Texas Index 2006

Texas Workforce Investment Council

Texas Workforce Investment Council

System Partners

Economic Development and Tourism
Texas Department of Criminal Justice
Texas Education Agency
Texas Health and Human Services Commission
Texas Higher Education Coordinating Board
Texas Veterans Commission
Texas Workforce Commission
Texas Youth Commission

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John W. Sylvester, Linbeck Corporation (Vice Chair)
Edward B. Adams, Sr., E.B. Adams & Associates
Harold Jenkins, CTJ Maintenance, Inc.
John W. Wroten, Jr., EDS (Retired)

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Larry F. Jeffus, Educational Consultant and Author
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Albert Hawkins, III, Texas Health and Human Services Commission
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James E. Brown, Jr., General Motors Truck
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Robert Hawkins, United Association of Plumbers and Pipe Fitters Local No. 529

Community-Based Organization Representative
Sharla E. Hotchkiss, Consultant and Trainer

The Mission of Texas Workforce Investment Council

Assisting the Governor and the Legislature with strategic planning for and evaluation of the Texas workforce development system to promote the development of a well-educated, highly skilled workforce for Texas.

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September 2006

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Introduction

Texas Workforce Investment Council and Texas' Workforce System

The Texas Workforce Investment Council (Council) was created in 1993 by the 73rd Texas Legislature. The Council is charged with promoting the development of a highly-skilled and well-educated workforce for the State of Texas, and assisting the Governor and the Legislature with strategic planning for and evaluation of the Texas Workforce Development System (System).

The System is comprised of the workforce programs, services and initiatives administered by eight state agencies, 28 local workforce development boards, community and technical colleges and local adult education providers. System agency partners include:

Economic Development and Tourism
Texas Association of Workforce Boards
Texas Department of Criminal Justice
Texas Education Agency
Texas Health and Human Services Commission
Texas Higher Education Coordinating Board
Texas Veterans Commission
Texas Workforce Commission
Texas Youth Commission

The workforce system strategic plan – *Destination 2010: FY2004-FY2009 Strategic Plan for the Texas Workforce Development System* – is posted on the Council's website at:

http://www.governor.state.tx.us/divisions/twic/mandate/view

Approved by the Governor on October 15, 2003, *Destination 2010* was devised on a six-year timeframe to align with the existing Texas Strategic Planning and Performance Budgeting System, as well as the reauthorization of federal workforce legislation. The plan is modified annually to indicate accomplishments and milestones achieved, as well as changes to Strategic Action Plans.

System Strategy Statement

The System strategy is to provide its customers – employers, current workers and future workers of Texas – with access to relevant and comprehensive workforce services that span a continuum from career planning and preparation, to career development and enhancement.

Services include education, training and support services delivered through an integrated and cohesive network of state agencies, educational institutions and community-based organizations. Partner agencies and members of the delivery network are accountable for the successful execution and continuous improvement of the workforce development system.

As detailed in *Destination 2010*, system partners are charged with:

- Providing programs and services which are relevant and responsive to the evolving needs of employers, current workers and future workers.
- Meeting system- and agency-level performance objectives through coordinated planning and the execution of initiatives which produce accountable results.
- Implementing a coordinated and efficient statewide system.
- Collaborating to achieve integration of interagency systems, processes and sharing of information critical to the system's success.
- Developing and deploying outreach and communications programs which build awareness, support and participation for the System.

Development of the Texas Index

The Texas Index was created to provide a series of indicators that, in the long term, may assist in demonstrating the linkage of programs and services to state-level economic success. In the short-term, it provides system stakeholders with an indication of the state's general workforce, education and economic health.

The *Texas Index 2006 (Index)* is the second annual release, providing trend data for a series of 39 indicators across four domains:

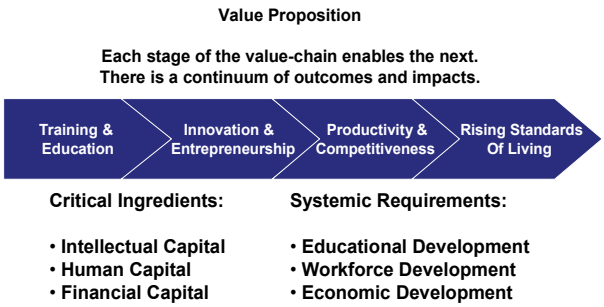
- Training and Education (10)
- Research and Development (11)
- Market Composition and Characteristics (14)
- Participant Access and Contribution (4)

