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THE ECONOMIC IMPACT OF THE UTAH TECHNOLOGY FINANCE CORPORATION ON UTAH'S ECONOMY

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Introduction

In October 1991, at the request of the Utah Technology Finance Corporation (UTFC), the Bureau of Economic and Business Research at the University of Utah undertook an evaluation of the UTFC's economic impact on the Utah economy in 1989 and 1990. Information used in this evaluation was provided by the UTFC, and gathered during personal interviews with key management at companies which have received UTFC awards. A synopsis of the evaluation is presented in this article.

The Role of UTFC

Established in 1983 by the Utah State Legislature, the UTFC is still a relatively young program. Its mission is to assist Utah entrepreneurs in turning ideas into products by providing capital for new product development. To that end, the UTFC disbursed its first round of awards in 1986. By the end of 1991, the UTFC had committed more than \$3.96 million in funding to 95 separate companies.

The UTFC's role in the financial arena is a unique one. Many of the companies which participate in one of the UTFC's programs are small start-ups that do not meet the investment or lending requirements of traditional capital sources (banks, credit unions, venture capital). The UTFC helps fill the gap for these young businesses. For example, recessionary pressures combined with a tightening financial market have eroded the flow of capital for new technological developments. Even well-established businesses are finding it difficult to secure financing, and small companies engaged in product development are finding it virtually impossible.

This underscores the importance of the UTFC. Fledgling firms involved in new product development with no track record and limited ability to obtain capital from traditional sources can apply for

apply for financial assistance through one of the UTFC's programs. The UTFC can also provide capital to well-established companies which have limited funds for new product development.

The UTFC plays another important role in helping businesses raise money. When a company receives a UTFC award it also seen as a "stamp of approval". The UTFC review process is intensive and thorough. To qualify for an award, a company must submit a comprehensive and realistic business plan. The UTFC reviewers assess both the company's technology and the product's market potential. Companies that have withstood such scrutiny have, in several instances, found it easier to raise additional money from banks and private investors.

Finally, UTFC helps entrepreneurs develop and hone their business skills. Business owners who receive UTFC funds are required to attend business training seminars and classes.

Does UTFC Compete with Private Funding Sources?

UTFC complements private funding options. Most of the companies which receive UTFC awards are poor matches for bank financing. Regulatory constraints force banks to evaluate the financial strength of a company based on product sales, revenues and available collateral. Many companies which participate in the UTFC program are start-ups with little or no track record. They generally do not meet the necessary criteria upon which banks make lending decisions.

Venture capital is a possible option for a handful of companies in the UTFC program. However, venture investors want products with large markets and high potential yields. The ideas, products, and services under development at these small companies are sound, but most do not have a market potential large enough to justify a venture investment.

UTFC Programs

By the middle of 1991, the UTFC offered four financial assistance programs to Utah companies: The Small Business Innovation Program (SBIP) Phase I, Phase II Program, Participating Loan Fund, and a Revolving Loan Fund.

SBIP, Phase I

The SBIP Phase I provides companies with seed capital in amounts up to \$50,000. The money can be used for research, testing, working capital, and marketing activities. Projects must have a high potential for commercial success to qualify for SBIP funds. It is non-equity money, that is, the UTFC takes no ownership position in the company. Instead, the UTFC assumes a royalty position in the technology that requires the company to return three times the initial funding. Maximum payback under this option is \$150,000.

Phase II

Phase II, initiated in 1991, increases the amount of money a company can receive by an additional \$100,000 if the company has also participated in the SBIP, Phase I program. These funds are secured. In addition, the company must contribute an equal amount of non-debt equity. The UTFC also requires the company to submit financial statements on a regular basis. The award is paid back to the UTFC at a rate of prime plus 2 percent, calculated on a daily basis.

Participating Loan Program

With the Participating Loan Program, a company with appropriate collateral and financial position to warrant bank financing can secure a loan up to \$300,000. Under this program, the UTFC provides up to one-third of the loan amount (or a maximum of \$100,000). The participating bank provides at least twice the amount of UTFC's obligation. The UTFC assumes a first in/last out position thereby offsetting some risk of the participating bank.

Revolving Loan Fund

Under the guidelines of the Revolving Loan Fund, local governments initiate a request for UTFC participation utilizing HUD monies and local government development funds. The program is targeted to companies in rural areas of the state and has no limit caps. The payback period, interest rate, and terms of the loan are all negotiated on an individual basis.

UTFC's Track Record

From 1986 to September 1990, the UTFC provided financial assistance to 95 companies. Of these, 17 companies received two awards and one received three. Nine businesses secured bank financing under the Participating Loan Program.

Number of awards granted: (As of September 29, 1990)	114
Number of companies receiving awards: (As of September 29, 1990)	95
Number of companies inactive or out-of-business: (As of December 1991)	20

The Economic Impact of The UTFC

To determine UTFC's impact on Utah's economy in 1989 and 1990, only those companies receiving awards prior to 1990 were included (84 companies). Of the 11 firms not included many received money late in 1990 or early 1991. As such, their impact during 1990 would have been inconsequential.

Of the 84 companies receiving awards prior to 1990, 20 were out-of-business or inactive. Another nine were not interviewed because either the owner was not available, or UTFC requested they not be included. Therefore, this evaluation is based on information provided by 54 individuals.

