TABLE 44

UTAH PROVISIONAL POPULATION PROJECTIONS

SELECTED YEARS

1980 TO 2010

COUNTY	1980	1985	1988p	1990	1995	2000	2005	2010	Annual % Change 1980-2010
Bear River MCD	93,350	105,400	110,450	112,800	119,400	124,900	135,200	150,300	1.6%
Box Elder	33,500	36,600	38,000	38,900	40,600	41,900	44,800	49,400	1.3%
Cache	57,700	66,700	70,600	71,800	76,600	80,600	87,800	98,100	1.8%
Rich	2,150	2,100	1,850	2,100	2,200	2,400	2,600	2,800	0.9%
Wasatch Front MCD	949,150	1,047,750	1,080,500	1,138,700	1,242,500	1,332,000	1,463,200	1,628,100	1.8%
Davis	148,000	170,000	184,000	194,000	217,000	238,000	266,000	300,000	2.4%
Morgan	4,950	5,450	5,700	5,950	6,450	6,950	8,050	9,200	2.1%
Salt Lake	625,000	689,000	705,000	747,000	813,000	869,000	954,000	1,062,000	1.8%
Tooele	26,200	28,300	27,800	29,800	32,500	34,700	38,100	42,300	1.6%
Weber	145,000	155,000	158,000	162,000	174,000	184,000	197,000	215,000	1.3%
Mountainland MCD	239,050	271,600	285,200	287,700	295,600	304,300	317,700	369,100	1.5%
Summit	10,400	12,400	13,400	13,600	14,000	14,400	15,300	18,100	1.9%
Utah	220,000	250,000	262,000	264,000	271,000	280,000	292,000	339,000	1.5%
Wasatch	8,650	9,200	9,800	10,100	10,300	10,400	10,700	12,400	1.2%
Central MCD	47,600	57,200	54,850	53,200	55,350	55,850	59,550	64,950	1.0%
Juab	5,550	6,250	5,700	5,900	6,150	6,150	6,550	7,200	0.9%
Millard	9,050	14,200	12,900	11,000	11,400	11,600	12,000	12,900	1.2%
Piute	1,350	1,550	1,550	1,550	1,600	1,600	1,650	1,700	0.8%
Sanpete	14,800	16,900	16,700	16,600	17,300	17,400	18,800	20,700	1.1%
Sevier	14,900	16,200	15,900	16,000	16,700	16,900	18,200	19,900	1.0%
Wayne	1,950	2,100	2,100	2,150	2,200	2,200	2,350	2,550	0.9%
Southwest MCD	56,050	68,900	75,950	80,900	84,800	88,800	97,900	109,700	2.3%
Beaver	4,400	5,050	4,800	5,200	5,400	5,500	5,750	6,200	1.1%
Garfield	3,700	4,050	4,050	4,250	4,300	4,350	4,500	4,850	0.9%
Iron	17,500	19,400	19,200	20,900	21,600	22,400	24,000	26,300	1.4%
Kane	4,050	4,700	4,900	5,250	5,500	5,750	6,250	6,950	1.8%
Washington	26,400	35,700	43,000	45,300	48,000	50,800	57,400	65,400	3.1%
Uintah Basin MCD	34,150	39,400	35,300	39,300	40,300	42,100	47,300	54,100	1.5%
Daggett	750	700	700	700	700	700	800	800	0.2%
Duchesne	12,700	14,700	13,100	14,800	15,200	15,900	17,900	20,500	1.6%
Uintah	20,700	24,000	21,500	23,800	24,400	25,500	28,600	32,800	1.5%
Southeast MCD	54,650	54,750	52,750	54,950	54,750	54,650	59,050	65,600	0.6%
Carbon	22,400	23,400	22,000	23,300	23,200	23,000	25,000	28,000	0.7%
Emery	11,600	11,800	11,300	11,900	11,800	11,800	12,700	14,000	0.6%
Grand	8,250	7,050	6,550	6,950	6,950	6,950	7,700	8,700	0.2%
San Juan	12,400	12,500	12,900	12,800	12,800	12,800	13,700	15,000	0.6%
TOTAL*	1,474,000	1,645,000	1,695,000	1,767,000	1,893,000	2,003,000	2,180,000	2,442,000	1.7%

* May not add due to rounding
p=Preliminary

Note: These projections were developed before the final 1987 population and employment estimates were available. For this reason the short term projection may seem unrealistically high. These projections are intended to provide a long-term perspective which is relatively unaffected by the level at which they begin. A more reliable short-term population projection for 1990 is 1,741,000.

Source: 1980-1988, Utah Population Estimates Committee,
1990-2010, Utah Office of Planning and Budget, UPED Model.

TABLE 45
UTAH INDUSTRY EMPLOYMENT PROJECTIONS
SELECTED YEARS
1980 TO 2010

	1980	% of Total Employ.	1987	% of Total Employ.	1990	% of Total Employ.	2000	% of Total Employ.	2010	% of Total Employ.
Agriculture	21,966	3.6%	21,432	3.0%	20,331	2.6%	20,276	2.1%	20,307	1.7%
Mining	18,500	3.0%	7,997	1.1%	8,773	1.1%	10,495	1.1%	12,827	1.1%
Construction	31,549	5.1%	26,676	3.7%	35,229	4.5%	46,889	4.9%	60,308	5.1%
Manufacturing	87,700	14.2%	92,456	12.9%	101,798	13.0%	131,575	13.7%	164,802	13.9%
TCPU	34,120	5.5%	37,890	5.3%	41,766	5.3%	52,871	5.5%	65,403	5.5%
Trade	128,678	20.8%	152,550	21.4%	170,266	21.8%	214,561	22.3%	267,120	22.5%
FIRE	25,768	4.2%	33,751	4.7%	36,859	4.7%	46,279	4.8%	58,048	4.9%
Services	102,232	16.6%	147,489	20.7%	166,606	21.3%	220,009	22.8%	275,540	23.2%
Government	122,240	19.8%	141,489	19.8%	145,209	18.6%	155,122	16.1%	179,553	15.1%
Nonfarm Proprietor	44,626	7.2%	52,473	7.3%	54,870	7.0%	65,419	6.8%	84,572	7.1%
Total W & S	550,787		640,298		706,506		877,801		1,083,601	
Total Employment	617,379		714,203		781,707		963,496		1,188,480	

Note: These projections were developed before the final 1987 population and employment estimates were available. For this reason the short-term projections may seen unrealistically high. These projections are intended to provide a long-term perspective which is relatively unaffected by the level at which they begin. A more reliable short-term wage and salary employment projection for 1990 is 691,000.

Source: Utah Office of Planning and Budget, UPED Model.

TABLE 46
UTAH AND U.S. MEDIAN AGE
SELECTED YEARS
1980 TO 2010

Year	Utah	U.S.
1980	24.2	30.0
1987	25.7	32.1
1990	26.7	33.0
1995	27.7	34.8
2000	28.7	36.5
2005	29.4	37.9
2010	30.5	39.0

Source: U.S. Bureau of the Census,
Utah Office of Planning and Budget, UPED Model.

CRITICAL INDUSTRY ANALYSIS

HIGH TECHNOLOGY ACTIVITY IN UTAH

With activities ranging from aerospace systems design to applications software development, Utah has been labeled an "aspiring high tech mecca." Over the past decade, the number of technology-oriented firms doing business in Utah has increased significantly. This has created new employment opportunities and broadened the state's economic base.

The Definition of High Technology

The term "high technology" has been defined as "technology-driven companies that devote a large amount of resources to product development, plow much of their earnings into R&D and have substantial numbers of scientific and technical people (see "The Quest for High Tech Plant Sites", Chemical Week, December 12, 1984, pp. 68-74)." For the most part, technology-based firms are manufacturing firms. They spend more on R&D and employ a greater percentage of technically-oriented people than their low-tech counterparts.

The Importance of High Technology

Technology is a driving force in the economy. For much of the past decade, high tech firms have displaced traditional manufacturing firms as the new job creators. Opinions vary as to the exact role high tech firms play in this process. The Bureau of Labor Statistics estimated in 1985 that the high tech sector accounted for as much as 17 percent of new jobs created in that year. Technology-driven enterprises also create jobs in smaller businesses in the low technology sector. This is accomplished through innovative activity spawned by the primary and secondary impacts of technology in the traditional business sector (see "Capital Ideas", National Governors' Association's Center for Policy Research, July 1985, pp 1-8).

High tech keeps U.S. firms competitive. R&D spending is a critical component in defining a high tech firm. It is also crucial in helping U.S. companies maintain a competitive edge. Every industrialized nation in the world recognized that success in global markets depends upon developing a technological advantage in the sciences and technological fields (see "The Good News About U.S. R&D", Fortune Magazine, February 1, 1988, pp. 48-56). Unlike many of the manufacturing firms of just 25 years ago, the development and implementation of innovative processes is the lifeblood of the technology industries.

Locally, high tech is important to Utah for similar reasons. Utah has suffered from the effects of broad economic trends that are beyond the control of state officials. While high tech is certainly not a panacea for all economic ailments, high tech firms appear to be creating new jobs more quickly than low-tech firms. Successful high tech companies also serve as role models for budding entrepreneurs, often providing the impetus behind the formation of new technology-oriented businesses.

High Technology in Utah

According to a survey of Utah's high tech firms completed by the Bureau of Economic and Business Research (BEBR) in 1988, Utah is home for approximately 267 technology firms. These are entities that spend a least 3.1 percent of their revenues for R&D and new product development, and have a proportion of technology-oriented workers that is greater than 6.3 percent of the labor force. (Both of these conditions must be met before a company can be accurately defined as high tech.)

In 1987, the typical Utah high tech firm is a home-grown, bootstrapped, privately-held company with less than 50 employees; sales of $1.1 million and R&D expenditures of about $260,000. There is one chance in three it is a software company that has been in business less than five years.

Characteristics of Utah's High Tech Firms

Approximately 82 percent of the 267 high tech companies are privately-held. With few exceptions,

Utah's high tech companies have been "home-grown", that is, they were initially founded by Utah entrepreneurs even though some have since been purchased by large, non-Utah companies. The vast majority of these home-grown companies were either "bootstrapped" (funded by the owners), or received money from private investors (mainly friends and family members).

Not surprisingly, few of Utah's high tech firms are branch operations (only 17 companies). R&D activities are a vital factor in a company's business strategy and are generally conducted at headquarters, not in remote branches or divisions. However, those branch operations that are located in Utah and that do perform research are sizable in terms of employment, sales, and R&D expenditures.

More than half of the 267 firms did not exist before 1980 — 36 percent have been established within the past five years. Salt Lake City (with 115 firms) and the Provo/Orem area (with 49) have the largest high tech agglomerations.

Employment in the high tech sector reached 34,214 in 1987. Almost 11,500 were classified as scientific or technical employees (scientists, engineers, computer programmers, or engineering technicians with at least a two-year degree). These firms generated $3.1 billion in sales and spent $632 million on R&D and product development.

Utah's high tech firms are a volatile group. Since the first survey of Utah's high tech sectors was undertaken in 1987, 24 companies have either gone out of business or moved out-of-state. Another 16 either merged with an existing company, or are currently doing business under a different name. A few have given up on high tech all together and are simply production facilities.

Growth in High Tech

In terms of new firm creation, no single category has seen as much activity as the software sector. Software development companies account for 47 percent of high tech firms created since 1986. This is not surprising since the barriers to entry in the software field are extremely low and the potential profits are extremely high. However, it is also a field that is rapidly maturing, becoming dominated by a few large software houses. Unless a start-up company is able to address the needs of a niche market, the chances of survival are slight.

Geographically, Salt Lake City and the Provo/Orem area have experienced the greatest growth in the formation of new firms over the past six years. This tendency reinforces the agglomeration theory, that is, firms are attracted to areas that have a critical mass, or agglomeration of similar companies. Companies want to locate in areas that have educated workers, excellent universities, and entrepreneurial climates. Given this, these two spots will likely continue as the top choices in Utah for high tech firms in the future.

Most of Utah's high tech companies fit into one of the following research categories: Software/ Systems, Biomedical/Medical; Computer Equipment; Electronic Equipment; Chemicals/Pharmaceuticals/ Drugs; Communications Equipment; Aerospace Equipment/Systems; Laser/Optics; Analytical/Measuring Instruments; and Composite Materials. The characteristics of each category are shown in Table 47.

The Critical Sectors

Although each high tech firm is significant in its own right, certain research sectors play a more influential role in the economic well-being of the state. Therefore, those sectors with sales exceeding $100 million are discussed in greater detail.

These research sectors share a common characteristic. In every sector reporting sales of more that $100 million, one or two companies account for the bulk of that sector's employment and sales contribution would be greatly reduced.

Software/Systems — Software development firms accounted for 36 percent of all high tech activity in Utah. The most notable companies, in terms of employment and sales, are WordPerfect Corporation and Novell, Inc. — both located in the Provo/Orem area.

In 1987 one-third of Utah's high tech companies were classified as software companies, but in 1987 they accounted for just 12 percent of total high tech employment, or 4,273 employees. Novell, Inc. and WordPerfect Corporation employed a total of 2,000 people, underscoring the relative size of the remaining software firms; many employ less that 10 people. Of the 17 companies founded since 1986, eight have been software firms. Correspondingly, of the 20 high tech companies that have gone out of business within the past year, 30 percent were software developers.

Computer Equipment — In 1987, 35 firms employing 4,179 people, were engaged in the design and development of computer equipment and systems. Sales for this research sector totaled almost $350 million with corresponding R&D expenditures of $57 million. Evans & Sutherland Corporation, with 1,350 people and sales of $134.4 million, accounted for more than 35 percent of the total economic activity in this sector.

Electronic Equipment — Electronic equipment manufacturers generated $217 million in sales in 1987 and spent close to 10 million in product development. Firms classified as electronics equipment manufacturers include those companies that design test equipment, power devices, materials handling equipment, electronic components, and microelectronics. Employment totaled 3,170. National Semiconductor (a branch operation of National Semiconductor in Santa Clara, California) employed about 38 percent of the total. Although the company does not actually sell product from its Utah operation the value of the product shipped (included as part of the sales figure) accounted for 29 percent of the total.

Communications Equipment — Total employment in high tech communications equipment manufacturing reached 4,114 in 1987. Sales exceeded $518 million and R&D expenditures were $65 million. The largest single employer in this research sector was Unisys Corporation with 3,244 people and sales of $448 million which accounted for 86 percent of the revenue activity. The remaining companies in this sector are extremely small.

Aerospace Equipment/Systems — Although there are only six high tech aerospace equipment and systems companies in Utah, they accounted for 45 percent of total reported sales by high tech firms and 40 percent of all equipment. Product development expenditures by these firms include not only research and development, but testing and evaluation as well, since it is difficult to break out each component separately. This explains why the R&D expenditures in the sector are considerable when compared with those of other sectors.

The two largest firms in this sector are defense contractors — Morton Thiokol, Inc. and Hercules, Inc. — both headquartered out-of-state but performing R&D in Utah. With sales in excess of $1.4 billion and employment of 13,176, these two firms dominate the sector.

The Future of High Tech

In every sense, high technology will continue to be the wave of the future. However, recent events may affect the degree to which high technology can continue to expand. One of the most important issues facing high tech firms is the availability of venture or "risk" capital.

The issue of capital availability (or lack of it) is not limited to high tech companies; however, the source of that capital, in a broad sense, is much more so. Venture or "risk" capital has played an important role in shaping the future of technology. The decisions made by venture investors very literally determine which technologies will be developed and commercialized and which will fall by the wayside. In return for capital, venture investors take an equity position in the firm and expect to recoup the money when the company becomes publicly-traded. Therefore, the purse-strings of venture capital and the health of the stock market are closely linked. A depressed market dims the promise of a big pay-off, and discourages investing in companies

that require significant investments over time. In this scenario, firms that are capital intensive, i.e., computer hardware and electronics equipment manufacturers, will find it difficult to find the money they need.

Computer hardware firms are not the only ones to have suffered setbacks. Biotechnology and medical research companies have been dealt a double-blow. Many of these businesses develop drugs using genetic engineering techniques. Development costs can easily exceed millions of dollars. The carrot for the investor is a patentable product and a monopoly on the market. However, the FDA, with its stringent requirements, has been reluctant to approve these drugs and the courts have denied broad-based patents for the products. Further complicating the picture are questions regarding the morality of genetic engineering. Facing such hurdles, venture capitalists may shy away from biotech investments in the future.

Locally, venture capital money is scarce because Utah's venture industry is young. While Utah does have two venture investors, the combined capital under management at these firms is less than $10 million. These firms do not have the resources to make even mid-range investments that are needed by rapidly growing firms. Another problem encountered by Utah's high tech firms when they look for venture capital is the management issue. One of the deciding factors in a venture group's decision is the capability of the company's management team. The strength of this team will determine the amount of time, money and energy that venture investors must spend in order to safeguard the investment. Many high tech firms cannot attract the level of management that is necessary to make an investment in the firms profitable for the investor.

With all of potential problems, has the high tech sector lost its status? Hardly. Innovation will continue to change the way people live and work. It will continue to fuel the economy at every level. In this context, the economic future of Utah is dependent upon the formation and growth of high tech companies that can create quality job opportunities for Utah residents.