The economic impact of the UTFC program has been measured in terms of increases in employment, wages, and tax revenues resulting from UTFC's investment in local companies. The financial assistance programs of the UTFC increased economic growth in Utah during 1989 and 1990 by expanding the state's export base, i.e., these companies increased income in Utah by selling products outside the state and/or by attracting additional venture money from non-Utah investors. In either case, the Utah economy experienced an infusion of capital which exceeded the amount invested in 1989 and 1990.

These economic impact estimates relied on the judgement of the owner or principal officer of companies which received a UTFC award. To establish the economic value of the UTFC funding each owner or principal officer was asked "How would your employment and wages have differed in 1989 and 1990 if the company had not received financial assistance?" The range of responses included everything from "no impact" to "all the company's employment and wages in 1989 and 1990 were the result of UTFC's assistance".

The marginal differences in direct employment and income that were attributed to UTFC's assistance were tabulated, as were the indirect and induced impacts. For example, Firm X estimates that the \$50,000 it received from UTFC generated an employment increase of five full-time workers and an additional \$150,000 in wages in 1989 and 1990. Firm X manufactures electronic components. The indirect and induced multipliers for electronic components are: Employment Multiplier, 2.45, and Income Multiplier, 2.01. Therefore, the total economic impact of the award for Firm X was:

<u>Total Employment Impact</u>	
Direct employment impact	5 employees
Employment multiplier	x 2.45
Total employment impact annually (1989 and 1990)	12.25 employees
<u>Total Income Impact</u>	
Direct income impact	\$150,000
Income multiplier	x 2.01
Total employment impact annually (1989 and 1990)	\$301,500

Fiscal impacts were determined from tax revenues as a percent of total money income in the state of Utah. Between 1980 and 1988 state sales tax revenues averaged 3.5 percent of total money income, local sales tax revenues averaged .75 percent, individual income tax 3.3 percent, and other taxes, 2.1 percent. The total income generated by UTFC programs was \$6.6 million in 1989 and \$9.2 million in 1990. These income figures were multiplied by the tax revenues share of total money income to determine the fiscal impacts. Table 1 summarizes the impact on employment, earnings, and tax revenues that have been generated as a result of the UTFC.

The Potential Impact of UTFC

The increase in jobs, income, and fiscal impacts that occurred between 1989 and 1990 underscores the maturation process that UTFC-funded companies are going through. Most of these businesses are still in the early stages of their product development. Even fewer have a completed product and have moved into the marketing phase. The reason? Technology development has a long time line, and very few of

<p align="center">Table 1 SUMMARY OF ESTIMATED ECONOMIC IMPACT OF UTFC AWARDS AND PARTICIPATING LOANS</p>			
Category	1989	1990	% Change
Direct Employment	150 employees	198 employees	32.0
Direct Wages	\$3.7 million	\$5.1 million	37.8
Total Employment Impact	383 employees	485 employees	27.0
Total Wage Impact	\$6.6 million	\$9.2 million	39.4
Fiscal Impact			
State Income Tax	\$218,000	\$304,000	-
State Sales Tax	\$231,000	\$322,000	-
Local Sales Tax	\$50,000	\$69,000	-
Other Taxes	\$139,000	\$193,000	-
Total Fiscal Impact	\$637,000	\$888,000	39.4
Employment Multiplier	2.54	2.45	
Income Multiplier	1.78	1.80	
<p>Note: Total employment and wage impacts include the direct employment and wages resulting from UTFC's assistance, plus the additional indirect and induced benefits which occur in the economy as a result of direct employment and wages.</p>			

these companies have reached the stage at which their products are commercially viable.

Some of the early participants in the UTFC program are only now introducing products to market. The future impact of these companies has not been factored into this analysis. Furthermore, because product development is a long-term endeavor, it is still too early to determine the potential impact of companies which are recent beneficiaries of a UTFC award.

Many of these businesses could reach their horizons within three to four years as product development efforts are completed, and they

enter the marketing/commercialization stage. Therefore, the anticipated economic impact of UTFC on the Utah economy is expected to increase substantially throughout the 1990s.

Profiles of Companies Receiving UTFC Awards

The following profiles are presented here to illustrate some of the technologies being developed by companies which have received UTFC awards. The information contained in these profiles was gathered from personal interviews conducted between September and December 1991 with company owners and principals.

Anesta Corporation - Founded in 1985. Sales 0. Emp. 22. Anesta has an alliance with Abbott Labs that includes the manufacture of certain products for Anesta.

Product: Patented drug delivery of potent systemic drugs through oral mucosal tissues. Fentanyl ORALET™ is used for pediatric pre-medications. Product is in advanced Phase II clinical trials with approval anticipated in 1993. Second ORALET product uses fentanyl to treat breakthrough pain in cancer patients. Clinical testing on this product continues.

Technology: Theodore Stanley, M.D. and Brian Hague, R. Ph. developed technology while at the University of Utah.

Market: Anesta expects Fentanyl ORALET sales in 1993. Potential market is \$15 million

in the U.S. and \$30 million worldwide for pre-medication and analgesia. Market for other applications is in excess of \$100 million.

UTFC Awards: \$50,000 (1990) and \$50,000 (1991).

Use of UTFC Awards: First UTFC award funded oral mucosal monitoring of glucose for diabetes. Second award was used for research on "enhanced" oral mucosal delivery of fentanyl for cancer patients.

Founders and Officers: Theodore Stanley, professor of anesthesiology at the University of Utah pioneered the use of fentanyl anesthesia for open heart surgery. William Moeller, Harvard MBA is current president and has been an executive in medical products and pharmaceutical industries for 26 years.