Utah's Efforts in Fostering High Tech

Realizing the value high tech companies add to the economy, state officials have taken an active role in developing programs to foster innovation and encourage the formation of technology firms. Two programs in particular have been especially effective — Utah Technology Finance Corporation and the Centers of Excellence Program.

Utah Technology Finance Corporation (UTFC) — UTFC is a state-chartered, non-profit organization established in 1983 to encourage high-growth, technology-based businesses in Utah. To help entrepreneurs secure initial funding, UTFC established the Utah Small Business Innovation Program (SBIP). Under the auspices of SBIP, small companies which show significant commercial success and growth can receive between $30,000 and $50,000. UTFC does not charge interest on these funds; rather, it takes a royalty position of 3 percent on sales that result from a successful product developed with the funding. UTFC has provided a total of $2.2 million to 44 different high tech firms in Utah.

Centers of Excellence Program (COEP) — Modeled after the National Science Foundation's University-Industry Cooperative Research Centers program, COEP provides matching funds for interdisciplinary applied R&D programs. COEP has three goals: (1) To accelerate the growth of targeted technologies by catalyzing interdisciplinary research activities within Utah's college and universities; (2) To stimulate and assist the translation of research product from university laboratories to Utah's economy; and (3) To enhance the image of the state as a center of technology-based industry

COEP has been extremely successful in attracting research dollars to Utah. The $5.6 million funded for the program in over the past two years has created $156 million of research support. While COEP does not invest directly in Utah high tech companies, it greatly strengthens the development of programs with commercial potential and its existence sends out a message to private industry that universities and colleges in the state are actively pursuing university/industry linkages.

Utah Innovation Foundation (UIF) — This organization is dedicated to the development of industry in

Utah by encouraging innovation and entrepreneurship. The group sponsors conferences, seminars, and workshops to help the Utah entrepreneur. It also provides a network of contacts for recruiting venture capitalists who are interested in advanced technology. One on-going activity that has been especially successful is the Venture Capital Conference sponsored by UIF that brings promising high growth companies together with potential investors.

TABLE 47
RESEARCH SECTORS FOR UTAH'S HIGH TECH COMPANIES
1987

	Firms	Privately Held	Total Employment	Technical Employment	Sales	R&D Spending
Software/Systems	97	87	4,273	1,996	$462,510,298	$43,405,176
Biomedical/Medical	36	26	3,142	553	$99,836,936	$11,507,048
Computer Equipment	35	27	4,179	649	$349,570,621	$56,708,000
Electronic Equipment	26	21	3,170	785	$217,527,835	$8,987,257
Communications Equipment	18	11	4,114	1,173	$518,621,564	$65,332,449
Chemicals/Pharmaceuticals/Drugs	17	15	297	142	$11,066,000	$2,704,000
Aerospace Equipment/Systems	6	4	13,886	5,472	$1,416,537,000	$425,036,000
Analytical/Measuring/Instruments	6	6	155	66	$9,390,000	$1,615,000
Laser/Optics	6	4	277	96	$20,950,000	$800,000
Composite Materials	6	5	168	84	$10,997,900	$3,130,000
Other*	14	13	553	476	$42,950,000	$13,332,000
Total	267	219	34,214	11,492	$3,159,958,154	$632,556,930

* Includes robotics, R&D laboratories, plant genetics, and energy research. These sectors have less than five firms, to avoid disclosing firm-specific information, the totals have been combined into this category.

Note: In some instances the R&D spending level indicated here is not above the 3.1% minimum. Some companies would not provide their R&D spending, but rather indicated their R&D expenses as a percentage of sales.

Source: Bureau of Business and Economic Research.

DEFENSE AND SPACE ACTIVITY IN THE UTAH ECONOMY

Federal spending on defense and space programs continues to account for a substantial portion of Utah's economy, though at a slightly smaller level than last year. During fiscal 1987, direct federal expenditures in Utah for defense programs alone were equivalent to 12 percent of total Utah personal income. Expenditures of this size directly affect all major economic sectors of the state.

On the national level, annual increases in defense spending have dropped from the double-digit figures of the early 1980's to an increase of about 3 percent between fiscal years 1986 and 1987. In the early 1980's in Utah experienced a continuous growth in the state's share of federal defense spending. Between 1986 and 1987, however, defense and space spending in Utah fell for the first time in the decade. Nearly all of the 12 percent decline can be attributed to reductions in Department of Defense (DOD) and National Aeronautics and Space Administration (NASA) contracts awarded to Utah businesses — a reflection of the relative volatility found in the awarding of defense and space contracts.

DOD Contract Awards

Federal defense contract data, applying to contract awards above $25,000, are available at the state level. The data confirm the most significant shifts in defense spending occurring in Utah have come from Department of Defense contracts with private sector firms. From fiscal year 1985 to 1986 Defense Department contracts with Utah firms rose by more than 50 percent to $1,689 million. Since 1986, they have declined to $1,344 million — a decrease of more that 20 percent (see Figure 30).

Table 48 shows total Department of Defense contracts over $25,000 awarded to each of the 50 states for fiscal year 1987. These data show that Utah ranks twenty-sixth among the states in the dollar amount of DOD contracts and nineteenth on a per capita basis. Table 49 shows the top 50 Utah-based firms with the largest total contracts during fiscal year 1987. These numbers, however, do not indicate whether the work was actually performed in Utah. More than 650 Utah firms had contracts with the Department of Defense in 1987. This is a substantial increase from the year before, and demonstrates the Defense Department's recent tendency to grant a greater number of smaller-sized contracts to Utah firms. Table 50 shows the top 50 firms actually performing DOD contracts in Utah. Many of these firms are based outside the state, but have Utah divisions.

Table 51 details Defense contract awards in Utah by county. While contract awards in Box Elder county more than doubled between 1986 and 1987, the increase was more than offset by substantial reductions in awards to nearly every other county. Box Elder's increase in awards, coupled with Salt Lake county's 46 percent decrease, effectively pushed Box Elder county from third to first position among Utah counties with firms receiving defense related contracts. Box Elder county's good fortune is related entirely to Air Force and Navy contracts to Morton-Thiokol, Inc.

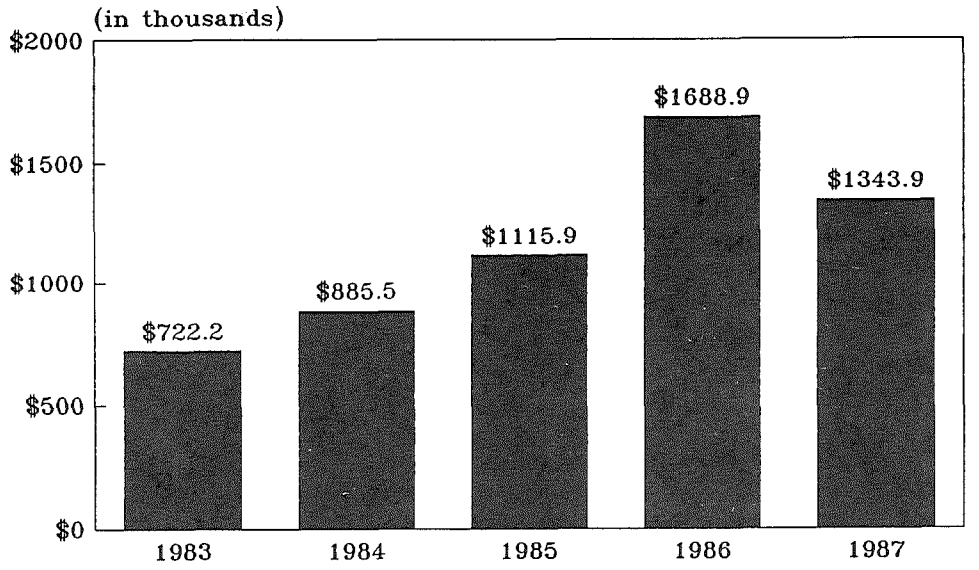
NASA also publishes data on prime contract awards by state for each fiscal year. The report is similar to defense contract data, in that numbers include only contracts of $25,000 or greater. As shown in Table 52, NASA contracts awarded to Utah firms have also declined since 1986 from $316.7 million to $289 million. Again, the decline appears to be due solely to natural volatility in contract awards. It is important to note that early figures for fiscal year 1988 indicate a volume of $429.2 million in NASA contracts for Utah. This is a healthy increase over 1987.

Employment and Payrolls

Levels of activity at Utah military facilities have remained relatively constant during the past year. Military payrolls, including reservists and National Guard, have risen slightly to $208.7 million from $199.9 million in 1986. Non-military defense payrolls dipped from $404.1 to $390.7 million. Together, full-time military and civilian employees in federal defense positions accounted for 22,000 jobs.

Defense-related transfer payments to Utahns were higher in 1987. Military retirement payments

Figure 30
Department of Defense Contract Awards in Utah: 1983 to 1987



Source: U.S. Department of Defense

rose by 3 percent to $97.7 million. Two-thirds of the $334 million paid in federal civilian retirement benefits can be attributed to defense and space activities. The resulting $222.9 million figure is 10 percent higher than the same calculation for a year ago. Veterans' benefit payments, however, declined by 1 percent to $74.6 million. Together these components amounted to a $395.3 million addition to the economy.

The Defense and Space Contribution

The total direct federal defense contribution (including contracts and payrolls) amounts to $2.3 billion. When combined with identified NASA spending in Utah, the resulting $2.6 billion figure accounts for nearly 14 percent of Utah personal income. That amount is down from the fiscal 1986 figure of 16 percent of personal income. By applying a reasonable multiplier of 1.9 to 2.1 to the $2.6 billion, one can see that nearly 30 percent of Utah's personal income is derived from this source.

TABLE 48

TOTAL VALUE OF DEFENSE CONTRACTS AWARDED OVER $25,000 RANKED BY STATE AND CONTRACTS AWARDED PER CAPITA

FISCAL YEAR 1987

	DOD Contract Awards over $25,000 by state of performance			DOD Contract Awards Per Capita	
Rank	State	Thousands	Rank	State	$ per person
1	California	$29,087,400	1	Connecticut	$1,783.1
2	New York	$10,829,911	2	Michigan	$1,581.9
3	Taxas	$9,527,716	3	Washington	$1,408.4
4	Massachusetts	$9,261,792	4	Montana	$1,407.5
5	Virginia	$8,314,997	5	Deleware	$1,352.0
6	Missouri	$7,182,599	6	Alaska	$1,136.6
7	Florida	$6,141,252	7	Massachusetts	$1,118.6
8	Connecticut	$5,727,368	8	Arizona	$1,087.8
9	Ohio	$5,101,020	9	California	$1,051.5
10	Maryland	$5,072,918	10	Colorado	$862.8
11	Pennsylvania	$4,122,710	11	West Virginia	$827.5
12	Illinois	$3,987,406	12	Vermont	$800.0
13	New Jersey	$3,860,915	13	Maryland	$730.9
14	Washington	$3,755,177	14	Missouri	$703.4
15	Georgia	$3,691,540	15	Mississippi	$619.4
16	Arizona	$3,682,066	16	Ohio	$607.6
17	Colorado	$2,844,586	17	Hawaii	$593.3
18	Minnesota	$2,630,060	18	Kentucky	$577.2
19	Indiana	$2,489,625	19	**Utah**	$567.5
20	Michigan	$1,949,216	20	Georgia	$510.8
21	Louisiana	$1,857,559	21	New York	$510.7
22	Mississippi	$1,846,439	22	North Carolina	$503.2
23	Alamaba	$1,707,685	23	South Carolina	$500.1
24	Kansas	$1,429,123	24	Oklahoma	$473.0
25	Tennessee	$1,402,514	25	Iowa	$450.1
26	**Utah**	$1,343,924	26	Idaho	$444.0
27	North Carolina	$1,314,800	27	Alamaba	$418.2
28	Wisconsin	$980,645	28	Maine	$416.4
29	Iowa	$881,052	29	North Dakota	$412.9
30	Maine	$867,622	30	Arkansas	$349.3
31	Washington D.C.	$840,935	31	Rhode Island	$345.4
32	Arkansas	$834,085	32	Indiana	$344.3
33	Oklahoma	$665,257	33	Kansas	$310.9
34	New Mexico	$619,277	34	Florida	$309.5
35	South Carolina	$615,241	35	Tennessee	$288.9
36	Alaska	$596,734	36	New Hampshire	$252.3
37	New Hampshire	$539,774	37	Virginia	$246.9
38	Rhode Island	$493,056	38	New Mexico	$225.3
39	Hawaii	$480,825	39	Minnesota	$211.9
40	Kentucky	$462,602	40	Nevada	$205.0
41	Oregon	$301,493	41	Wisconsin	$204.0
42	Nebraska	$262,907	42	Oregon	$203.3
43	Nevada	$227,091	43	South Dakota	$179.7
44	Deleware	$199,315	44	New Jersey	$164.8
45	North Dakota	$169,537	45	Illinois	$151.2
46	West Virginia	$153,276	46	Wyoming	$148.8
47	Idaho	$151,092	47	Nebraska	$125.4
48	Vermont	$135,316	48	Louisiana	$124.1
49	Montana	$101,577	49	Pennsylvania	$110.7
50	Wyoming	$72,911	50	Taxas	$82.0
51	South Dakota	$58,253	51	Washington D.C.	$80.8
	Total	$150,872,191		Mean	$619.9
				Median	$444.0

Sources: U.S. Department of Defense, Contract Awards over $25,000 by State, County, Contractor and Place Fiscal Year 1987; (Federal Procurement Data Center, Arlington, VA) and U.S. Bureau of the Census.

TABLE 49

50 TOP UTAH DEPARTMENT OF DEFENSE CONTRACTORS

FISCAL YEAR 1987

Rank	Company	(Thousands)
1	Morton Thiokol, Inc.	$560,677
2	Hercules	$253,898
3	Unisys Corp (formerly Sperry)	$77,306
4	Mast Construction Company	$29,201
5	Bodell Construction	$16,035
6	Utah State Unversity	$15,156
7	Flameco Engineering, Inc.	$13,372
8	Utah Power & Light Company	$12,499
9	Ibex, Ltd., Inc.	$10,802
10	Crysen Corporation	$10,267
11	Big D Construction Corp.	$9,444
12	Eyring Research Institute, Inc.	$9,311
13	Minority Enterprise Service Assoc.	$7,368
14	Kitco, Inc.	$7,241
15	Aerospace Engineering & Support	$6,460
16	University of Utah	$6,337
17	Billiken Corporation	$6,266
18	Mesa Services International	$6,179
19	Beneco Enterprises, Inc.	$5,946
20	Mountain Fuel Supply Co.	$5,620
21	Westscot Corp.	$5,507
22	Triax-Pacific	$5,465
23	Gibson Cyrogenics, Inc.	$4,165
24	Bemsco, Inc.	$3,647
25	Fiber Technology Co.	$3,600
26	Montgomery James	$3,513
27	W B K Controls, Inc.	$3,248
28	Evans and Sutherland Computer	$3,138
29	Sinclair Marketing, Inc.	$3,044
30	EDO Western Corporation	$2,928
31	Ireco Incorporated	$2,846
32	Parker Hannifin Corporation	$2,772
33	Paulsen Engineering & Const. Co.	$2,760
34	Asphalt Paving Corp.	$2,557
35	Telos Corporation	$2,555
36	E-/Systems, Inc.	$2,334
37	CO-AX Enterprises	$2,324
38	Barnes & Sons Incorporated	$2,323
39	Utah Constr. & Dev.	$2,290
40	Hoj Engineering/Sales, Inc.	$2,131
41	The Martec System	$2,078
42	Projects Unlimited, Inc.	$2,077
43	Digital Corporation	$2,034
44	Christianson Griffith Construction Co.	$2,013
45	Brigham Young University	$1,961
46	Remco Construction Co., Inc.	$1,930
47	Burton, F. J. Construction Co., Inc.	$1,843
48	Glens Excavating/Grading	$1,776
49	Renaissance Exchange, Inc.	$1,755
50	Varian Associates	$1,735

Source: U.S. Department of Defense, Contract Awards over $25,000 by State, County, Contractor and Place; Fiscal Year 1987, Vol. II, (The Pentagon, Washington, D.C.)