Axonix - Founded in 1983. Sales \$2.3 million. Emp. 21.

Products: Company has four products: Datafile (portable hard drive), Lapstation (laptop and notebook expansion stations), MilWrite (printer), and VIAX (network bus adaptor).

Technology: Axonix had the first portable hard drive on the market, but was unable to market it due to insufficient capital. Although there are other companies with connectivity technology between laptop or notebook computer to LAN, Axonix's VIAX technology has a speed and quality advantage.

Market: A major customer for printers has been the U.S. military. Customers for the Lapstation are Toshiba, NEC, TI, IBM, Data General, and Tandem. The two highest potential products are expansion stations and network bus adapters. Expansion station market for laptops and notebook computers is estimated at \$300 to \$500 million.

UTFC Awards: \$50,000 (1988), and \$50,000 (1989).

Use of UTFC Awards: The first award was used to develop a lightweight portable printer. This printer had sales in 1989 of \$18,000, in 1990 of \$203,000, and 1991 of \$150,000. The second award was used for a Universal Expansion Station. This product has not yet reached production.

Founders: Wayne Brown was the first chairman. Mike Hickey is current president and Robert Sanders is chairman of the board. Utah Ventures is also involved with the company. Axonix was originally founded through the Utah Innovation Center.

Track Record: Axonix is anticipating sales of \$20 to \$25 million by 1995. To achieve this goal, it needs about \$4 million in capital. In 1990, a subsidiary of Singer Company awarded Axonix a contract to develop a lightweight durable portable computer and communications package for the U.S. military.

Scientific Applications International of California, a military hardware and environmental consulting and engineering firm has included Axonix's lightweight printer in some of their bids to the U.S. military.

CardioPulmonics - Founded in 1985. Sales \$400,000. Emp. 40.

Product: CardioPulmonics has one product, the IVOX disposable intravascular blood gas exchange device, which is presently in human and clinical trials with the FDA. The product is for the treatment of patients suffering from potentially reversible acute respiratory failure (ARF).

Technology: Some of the technology utilizes that of the semiconductor industry as it relates to plasma deposition of polymers. This technology was useful in the development of a siloxane-coated membrane patented by CardioPulmonics for blood gas exchange. (Siloxane is a type of silicone). The membrane allows gas exchange in the bloodstream. An ultra-thin coating of siloxane, approximately .5 microns thick, is deposited over a tiny hollow fiber with an outer diameter of 240 microns. The membrane is a "microporous substrate" that transfers gas (oxygen) rapidly and will not allow water from blood serum to enter the hollow fiber.

The siloxane-coated membrane retains its gas transfer energy longer than uncoated membranes because the siloxane coating prevents clogging of the membrane pores. In clinical trials of the IVOX device the gas exchange membrane has functioned in the bloodstream up to 18 days with no significant degradation of gas exchange efficiency.

Fiber Dynamics - Founded 1990. Sales 0. Emp. 3.

Product: Company is developing a total composite fuel tank for on-board use in natural gas-fueled vehicles.

Technology: Company is developing a lightweight composite material that is sufficiently impermeable to hold 3,000 psi pressure in a gas tank with extremely low levels of leakage.

Market: Market is all vehicles which can or will be fueled by natural gas. This new fuel tank will be lighter and less expensive than

Market: CardioPulmonics expects to commercialize the IVOX device in selected areas of Europe in 1992. The National Institute of Health estimates that approximately 150,000 patients are treated for the most severe form of ARF in the U.S. each year (\$400 million annually). There are at least this many patients outside the U.S. that are treated for ARF.

UTFC Award: \$49,662 (1988).

Use of UTFC Award: Award was used to develop the critical technology, i.e., the process for depositing an extremely thin, continuous gas permeable layer of siloxane onto the surface of a microporous hollow fiber gas exchange membrane or other material.

Founders: Dr. John D. Mortenson, Director of Surgical Research, University of Utah, and Larry Rigby who is the current president.

Track Record: Early financing for the company came from Phase I and Phase II SBIR grants in 1985 and 1986. After developing the technology and securing patent rights, the company was able to attract a significant amount of venture capital (\$10 million). Anticipates revenues of \$50 million in 1994.

In January 1992, CardioPulmonics had an IPO and raised approximately \$25 million. Stock is traded on the NASDAQ. Company has a 20,000 sq. ft. manufacturing facility in Salt Lake.

the steel and aluminum tanks now in use. Company estimates that by 1995 sales could be \$30 million annually.

UTFC Awards: Maximum \$50,000 loan guarantee arrangement with First Security Bank (1990).

Use of UTFC Award: Loan was used to meet payroll and incidentals associated with start-up costs. It helped the company secure a \$295,000 research award from The Gas Research Institute.

Founders: Wayne Johnson, founder of Montek in the 1950s.

GenMark - Founded in 1987. Revenues \$100,000. Emp. 27.

Product: GenMark identifies and isolates specific genetic traits of dairy cows. Once identified, these traits are ensured in offspring through embryo transfer and cloning services provided by GenMark.

Technology: Much of the technology was developed by Joe Massey, a pioneer in embryo transplant and cloning. Gene marking allows GenMark to identify or "mark" desirable genes in dairy cows which are then transferred to embryos to ensure that the desirable traits show up in future generations.