TABLE 50

50 TOP DEPARTMENT OF DEFENSE CONTRACT AWARDS PERFORMED IN UTAH

FISCAL YEAR 1987

Rank	Contractor	Thousands
1	Morton Thiokol, Inc.	$572,223
2	Hercules	$253,867
3	Unisys Corp. (formerly Sperry)	$80,172
4	Litton Systems, Inc.	$55,936
5	Rockwell International Corp.	$26,812
6	Flameco Engineering, Inc.	$13,372
7	Utah Power & Light Company	$12,499
8	Utah State University	$10,940
9	Crysen Corporation	$10,267
10	Big D Construction Corp.	$9,444
11	Eyring Research Institute, Inc.	$9,311
12	TRW, Inc.	$8,502
13	Minority Enterprise Service Assoc.	$7,368
14	Kitco, Inc.	$7,241
15	Aerospace Engineering & Support	$6,460
16	University of Utah	$6,337
17	Billiken Corporation	$6,266
18	Mesa Services International	$6,179
19	Mountain Fuel Supply Co.	$5,620
20	Westcot Corp.	$5,507
21	Lockheed Corp.	$4,532
22	Gibson Cyrogenics, Inc.	$4,165
23	Digital Equipment Corp.	$3,967
24	Vinnell Corporation	$3,774
25	Stevens Company	$3,688
26	Bemsco, Inc.	$3,647
27	Phillips Petroleum Company	$3,611
28	Fiber Tecnology Co.	$3,600
29	Montgomery James	$3,513
30	W B K Controls, Inc.	$3,248
31	Evans and Sutherland Computer	$2,978
32	EDO Western Corporation	$2,928
33	Honeywell, Inc.	$2,842
34	Paulsen Engineering & Const. Co.	$2,760
35	Asphalt Paving Corp.	$2,557
36	E-Systems	$2,334
37	Utah Constr. & Dev.	$2,290
38	General Dynamics Corp.	$2,279
39	I.B.M. Corp.	$2,257
40	Hoj Engineering/Sales, Inc.	$2,131
41	The Martec System	$2,078
42	Telos Corporation	$2,063
43	Ireco Incorporated	$1,910
44	The Austin Company	$1,816
45	Xerox Corp.	$1,805
46	Teledyne Industries, Inc.	$1,783
47	Glens Excavating/Grading	$1,776
48	Fastrax, Inc.	$1,757
49	Varian Associates	$1,735
50	Cenco, Inc.	$1,713

Source: U.S. Department of Defense, Contract Awards over $25,000 by State, County, Contractor and Place; Fiscal Year 1987, Vol. II, (The Pentagon, Washington, D.C.)

TABLE 51

DEPARTMENT OF DEFENSE AWARDS BY UTAH COUNTIES

FISCAL YEARS 1983 TO 1987

County	1983	1984	1985	1986	1987
Box Elder	$151,158	$281,643	$179,409	$226,967	$558,619
Cache	$13,780	$10,543	$19,696	$31,376	$13,281
Carbon	$1,673	$2,270	$845	$1,844	$650
Davis	$112,951	$145,684	$222,453	$352,129	$154,528
Duchesne	$0	$0	$0	$0	$98
Grand	$9,077	$5,944	$451	$451	$0
Juab	$0	$0	$0	$0	$91
Morgan	$0	$0	$109	$145	$62
Rich	$0	$0	$0	$30	$0
Salt Lake	$377,225	$358,195	$596,535	$896,425	$485,428
San Juan	$1,513	$339	$2,155	$2,974	$972
Sanpete	$0	$0	$0	$0	$92
Sevier	$156	$206	$1,126	$1,747	$532
Summit	$129	$44	$92	$121	$45
Tooele	$19,918	$26,055	$32,774	$77,377	$44,989
Uintah	$0	$0	$0	$0	$135
Utah	$9,813	$23,264	$21,558	$33,928	$23,023
Washington	$182	$161	$9,679	$9,679	$0
Weber	$24,649	$31,198	$29,037	$53,754	$61,379
Total	$722,224	$885,546	$1,115,879	$1,688,947	$1,343,924

Source: U.S. Department of Defense, Contract Awards over $25,000 by State, County, Contractor and Place; Fiscal Year 1987, Vol. II, (The Pentagon, Washington, D.C.)

TABLE 52

NASA PRIME CONTRACT AWARDS TO UTAH FIRMS

1977 TO 1988

	NASA Procurement (Millions $)
1977	57.1
1978	70.8
1979	74.5
1980	72.6
1981	85.5
1982	124.0
1983	253.5
1984	317.7
1985	335.8
1986	316.7
1987	289.0
1988	429.2

Source: National Aeronautics and Space Administration, Financial Contract Status, Washingotn, D.C.

SPECIAL STUDIES

THE RURAL UTAH ECONOMY

The 1980's have brought many economic challenges to the rural counties in Utah and the Western States. In the 1970s, a strong demand for the abundant natural resources of these areas, created new jobs and reversed out-migration. In the 1980s lower commodity prices brought a return of high unemployment, out-migration, lower land values, and high business failure rates.

However, while a quick look at the data does reveal a generally distressed economy, it is certainly not uniformly bleak, nor is the rural landscape without its bright spots. A few features of the rural economy of Utah of the late 1980s are presented below. Primary data on population, employment, unemployment, and income are shown elsewhere in this report. However Table 53 presents additional data on migration, income, and net new businesses for each of the state's seven regions and 29 counties.

Throughout the West the rural counties that are prospering are typically tied to: 1) a thriving university, 2) a government installation, 3) or have become a retirement/tourism mecca. Most of the other rural counties of the West have resource-based economies (dependent upon agriculture, mining, or forestry). These economies have been stagnant through the 1980s and are characterized by high unemployment and out-migration.

With few exceptions rural Utah is no longer dependent on agriculture. Figure 32, which illustrates county economic dependencies, shows only five counties with high farming-dependency in Utah: Morgan, Piute, Rich, Sanpete, and Wayne.

Rural Utah is also being weaned away from dependence on mining. Of the state's energy and mineral resources only coal production is proceeding along at or near record levels. However, even though 18 million tons of coal were mined in Utah during 1988 it took only 2,700 miners to accomplish the task. This compares with 4,700 miners producing just under 17 million tons in 1982. The map highlighting mining-dependent counties in Figure 32 shows Carbon, Duchesne, Emery, San Juan and Uintah as the important mining counties of the state.

The regions of the state that are hardest hit by the economic conditions of the 1980s are the Uintah Basin and Southeast. It is no coincidence that these were also the regions which experienced the greatest boom in the 1970s. Counties which avoided the boom have been able to avoid the painful adjustment caused by out-migration and an eroding tax base.

Three of the four large Wasatch Front counties have experienced net out-migration for the 1980s while three of the five rural multi-county regions have recorded net in-migration for the same period. Again, the two regions experiencing the heaviest out-migration for the decade are the energy resource-based Southeast and Uintah Basin.

The Bear River Region economy has continued to perform well. The region owes much of its prosperity to an excellent university (Utah State University), the associated technology and spin-off companies, and to Morton-Thiokol and the national space program.

While the Southwest region as a whole is doing fairly well, one cannot help but notice the dominating influence of St. George and Washington County. In-migration, both in absolute and in percentage terms, is greater there than anywhere else in the state. Total personal income growth, was also greatest in Washington County. Personal income in this area has grown 119 percent since 1980 compared with 68.9 percent for the state as a whole. Interestingly, Washington County has slipped somewhat in the per capita income ratings, from 83.4 percent of the state average to 77.1 percent. This may be due to the rapid growth of the tourism/service-based economy or to the unique demographic characteristics of the area, namely, many retirees and many large young families.

Figure 31
Utah Counties

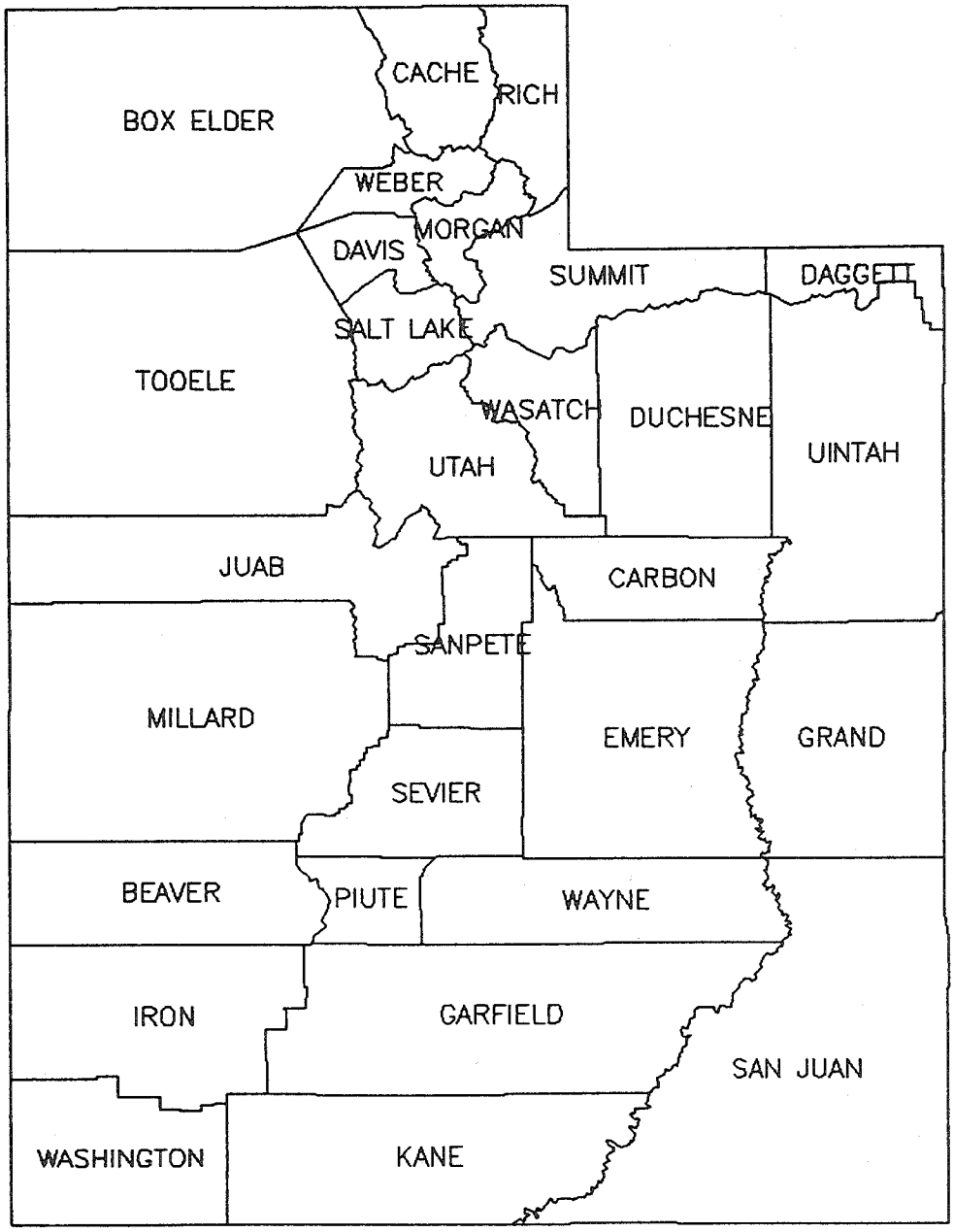
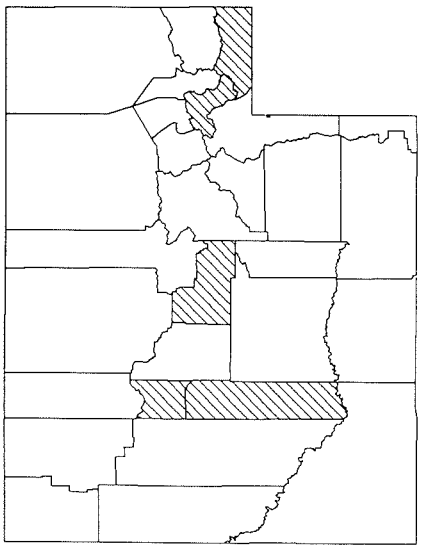
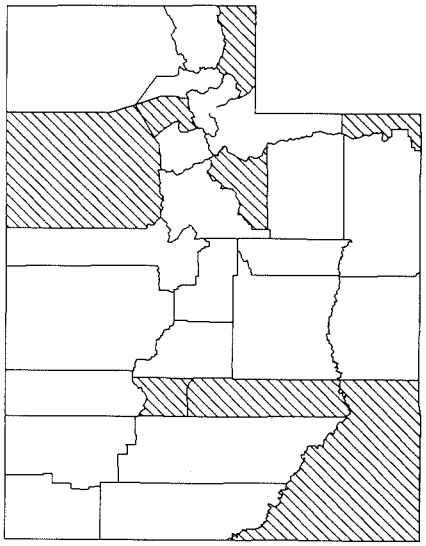


Figure 32
County Dependencies

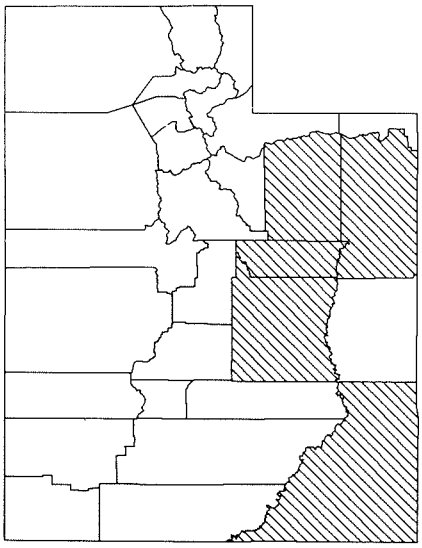
Farming Dependent Counties



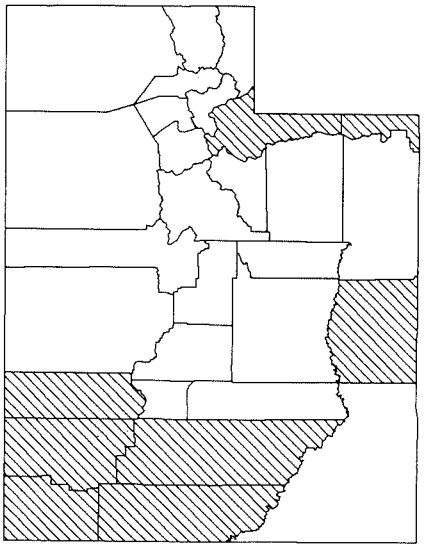
Government Dependent Counties



Mining Dependent Counties



Tourism Dependent Counties



Perhaps of some surprise is the strength of the Central Region's economy. The region has recorded net in-migration for the decade and is holding its own in terms of personal income, per capita income, and in the business birth and death category. The Intermountain Power Project has no doubt had a positive influence on the region.

From an economic perspective rural Utah is typical of the rural West. There are both thriving and stagnant regions as well as a few areas that seem to continue to experience slow and steady growth. Generally speaking, unemployment rates are higher and wages are somewhat lower than in the metropolitan areas of the West. The small size of a rural county's economy leaves it vulnerable to the ups and downs of individual employers and individual industries. As the 1980s have brought intensified global competition this exposure has caused much concern. The Western Governors' Association has responded with a series of studies conducted primarily by SRI International on rural economic development strategies. The State of Utah was, in fact, used as a pilot project in the studies. The final report on Utah was published in December 1988 and is entitled "Utah's Rural Development Strategy." Implementation of the strategy will take place over the next two years. Those wishing to learn more about the state's Rural Development Strategy should contact the Utah Department of Community and Economic Development.

The following maps illustrate the geographic patterns of dependency upon four economic sectors or activities in rural Utah. The maps show farming-dependent, government-dependent, mining-dependent, and tourism-dependent counties. Farming dependent counties (for purposes of this exercise) are those whose total farm income in 1986 accounted for at least 15 percent of county personal income. The state average was only 1.0 percent. Government-dependent counties are those where government derived income (including federal civilian and military, state and local sources) represented at least 30 percent of personal income in 1986. The state average was 21.5 percent. Mining-dependent counties derived at least 15 percent of their total personal income from the extraction of oil, gas, coal, copper, uranium or other minerals and resources. The statewide average was 2.3 percent in 1986. Determining tourism dependency required a slightly more indirect approach. Gross taxable room rents (of all hotels, motels, lodges, condominiums, etc.) as a percent of total personal income is the surrogate measure that was used. For the state as a whole, room rents were 1.0 percent of total personal income in 1987. However, in the eight tourism-dependent counties room rents exceeded 3.0 percent of personal income.

The source for the first three categories is the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economics Information System, April 1988. Data on room rents by county is from the Utah State Tax Commission.