Market: The market for GenMark's technology is primarily the dairy industry although the same procedure can be used for identifying desirable genes in other animals

as well. At present, the largest embryo market is in Europe. Company anticipates sales of \$5 to \$10 million in 3 to 5 years.

UTFC Awards: \$49,982 (1989).

Use of UTFC Award: Award was used to work on a test kit for paternity identification. The product was never fully developed. The technology has been sublicensed to another company. Royalties are being paid by GenMark to the UTFC.

Founders: The company was originally set up with professors from the Howard Hughes Medical Institute: Ray White, John Mark Allawell, and Ray Gestland. These individuals wanted to commercialize technology being developed at the Institute. Current president is Joseph Massey. Soon after receiving the UTFC award the company changed its direction from human genetics to bovine genetics.

Hart Scientific - Founded in 1979. Sales \$3.5 million. Emp. 30.

Product: Precision temperature and calibration equipment, i.e., calorimetry equipment and measurement calibration devices for industry and government.

Technology: The products utilize heat technology.

Market: The temperature calibration market is growing as quality control issues become of greater importance in the manufacturing process. Temperature is often the major variable in the production process which requires accurate temperature control devices to ensure quality. Hart Scientific is the only U.S. manufacturer of primary standard calibration systems.

The production of primary standard instruments is growing about 30 percent annually. The calorimetry business is growing about 20 percent annually.

UTFC Award: \$46,120 (1987) and \$49,503 (1988).

Use of UTFC Award: The UTFC awards were used to develop two products. The first is a device that measures the total heat content of a plastic prior to its being blown into a shape (a two liter bottle for a soft drink, for example). This product is in the marketplace and is generating revenues for the company.

The second product is a device that complements a differential scanning calorimeter used in biotechnology. Revenues from this product are expected in 1993.

Founders: Roger Hart and Mike Hirst. Both individuals are engineers with backgrounds in heat technology.

Track Record: The company incorporated in 1984 with only 10 employees. Company has been able to finance its growth with loans, corporate partnerships, a public offering (Hart Technologies) and through a merger with a New York Company.

Natural Product Sciences - Founded in 1986. In 1991 company generated about \$50,000 in revenue from selling research chemicals from spider toxins. Emp. 40.

Product: Principal activity is research on applications of spider toxins to pharmaceuticals and agricultural chemicals. Company recently began calcium receptor research on applications in hypoparathyroidism and osteoporosis. Also conducting research on the use of valerian, a plant extract which in its purified form is a mild sedative. Company hopes to develop a nonprescription sedative.

Technology: Original work by Hunter Jackson and Tom Parks was with the central nervous system, strokes, and attempts to mediate the effects of a stroke. They introduced spider toxins into their research because it was well established that glutamate, a chemical in the neurotransmission in humans was also a neurotransmitter in spiders and other insects. Glutamate has a role in controlling calcium levels after strokes. Calcium imbalance following a stroke kills brain cells. The University of Utah received a patent on the application of calcium blockers from spider toxins to humans.

NPS has also moved into agricultural chemicals (pesticides), i.e., studying the effects of spider toxins on insects. Spider toxins are chemically cloned and introduced into insect specific microorganisms which is then applied to fields. The virus dies within a few weeks. The advantage to this technology is that these pesticides never enter the plant and do not affect humans.

Market: The market for drugs developed for the central nervous system and stroke is estimated to be \$500 million. The market for pesticides is not as large, but has the best chance of commercialization at this point.

UTFC Awards: \$49,426 (1988).

Use of UTFC Awards: Funds were used for preliminary pesticide work on spider toxins. This work led to a collaboration with FMC, an agricultural chemical company.

Founders: Hunter Jackson, Tom Parks, and Chuck Christensen. Jackson and Parks were neurobiologists at the University of Utah. Christensen is a spider collector from Arizona.

Track Record: In 1987, company signed a three-year collaboration with Pfizer.

Pan Agro - Founded in 1979. Revenues \$180,000 (includes NIH grant contracts). Emp. 5.

Products: Company is developing two products. One is an antimalarial drug. The other is a method to artificially culture microbes used in grasshopper control.

Technology: Antimalarial Drug: Concept is to increase the amount of antimalarial substance produced in the artemisia plant by isolating the cells which produce the drug and then propagating those cells.

Grasshopper Control: Concept is to develop an artificial method of culturing microbes which are used as bait to kill grasshoppers. Company is in the process of patenting this technology.

Market: Antimalarial drug will be used most prevalently in countries where malaria is a problem. The Grasshopper control product will be used in the agricultural industry.

UTFC Awards: \$49,914 (1987) and \$50,000 (1988).

Use of UTFC Awards: The first award was used to develop a database on antimalarial drugs. This database provided the background information for a proposal submitted to NIH. Company received a SBIR Phase I grant as the result. The second award is being used to test the theory of artificially producing a grasshopper control microbe.

Founders: Nabel Youssef, professor in the Biology Department at Utah State University.

TheraTech - Founded in 1985. No sales in U.S. Emp. 65.

Product: Controlled drug delivery technologies including transdermal patches, and novel oral polymeric delivery products designed to control the rate of drug absorption. These products improve the efficacy and safety of the medications and improves patient convenience and compliance. Specific products include a nitroglycerin patch, female hormone replacement patch, and a male hormone replacement patch. All products are in clinical trials. First product release is expected in 1994 or 1995.

Technology: Theratech's technological advantage lies in drug delivery enhancers. A majority of drugs require an enhancer to facilitate their passage through the skin and into the bloodstream. Patel (a cofounder)

began work on enhancers over 10 years ago. TheraTech takes an approved drug and develops an improved delivery system.

Market: Nitroglycerin market is estimated to be \$200 million. Female hormone market estimated to be \$100 million. Male hormone market estimated to be \$60 million.

UTFC Award: \$35,998 (1989).

Use of UTFC Award: Research on a nicotine patch to inhibit nicotine addition. A prototype was developed, but TheraTech decided not to proceed because FDA required clinical testing equivalent to approval for a new chemical entity.

Founders: William I. Higuchi, Dinesh Patel, and Sun Wan Kim.

Westtest - Founded in 1981. Sales \$1.5 million. Emp. 20. Revenues come from sale of testing equipment and testing applications.

Product: Company's primary business is automatic test equipment and applications software which is mainly defense-oriented. These products are used to test circuit board cards and similar products.

The company's secondary product is the DARCI TOO - a computer control device developed for the physically disabled. This product is the brainchild of the founder who developed it primarily to help his physically disabled granddaughter use a computer. DARCI TOO is still awaiting FTC approval.

Technology: The DARCI TOO computer control device allows a physically disabled individual to use a computer by replacing the keyboard with other types of input devices such as joy sticks, switches, or verbal communications aids. A powerful microcomputer is placed inside the computer. This microcomputer reacts to commands sent by the input device.

Market: The product is primarily for the disabled user with limited arm/hand mobility, who still has the cognitive skills to understand and use a computer. An important impetus in the demand for this product is the American Disabilities Act which specifies that any employer with over 25 employees is required to provide accommodations for employees with disabilities. The company intends to market this product through distributors as soon FTC approval is granted.

UTFC Awards: \$48,094 (1988).

Use of UTFC Award: The UTFC funds were used to develop DARCI, a computer control device for the disabled that utilized a joystick in place of a keyboard. This product was technically successful but did not have broad market support due to the limitations of actually using a joystick. A modified version, DARCI TOO, was developed which allows the user to utilize other data input methods.

Founder: Westtest was founded by James Lynds and two other engineers who worked for Hill Air Force Base and saw the need for quality test equipment that could be used by the military. Lynds is the current president and has a background in test equipment development.