TABLE 53
MISCELLANEOUS ECONOMIC AND DEMOGRAPHIC INFORMATION ON UTAH'S REGIONS AND COUNTIES

	Net Migration July 1, 1980 to July 1, 1988	Total Personal Income Growth 1980-1987	Per Capita Personal Income as a % of State Average 1980	1986	1987	Business Births Minus Deaths 1986 & 1987
Bear River	679	88.2%	90.8%	92.7%	97.8%	11
Box Elder	-356	98.2%	99.4%	104.1%	113.7%	-10
Cache	1,657	82.3%	85.2%	86.5%	89.2%	15
Rich	-622	59.8%	108.7%	81.0%	74.9%	6
Wasatch Front	-11,865	69.6%	107.5%	108.6%	108.2%	196
Davis	9,600	67.7%	95.5%	97.8%	90.7%	59
Morgan	112	47.1%	112.2%	103.5%	97.9%	0
Weber	-6,227	68.2%	105.6%	110.0%	109.8%	-46
Salt Lake	-13,801	70.7%	111.0%	111.4%	112.7%	187
Tooele	-1,549	64.5%	100.2%	101.5%	99.1%	-4
Mountainland	-4,011	69.6%	81.1%	81.1%	82.3%	-28
Summit	1,517	113.7%	139.5%	136.1%	143.4%	-12
Utah	-5,423	65.3%	77.9%	77.8%	78.2%	-22
Wasatch	-105	86.9%	94.0%	88.7%	99.6%	6
Central	1,106	69.5%	82.0%	82.4%	80.1%	-8
Juab	-593	51.1%	84.4%	72.2%	73.8%	2
Millard	2,136	84.8%	73.3%	88.9%	66.2%	-33
Piute	167	58.3%	83.4%	66.7%	83.6%	6
Sanpete	167	90.9%	75.7%	76.0%	79.6%	21
Sevier	-663	49.6%	91.6%	89.3%	92.2%	-3
Wayne	-108	105.3%	90.6%	78.4%	93.6%	-1
Southwest	11,039	84.5%	83.7%	79.1%	77.3%	-72
Beaver	-68	52.9%	81.0%	79.7%	74.8%	-6
Garfield	-115	45.9%	105.0%	87.1%	82.5%	-7
Iron	-1,055	51.6%	79.7%	74.7%	74.4%	-37
Kane	335	73.4%	85.9%	90.4%	87.9%	-5
Washington	11,942	119.7%	83.4%	79.0%	77.1%	-17
Uintah Basin	-5,569	37.7%	99.5%	85.6%	84.0%	-113
Daggett	-163	57.4%	99.0%	98.8%	83.2%	-3
Duchesne	-2,038	48.0%	96.8%	87.5%	86.7%	-37
Uintah	-3,368	31.0%	101.2%	84.0%	82.3%	-73
Southeast	-9,147	29.8%	101.1%	90.9%	88.6%	-58
Carbon	-2,830	37.0%	118.2%	108.5%	106.3%	-16
Emery	-2,367	23.9%	91.7%	79.3%	71.7%	-5
Grand	-2,570	9.6%	118.5%	101.8%	98.6%	-23
San Juan	-1,380	37.0%	67.3%	62.8%	66.0%	-14
STATE TOTAL	-17,768	68.9%	100.0%	100.0%	100.0%	-72

Sources: Utah Office of Planning and Budget, U.S. Bureau of Economic Analysis, and Utah Department of Employment Security, Labor Market Information Services.

UTAH WORKFORCE 2000

In 1987 Governor Bangerter initiated "Utah Workforce 2000". A task force of some 40 citizens was formed and was asked to develop a set of policy options for key decision makers to consider as they promote policies and programs that will strengthen the Utah workforce and economy through the year 2000. Part of their mission then was to analyze projections of the labor force through the year 2000 and to prepare policies to give direction for this emerging workforce. The Utah Department of Employment Security, Labor Market Information Services, provided the major staff support for this effort.

In less than 15 years, Utah will face a new century. How will the work force of the year 2000 look, and who will the workers of the year 2000 be? Forecasting has always been risky business. Fortunately, the workers of the year 2000 have already been born. In fact, approximately two-thirds of "Workforce 2000" are currently labor force participants. And, the demographic forces that will mold the workplace of the upcoming millennium are now in place.

This chapter outlines projections for Utah "Workforce 2000" and how projections for Utah differ from those of the entire nation. Perhaps more importantly, the "the numbers" suggest certain policy implications. Ahead lies a great opportunity to moderate the inequities of the current labor market. Inaction may only exacerbate existing difficulties.

Growth in the Labor Force

What are the projections for Utah's labor force in the year 2000? "Workforce 2000" should include over 1 million labor force participants—up one-third from 1986. On the surface, this gain seems large. Nevertheless, growth in the labor force will actually decelerate between now and the year 2000. Differences in age, sex, and ethnic status will generate a Utah labor force substantially different from that of today (See Tables 54, 55, and 56).

In comparison to the rest of the nation, youth (16-24 years old) will account for approximately the same share of Utah's labor force in 2000 as in 1986. This trend contrasts sharply with the rest of the nation where the youth labor force has already begun to contract. The large percentage of young Utahns who work adds to the contrast between Utah and U.S. "Workforce 2000". Currently, participation for 16-19 year olds is 15 percentage points higher in Utah than in the United States.

Just like the state's population, Utah's labor force should mature by the year 2000. The aging of the "baby boom" generation will affect the work force. Those workers in the middle-aged group (35-54 years of age) will account for approximately 41 percent of "Utah's Workforce 2000" compared to only 33 percent in 1986. However, those over 65 will account for nearly the same share of the Utah labor force in 2000 as in 1986. Nationally, the labor force will mature even more. Approximately 50 percent of U.S. workers will be between the ages of 35 and 54 in the year 2000.

Nationally, the projected shortage of youth in "Workforce 2000" has gained much attention. In some states, wages in industries typically employing young people have already started to rise. In fact, "fast food" establishments in certain areas have already begun dipping into the pool of retirees. This national dearth of youth is projected to spur advances in labor-saving technology and productivity in the years ahead. In addition, this national youth shortage will most likely provide opportunities for typically disadvantaged workers — minorities, women, older workers, and the disabled.

Although Utah will not face a shortage of young workers in the year 2000, the state will be indirectly affected by the scarcity of youth nationally. If well-trained, Utah's young work force may prove to be its greatest asset. Companies will hopefully choose to locate in Utah because a youthful and educated work force is available. On the other hand, the state may face a youth drain as wages are bid up on jobs outside Utah.

Although relatively young, "Utah Workforce 2000" will still appear older than it is today. What

impacts might a more mature labor force bring? An experienced work force would improve productivity. In addition, the economic dependency ratio (the proportion of the population not in the labor force compared to those in the labor force) should drop. Moreover, the savings rate should rise as baby boomers mature into the age group which saves the most. A higher national savings rate could lead to lower real interest rates — stimulating investment and improving productivity.

However, a mature labor force could also have some negative effects. An older, more stable work force may adapt poorly to the rapidly changing economy of the year 2000. Many companies with older work forces may find that their aging, higher-paid workers make them uncompetitive. In addition, middle-aged workers may experience a job squeeze.

Utah Women and the Year 2000

The most striking demographic change of the post-war era must be the movement of women to the workplace. Current trends suggest that Utah women will continue to move into the workplace but at a slower rate. In the wake of increased female participation, approximately two-thirds of Utah families will include more than one wage earner by the year 2000. In addition, Utah women should make up 45 percent of the labor force compared with 43 percent today (See Table 55).

"Utah's Workforce 2000" should exhibit a female participation rate of 62 percent. In other words, 62 percent of Utah's female population over the age of 16 will be working or looking for work. The 1987 female participation in Utah equaled 60 percent (higher than the national average of 56 percent).

Participation for Utah women is expected to rise higher than 62 percent in the 1990's and then to taper off because of changes in the age distribution of the labor force. As previously stated, the labor force will be aging and women in the older age groups are less likely to work. Nevertheless, participation is expected to increase for every age group and especially for older females. As young women move into the upper age brackets, they are expected to retain their strong attachment to the labor force. At 61 percent, the national rate of female participation is projected to fall slightly lower than Utah's.

As more dual-earner families appear in Utah's economy, different types of benefits will be demanded from employers. Child care is already becoming a "family" rather than a "woman's" issue. Pressures for employer subsidization of day care, a lower age for public school, federal day care for welfare mothers, "cafeteria style" benefit plans, and tax subsidies for child care are expected to increase. Also, requests for parental and "sick child" leave seem destined to intensify.

In Utah, almost one in three female labor force participants work part-time. As women increase their labor force participation, demands for job sharing, flexible hours, benefits for part-time work, and so on are likely to increase. Pressures should also mount for reform of tax legislation — current income and social security taxes penalize two-earner households. In addition, with more dual earner families, "Workforce 2000" may lose some of its flexibility. On the bright side occupational and wage disparities should continue to decline.

Minorities and Workforce 2000

Nationally, nonwhites are expected to make up nearly 30 percent of the net additions to the work force between 1986 and 2000. In comparison, Utah minorities should make up less than 11 percent of new labor force growth over the same time period. However, over the next 13 years, Utah's minority population and labor force are expected to increase at a faster rate than the general population. Moreover, by the year 2000, Utah's labor force will be more minority-oriented than at any time in the immediate past (see Table 56).

Immigration is expected to account for a large part of labor force growth nationally. Immigrants and their children are expected to account for almost 25 percent of U.S. labor force growth between 1985 and 2000. In Utah, immigration should play only a very minor role in work force expansion.

As Utah's "Workforce 2000" is not expected to face a labor shortage, there may be fewer opportunities for the state's minorities than nationally. Typically, nonwhites face greater economic difficulties than the white population. In "Workforce 2000", no economic trends can be identified which will help to advance the status of Utah's nonwhites. In fact, the higher skill levels required by new "Workforce 2000" jobs may place minorities — with traditionally lower education levels — farther behind in the employment race. In other words, policy makers must take specific action to further integrate minorities into the Utah labor force. The Utah economy seems unlikely to generate the necessary forces on its own.

The Shift to Services

The significant shift of the American labor force from primarily goods producing employment, to services producing employment has even been discovered by the mass media. This shift has been relative and of long duration. Service-producing jobs have been growing much faster than goods-producing jobs for the last three decades. This natural economic phenomenon should continue as Utah and the United States approach "Workforce 2000".