Utah Business Statistics

UTAH DATA	Jul. 1991	Jul. 1992	% Change from Year Ago	12-Month Average This Year	12-Month Average Last Year	12-Month Average % Change
Total Personal Income (seasonally adjusted, mil. of dol., qtlly.)	26,066	NA	NA	NA	25,274	NA
New Corporations (no.)	504	576	14.3%	536	524	2.3%
New Car, Truck, and Motor Home Sales (no.)	5,157	5,870	13.8%	5,005	4,748	5.4%
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt)	70.40	71.00	0.9%	71.11	76.40	-6.9%
Lambs (cwt)	48.00	53.30	11.0%	49.13	44.25	11.0%
Milk Wholesale (cwt)	11.10	12.40	11.7%	NA	11.38	NA
Alfalfa Hay, Baled (per ton)	65.00	65.00	0.0%	59.92	76.42	-21.6%
Commercial Red Meat Production (thous. of lbs.) 1	34,265	36,783	7.3%	34,727	32,627	6.4%
Construction						
Total Construction (thous. of dol.) 2	101,289.7	131,507.4	29.8%	109,318.8	86,309.3	26.7%
Residential	69,739.4	91,705.1	31.5%	69,654.2	49,731.6	40.1%
Nonresidential	14,544.7	22,312.6	53.4%	22,867.9	23,239.9	-1.6%
Additions, Alterations, and Conversions	17,005.7	17,489.7	2.8%	16,796.7	13,337.9	25.9%
Total Permit Construction (thous. of dol.) 3, 4	128,521.5	145,531.7	13.2%	135,096.5	105,973.0	27.5%
Residential	81,030.6	101,864.2	25.7%	80,464.3	56,549.7	42.3%
Nonresidential	28,490.9	24,688.5	-13.3%	35,819.9	29,699.4	20.6%
Additions, Alterations, and Repairs	19,000.0	18,979.0	-0.1%	18,812.3	19,723.8	-4.6%
New Dwelling Units (no.)	906	1,282	41.5%	965	685	41.0%
Employment						
Civilian Labor Force (thous.)	812.5	824.2	1.4%	810.9	799.7	1.4%
Total Employed Persons	771.4	785.7	1.9%	771.9	764.0	1.0%
Unemployed Persons	41.1	38.6	-6.1%	39.0	35.7	9.3%
Percent Total Labor Force	5.1	4.7	-7.8%	4.8	4.5	8.0%
Employees on Nonagricultural Payrolls (thous. of jobs)	739.8	760.4	2.8%	756.6	737.8	2.5%
Mining	8.7	8.4	-3.4%	8.5	8.7	-2.3%
Contract Construction	34.7	36.3	4.6%	32.1	30.1	6.7%
Manufacturing	104.9	104.8	-0.1%	105.3	107.1	-1.7%
Transportation, Communication, and Utilities	42.7	43.5	1.9%	43.0	42.4	1.5%
Wholesale Trade	41.6	42.1	1.2%	41.1	40.0	2.8%
Retail Trade	136.8	141.6	3.5%	140.3	136.4	2.8%
Finance, Insurance, and Real Estate	36.3	37.9	4.4%	36.9	35.0	5.6%
Services 5	188.8	197.0	4.3%	193.6	185.9	4.1%
Federal Government	39.3	39.2	-0.3%	38.6	39.2	-1.7%
State Government 6	42.1	44.1	4.8%	44.8	43.0	4.1%
Local Government 6	63.9	65.5	2.5%	72.5	70.0	3.6%
Average Weekly Hours						
Mining	43.7	42.6	-2.5%	43.2	44.2	-2.2%
Manufacturing	39.2	40.1	2.3%	40.3	39.7	1.3%
Wholesale Trade	39.1	36.0	-7.9%	36.0	37.8	-4.7%
Retail Trade	26.6	27.8	4.5%	26.9	26.5	1.6%
Amount of Unemployment Compensation (thous. of dol.)	5,476.6	5,744.9	4.9%	6,772.3	5,493.5	23.3%
Finance (qtlly.)						
Total State and Nationally Chartered Banks (no.)	40	39	-2.5%	39	40	-2.9%
Total Assets (mil. of dol.)	12,225.0	12,890.5	5.4%	12,515.8	11,978.8	4.5%
Total Liabilities (mil. of dol.)	11,368.3	11,943.8	5.1%	11,627.1	11,158.2	4.2%
Total Equity Capital (mil. of dol.)	856.7	946.8	10.5%	888.8	820.6	8.3%
Capital to Assets 7	8.37	8.71	4.1%	8.45	8.14	3.9%
Loan Loss Reserve Ratio	2.22	2.28	2.7%	2.23	2.04	9.0%
Loans to Assets	61.06	59.96	-1.8%	60.73	62.80	-3.3%
Temporary Investment Ratio	19.08	NA	NA	NA	16.63	NA
Return on Assets	0.21	NA	NA	NA	0.22	NA
Production						
Crude Oil to Refineries (thous. of bbls.)	3,718.7	3,546.7	-4.6%	3,684.6	3,633.5	1.4%
Crude Oil (thous. of bbls.)	1,722.5	1,922.5	11.6%	1,851.8	2,151.2	-13.9%
Natural Gas (mil. of cu. ft.)	26,327.5	26,008.3	-1.2%	26,023.0	27,312.8	-4.7%
Coal (thous. short tons)	1,656.0	1,658.0	0.1%	1,829.3	1,827.2	0.1%
Travel/Tourism						
Air Passengers (total no. on and off, S.L. Int'l. Airport)	1,235,440	1,473,208	19.2%	1,088,272	1,014,421	7.3%
Highway Traffic Count Across State Lines (qtlly.)	46,117	47,251	2.5%	46,665	45,300	3.0%
Visits to State and National Parks and Monuments	2,583,419	2,538,936	-1.7%	1,273,496	1,190,531	7.0%
Utilities						
Electric Customers (Residential)	497,887	506,975	1.8%	504,391	NA	NA
Electric Customers (Commercial)	49,357	50,009	1.3%	50,117	NA	NA
Natural Gas Customers (Residential and Commercial)	496,705	509,288	2.5%	505,534	493,542	2.4%
Natural Gas Customers (Industrial)	620	802	29.4%	733	585	25.1%
Telephone Lines in Service (U.S. West, Residential)	534,918	554,991	3.8%	548,942	528,802	3.8%
Telephone Lines in Service (U.S. West, Nonresidential)	205,981	209,788	1.8%	207,421	201,281	3.1%