The Bureau of Labor Statistics projects that the U.S. economy will add 20.1 million nonagricultural wage and salary jobs by the year 2000. This employment increase (over 19 percent since 1985) represents a slowing of growth due largely to slower labor force expansion. Utah is expected to add more than a quarter of a million new nonagricultural jobs between 1986 and the year 2000. This addition represents a 41 percent increase — about twice the national rate.

Nationally, goods-producing industries (mining, manufacturing, construction) are expected to show almost no aggregate change. In other words, the remaining service-producing industries are expected to generate nearly all new U.S. employment. In Utah, the goods-producing sector is expected to account for about 21 percent of total growth and service-producing industries the remaining 80 percent. Nevertheless, both the U.S. and Utah economies will become increasingly service-oriented.

Technology

What about the effect of technology on "Workforce 2000"? Two big questions come to mind in any discussion of technology. Will new technologies create employment? Or, will technological applications contribute to higher unemployment? Economists generally agree that although certain individuals will face costly adjustments, technological advancements are essential if the U.S. is to continue to grow in an international economy. The very reason manufacturing has been able to produce more with fewer workers stems from the increased productivity afforded by technological advances.

High tech industries in both the U.S. and Utah are projected to add a significant number of jobs to "Workforce 2000". However, high tech (mostly manufacturing jobs) will not be the dominant force behind the economic expansion. As explained, expansion in service-producing industries will provide most of the new jobs. The real impact of technology will be felt in nearly every aspect of how Utahns work. The technology will generate the most change through transforming how each employee does their job.

Productivity

After mentioning the positive effects of technology on productivity, it may seem strange to talk about the low productivity growth of the recent past. However, U.S. productivity growth declined at a fairly steady rate during the 1970s and 1980s. This drop in productivity growth seems to be associated with the shift to services. In fact, while much of the interest in this decline has focused on heavy industry, the real culprit is actually the service-producing sector.

If the U.S. is to increase its productivity and competitiveness in the world economy, the service sector must generate productivity growth. In the past, an abundant labor force (women and baby boomers) has dulled the need for labor-saving techniques in the services industry.

Occupations

What will "Workforce 2000" be doing? The occupations of and occupational mix of the work force in the year 2000 will undoubtedly follow Utah's structural shift from a goods-producing to a service-producing economy. In many cases, the jobs created between now and the year 2000 will be substantially different from those that exist today. Technicians, service, professional/sales/managerial jobs are expected to show the highest growth. While administrative support and precision/craft/repair categories should be low growth areas.

Education

As the Utah economy becomes increasingly technologically advanced, the importance of education, training, and retraining will multiply. Fortunately, Utahns have always maintained high educational standards and levels. Still, Utah seems to face the same sort of paradox as does the rest of the nation: rising levels of educational attainment and declining educational quality. Between now and the year 2000, employment in the broad occupational groups that require the most educational preparation are expected to grow at a faster than average rate. The groups requiring the least educational preparation are expected to grow slowly or decline. In other words, levels of training required in "Workforce 2000" will be generally higher than they are today.

Not only will early training be important to the participants of "Workforce 2000", but retraining will emerge as an urgent issue. Due to the rapidly changing nature of the economy, training must be a lifelong process for the employee of the year 2000.

Conclusion

Again, what will Utah's "Workforce and Workplace 2000" look like? Growth in Utah's population and labor force will slow from the levels of the recent past. Women will continue to enter the workplace, but at reduced rates. Minorities will account for nearly 11 percent of new Utah labor force growth, although currently they represent only 7 percent of the work force.

However, the most striking feature of Utah's "Workforce 2000" will be its youth and dynamism. While the country will face a shortage of young labor, Utah's young people will account for approximately the same percent of "Workforce 2000" as in 1986. If well-trained, this young, vigorous labor force should give Utah a definite advantage in the year 2000.

Technology will continue to play an important role in the nature of work in the Beehive State. However, high tech jobs will not be the employment driver of the future. Service-producing jobs are expected to show the highest levels of expansion. Occupations will adapt to new technologies and education and retraining will become vitally important for the Utah workers of the year 2000.

TABLE 54
UTAH'S LABOR FORCE
BY SELECTED AGE GROUPS
1986 AND 2000

Age Group	1986 Total	1986 % By Age	2000 Total	2000 % By Age	1986-2000 Change	1986-2000 % By Age
16-19	71,000	9.4%	105,000	10.4%	34,000	13.5%
20-24	120,000	15.9%	154,000	15.3%	34,000	13.5%
25-34	237,000	31.4%	234,000	23.3%	-3,000	-1.2%
35-44	155,000	20.6%	225,000	22.4%	70,000	27.8%
45-54	95,000	12.6%	184,000	18.3%	89,000	35.3%
55-64	61,000	8.1%	82,000	8.2%	21,000	8.3%
65+	15,000	2.0%	22,000	2.2%	7,000	2.8%
Total	754,000		1,006,000		252,000	

Source: Utah Department of Employment Security, Labor Market Information Services.

TABLE 55
UTAH'S LABOR FORCE
BREAKDOWN BY SEX
1986 AND 2000

	1986	2000	Change	Share of Change
Males	433,000	553,000	120,000	47.6%
Participation Rate	81.3%	79.0%	2.3%	
Share of Labor Force	57.4%	55.0%	2.5%	
Females	321,000	453,000	132,000	52.4%
Participation Rate	58.9%	62.0%	3.1%	
Share of Labor Force	42.6%	45.0%	2.5%	

Source: Utah Department of Employment Security,
Labor Market Information Services.

TABLE 56
UTAH'S LABOR FORCE
BY ETHNIC GROUP
1986 AND 2000

	1986		2000			Share of
	Total	% By Group	Total	% By Group	Change	Change
White	700,900	93.0%	925,500	92.0%	224,600	89.1%
Minorities	54,100	7.2%	80,500	8.0%	26,400	10.5%
Hispanic	28,900	3.8%	44,300	4.4%	15,400	6.1%
Asian/Pac. Is.	14,400	1.9%	22,000	2.2%	7,600	3.0%
Other	10,800	1.4%	14,200	1.4%	3,400	1.3%
Total	754,000		1,006,000		252,000	

Source: Utah Department of Employment Security, Labor Market Information Services.

APPENDIX

Select Publications of the Agencies Comprising the State Economic Coordinating Committee*

Utah Office of Planning and Budget

Regular Reports
State of Utah Revenue Forecast (Quarterly, published jointly with Utah State Tax Commission)
Utah Data Guide (Quarterly)
Economic and Demographic Projections Report (Annual)
Executive Budget (Annually)
Utah Economic and Demographic Profiles (Annually)
Governor's Summary of Legislative Action (Annually)

Special Reports
Migration in Utah
Issues of Fertility in Utah
The Impact of Tax Limitation in Utah

Utah Department of Community and Economic Development

Regular Reports
Utah Facts (Annually)
Utah Directory of Business and Industry (Annually)
Utah Export Directory (Annually)

Special Reports
Utah's Rural Development Strategy
Utah Economic Development Plan
Going Into Business in Utah

Utah Department of Employment Security

Regular Reports
Utah Labor Market Report (Monthly)
Labor Market Information (Quarterly, by district)
Job Service Statistical Abstract 1987 (Annually)
Affirmative Action (Annually)
Employment, Wages and Reporting Unite by Firm Size (Annually)
Occupations in Demand (Quarterly)
Utah Job Outlook for Occupations (Biennially)

Special Reports
Utah Workforce 2000
Women in the Utah Labor Force

Utah State Tax Commission

Regular Reports
Annual Report of the Utah State Tax Commission (Annually)
Utah Statistics of Income (Annually)
New Car and Truck Sales (Quarterly)
Gross Taxable Retail Sales and Purchases (Quarterly)

Statistical Study of Assessed Valuations (Annually)
Hotel Sales, Room Rents and Transient Room Taxes in Utah (Annually)

Special Reports
Initial Tax Burdens on Business and Households in Ten Western States
Broadening the Base: An Evaluation of a Sales Tax on Services
Selected State Tax Rates in the U.S.

Bureau of Economic and Business Research

Regular Reports
Utah Economic and Business Review (Monthly)
Construction Report (Quarterly)
Statistical Abstract of Utah (Triennially)

Utah Energy Office

Regular Reports
Data Source (Semiannually)
Utah Energy Statistical Abstract

First Security Bank Corporation

Regular Reports
Insights (Quarterly)
Local Consumer Price Index (Monthly)
Local Index of Leading Economic Indicators (Monthly)

*This list includes only the reports which are particularly relevant to the Economic Report to the Governor. To obtain a complete list of the publications of each agency or copies of reports, contact the applicable agencies.