Utah Business Statistics

UTAH DATA	Jul. 1991	Jul. 1992	% Change from Year Ago	12-Month Average This Year	12-Month Average Last Year	12-Month Average % Change
Davis County -----						
Nonagricultural Employment (thous.)	61.1r	62.8	2.8%	60.4	59.8	0.9%
Unemployment Rate	4.8r	4.4	-8.3%	4.5	4.3	3.7%
Authorized Permit Construction (thous. of dol.) 4	13,108.5	17,738.6	35.3%	17,290.0	12,120.6	42.6%
New Dwelling Units (no.) 4	100	129	29.0%	106	83	27.2%
New Car, Truck, and Motor Home Sales, Owner's County (no.)	539	578	7.2%	446	439	1.5%
Electric Customers (Residential)	50,639	51,728	2.2%	51,431	50,456	1.9%
Electric Customers (Commercial)	3,843	3,911	1.8%	3,920	3,768	4.0%
Natural Gas Customers (Residential and Commercial)	54,076	55,313	2.3%	54,864	53,704	2.2%
Natural Gas Customers (Industrial)	76	88	15.8%	88	59	49.6%
Telephone Lines in Service (U.S. West, Residential)	62,570	65,035	3.9%	64,016	61,632	3.9%
Telephone Lines in Service (U.S. West, Nonresidential)	13,618	14,075	3.4%	13,888	13,202	5.2%
Salt Lake County -----						
Nonagricultural Employment (thous.)	377.2r	385.0	2.1%	385.4	375.9	2.5%
Unemployment Rate	4.8r	4.3	-10.4%	4.6	4.0	14.0%
Authorized Permit Construction (thous. of dol.) 4	48,279.7	51,872.4	7.4%	47,223.9	44,864.4	5.3%
New Dwelling Units (no.) 4	311	388	24.8%	318	230	38.3%
New Car, Truck, and Motor Home Sales, Owner's County (no.)	2,459	2,821	14.7%	2,373	2,207	7.5%
Electric Customers (Residential)	249,628	253,998	1.8%	252,417	248,652	1.5%
Electric Customers (Commercial)	21,537	22,013	2.2%	21,867	21,356	2.4%
Natural Gas Customers (Residential and Commercial)	232,019	236,109	1.8%	234,857	231,047	1.6%
Natural Gas Customers (Industrial)	251	373	48.6%	318	248	27.9%
Telephone Lines in Service (U.S. West, Residential)	251,921	260,541	3.4%	257,949	248,939	3.6%
Telephone Lines in Service (U.S. West, Nonresidential)	124,049	123,961	-0.1%	122,926	121,617	1.1%
Utah County -----						
Nonagricultural Employment (thous.)	96.6r	99.6	3.1%	101.3	97.4	4.0%
Unemployment Rate	4.5r	4.1	-8.9%	4.4	4.0	12.4%
Authorized Permit Construction (thous. of dol.) 4	22,197.9	23,260.1	4.8%	23,933.9	19,273.2	24.2%
New Dwelling Units (no.) 4	138	158	14.5%	184	124	47.9%
New Car, Truck, and Motor Home Sales, Owner's County (no.)	475	524	10.3%	455	450	1.2%
Electric Customers (Residential)	54,269	55,847	2.9%	55,329	55,181	0.3%
Electric Customers (Commercial)	6,170	6,303	2.2%	6,265	6,782	-7.6%
Natural Gas Customers (Residential and Commercial)	65,796	67,753	3.0%	67,289	65,529	2.7%
Natural Gas Customers (Industrial)	81	86	6.2%	83	77	8.9%
Telephone Lines in Service (U.S. West, Residential)	68,988	71,566	3.7%	70,992	68,576	3.5%
Telephone Lines in Service (U.S. West, Nonresidential)	22,509	23,269	3.4%	23,076	21,850	5.6%
Weber County -----						
Nonagricultural Employment (thous.)	67.3r	69.3	3.0%	68.2	66.9	1.9%
Unemployment Rate	6.1r	6.2	1.6%	5.9	5.5	7.1%
Authorized Permit Construction (thous. of dol.) 4	8,998.2	9,002.2	0.0%	8,632.1	6,590.5	31.0%
New Dwelling Units (no.) 4	65	68	4.6%	60	44	37.6%
New Car, Truck, and Motor Home Sales, Owner's County (no.)	334	353	5.7%	416	345	20.4%
Electric Customers (Residential)	55,492	56,444	1.7%	56,120	55,321	1.4%
Electric Customers (Commercial)	5,168	5,338	3.3%	5,274	5,186	1.7%
Natural Gas Customers (Residential and Commercial)	51,915	52,989	2.1%	52,641	51,812	1.6%
Natural Gas Customers (Industrial)	81	98	21.0%	93	79	16.9%
Telephone Lines in Service (U.S. West, Residential)	48,385	49,838	3.0%	49,360	47,858	3.1%
Telephone Lines in Service (U.S. West, Nonresidential)	13,638	13,746	0.8%	13,725	13,479	1.8%

- 1 Consumable meat produced from the slaughter of cattle, calves, hogs, and sheep.
 2 Obtained from U.S. Bureau of the Census Construction Statistics Division.
 3 Obtained from *Utah Construction Report*.
 4 Due to changes in calculation, January 1991 and later data are not comparable to December 1990 and earlier data.
 5 Includes services by nonprofit and religious organizations.
 6 Includes public schools and college institutions.
 7 Includes allowance for loan losses.

NA Not Available.
 r Revised.

Sources:

Personal Income	U.S. Department of Commerce, Bureau of Economic Analysis.
New Corporations	Utah Secretary of State.
New Car and Truck Sales	Utah State Tax Commission, Economic and Statistical Unit.
Agriculture	U.S. Department of Agriculture, Utah Agricultural Statistics Service, <i>Utah Agriculture</i> .
Construction Data	U.S. Bureau of the Census and Bureau of Economic and Business Research, <i>Utah Construction Report</i> .
Employment Data	Utah Department of Employment Security.
Finance Data	Utah Department of Financial Institutions.
Crude Oil Production	Utah Department of Oil, Gas, and Mining and Area Oil Refineries.
Natural Gas Production	Utah Department of Oil, Gas, and Mining.
Coal Production	U.S. Department of Energy.
Air Passengers	Salt Lake City International Airport, Statistics Division.
Highway Traffic Count	Utah Department of Transportation.
Visits to State and National Parks and Monuments	U.S. Forest Service and Utah State Parks and Recreation Department.
Utilities Data	Cooperating Utah Utility Companies.

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NATIONAL DATA	Jul. 1991	Jul. 1992	% Change from Year Ago	12-Month Average This Year	12-Month Average Last Year	12-Month Average % Change
U.S. Gross Domestic Product (seasonally adjusted, bil., qtl.)	5,713.1	5,967.1	4.4%	5,823.4	5,603.9	3.9%
Total Personal Income (seasonally adjusted, bil. of dol.)	4,827.6	5,049.1	4.6%	4,959.1	4,763.5	4.1%
Industrial Production Indexes (seasonally adjusted, 1987=100)	108.1	109.3	1.1%	108.0	107.6	0.4%
New Plant and Equipment Expenditures by Business (bil., qtl.)	526.6	565.2	7.3%	536.5	530.3	1.2%
Net Exports of Goods and Services (seasonally adjusted, bil., qtl.)	-27.1	-37.3	37.6%	-22.9	-42.8	-46.4%
Exports of Goods and Services (seasonally adjusted, bil., qtl.)	602.3	626.8	4.1%	621.7	579.6	7.3%
Imports of Goods and Services (seasonally adjusted, bil., qtl.)	629.5	664.2	5.5%	644.7	622.5	3.6%
Composite Index of 11 Leading Indicators (1982=100)	145.2	149.0	2.6%	146.8	141.9	3.4%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted, 1982-84=100)						
CPI-U (All Urban Consumers) All Items	136.2	140.5	3.2%	138.6	134.4	3.1%
CPI-U (All Urban Consumers) Food & Beverages	137.1	138.1	0.7%	137.7	135.4	1.7%
CPI-U (All Urban Consumers) Housing	134.2	138.3	3.1%	135.9	131.8	3.1%
CPI-U (All Urban Consumers) Medical Care	177.5	190.7	7.4%	184.9	171.3	7.9%
CPI-U (All Urban Consumers) Transportation	123.4	127.2	3.1%	125.0	124.0	0.9%
CPI-U (All Urban Consumers) Energy	102.7	106.0	3.2%	102.0	105.2	-3.0%
Producer Price Index (not seasonally adjusted, 1982=100)						
Producer Price Index, All Finished Goods	121.6	123.7	1.7%	122.3	121.5	0.7%
GDP Implicit Price Deflator (seasonally adjusted, 1987=100, qtl.)	118.2	121.2	2.5%	119.6	116.1	3.1%
Civilian Employment (seasonally adjusted)						
Total Civilian Labor Force (mil.)	125.2	127.5	1.8%	126.3	125.1	0.9%
Total Civilian Employment (mil.)	116.7	117.8	0.9%	117.2	117.2	-0.0%
Unemployment Rate	6.8	7.7	13.2%	7.2	6.3	14.1%
Construction						
Total Construction (mil. of dol.)	21,795.0	21,678.0	-0.5%	19,609.3	19,050.4	2.9%
Residential	9,448.0	9,874.0	4.5%	8,892.5	7,773.2	14.4%
Nonresidential	7,664.0	7,073.0	-7.7%	6,500.7	7,206.0	-9.8%
Non-Building	4,682.0	4,731.0	1.0%	4,215.8	4,070.9	3.6%
New Dwelling Units (no.)	96,194	99,380	3.3%	88,848	82,463	7.7%
Interest Rates						
Federal Funds Rate	5.82	3.25	-44.2%	4.35	6.85	-36.5%
Short Term (3-month Treasury bill rate)	5.58	3.28	-41.2%	4.21	6.37	-33.8%
Long Term (30-year Treasury bond yields)	8.50	7.40	-12.9%	7.78	8.53	-8.8%
Prime Rates Charged by Banks on Short-term Business Loans (avg.)	8.50	6.02	-29.2%	7.04	9.34	-24.6%
Mortgage Rates (new homes)	9.12	7.81	-14.4%	8.40	9.39	-10.5%
U.S. and Utah Consumer Sentiment Indexes (1966=100, qtl.)						
U.S. Population's View of the U.S.	82.1	76.6	-6.7%	75.8	74.7	1.5%
Utahns' View of the U.S.	85.5	74.6	-12.7%	76.3	74.4	2.6%
Utahns' View of Utah	87.9	81.2	-7.6%	81.5	78.0	4.5%

Sources: *Survey of Current Business*, U.S. Department of Commerce: U.S. Gross Domestic Product, Total Personal Income, Industrial Production Indexes, New Plant and Equipment Expenditures by Business, Export/Import Data, Composite Index of 11 Leading Indicators, GDP Implicit Price Deflator, National Employment Data, Interest Rates.

Monthly Labor Review, U.S. Department of Labor, Bureau of Labor Statistics: Consumer Price Indexes, Producer Price Index.

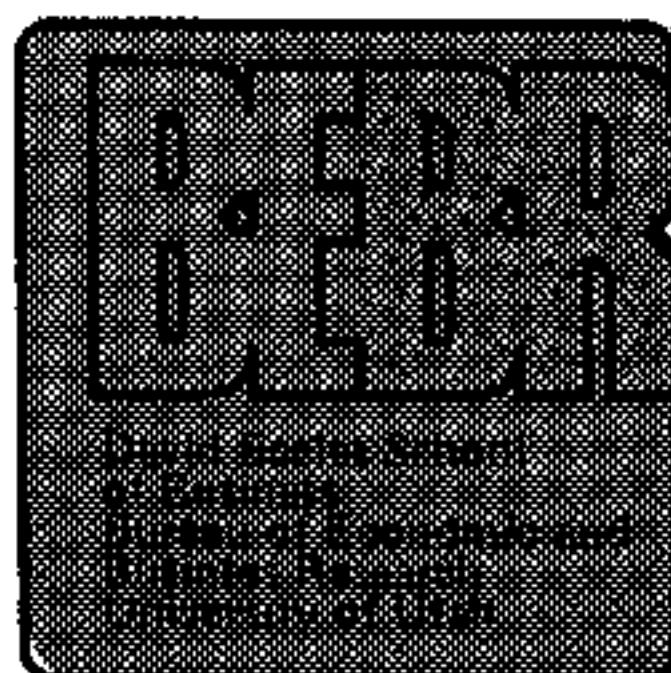
Dodge Construction Potentials, McGraw-Hill: National Construction Data.

University of Michigan and University of Utah Survey Research Center: U.S. and Utah Consumer Sentiment Indexes.

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