Establishing the Index

Indicator Selection	During the original research phase, 14 sets of economic indicators recognized by experts and with sound methodology were identified for consideration. To be included in the index, indicators had to be directly linked to workforce and economic development, with publicly available data sets. These indexes and other recognized works, such as Dr. Michael Porter's model of cluster competitiveness and the Organisation for Economic Co-operation and Development's (OECD) Science, Technology and Industry Scoreboard, demonstrate common themes relative to critical indicators of economic and competitive success.
Refinement	One hundred potential indicators were identified, with the list narrowed to 48 after in-depth analysis. The list was further narrowed to 39 after: ▸ developing indicator definitions, ▸ documenting methodology for indicator calculation, and ▸ determining data availability, by source and date.
Report	This first version of the index was compiled in an effort to provide an overview of the trends critical to the state's economic health.
Future Steps	In future years, additional trend data will be gathered and published. Enhancements may also include additional state, regional and/or national comparative data. The index will be produced annually for distribution to the Council, policy makers and workforce system partners and stakeholders.

The Texas Index*,* its domains and indicators within those domains, are empirical evidence of a value proposition that contains four critical, interrelated elements:

- Intellectual capital and the availability of a well-educated population are required to support innovation and commercialization.
- Human capital and the availability of a well-trained labor supply are required to support the business needs of employers, and increases in worker productivity.
- Financial capital and the availability of funds to support both basic and applied research, as well as product commercialization, firm birth and growth, are required to ensure continued innovation and increased competitiveness in the global marketplace.
- An enhanced standard of living for Texas citizens is related to the successful outcome of activities that support the first three value elements.



Each of the four value-chain elements in the graphic correlates to one of the four domains in the Texas Index. Like the value-chain elements, the indicators and data sets within each domain are related to and impacted by indicators in the other domains. The included indicators provide a measure of Texas' performance and can be benchmarked against the U.S. average, competitor states or longitudinal Texas' performance.

Within the relevant domain, the index establishes trends for critical outputs, such as the comparison of employment growth and wages to indicate the extent to which growth translates to increased prosperity; the use of gross state product per employee as an indicator of business productivity; and export growth as a determinant of state's competitive position in international markets. The correlation of elements of the value-chain to Texas Index domains is represented as:

The state's efforts to improve intellectual, human and financial capital are paramount to building Texas' assets for the future. Decisions in the policy areas of education, workforce and economic development all affect the value-chain; for example, a decision in the education arena may have an unintended impact on economic development due to the interrelatedness of education, labor supply, and business growth.

System Evaluation and Growth Challenges

Most evaluation is conducted at the program level, typically developed around a series of input and output measures. While providing valuable information about the relative success of various programs and their effectiveness for specific client populations, program-level evaluation does not provide a complete evaluative picture.

It is far more difficult to measure system-level economic impact. Development of the Texas Index is a first step toward tracking system-level success. It is important to note that measures of success may evolve in concert with shifting business and political strategies, as well as legislative mandates.

The landscape of state-supported efforts for economic growth continues to change, partly in recognition of the critical need for continued growth and diversification. Job growth in high-tech and knowledge-based industries is more likely in regions with ready access to a qualified workforce. Other key factors that indicate economic growth potential include strong performance related to venture capital availability, patent production, and higher levels of research and development.

In October 2004, Governor Rick Perry announced a long-term, strategic job creation plan designed to focus state efforts in six industry clusters: advanced technologies and manufacturing, aerospace and defense, biotechnology and life sciences, information and computer technology, petroleum refining and chemical products, and energy. This effort gives credence to the importance of many of the included indicators related to education, research and development, and market composition.

Economic Dynamism

" … epitomized by fast-growing, entrepreneurial companies … ability of firms to innovate and get to market faster is becoming a more important determinant of competitive advantage. Likewise, the ability of state economies to rejuvenate themselves through the formation of new, innovative companies is a key in determining their economic vitality."

- Progressive Policy Institute, *The 2002 State New Economy Index*

High-Tech Growth

Figures released by the AeA[1] trade association in April 2006 indicated continued strong performance in Texas' high-tech industry:

- *Jobs* – With fewer layoffs than in the previous year, Texas was again ranked second nationally for tech-related employment. The state lost 10,500 (2.4%) of its high-tech jobs in 2004, yet with 435,400 tech jobs was second only to California.
- *Wages* – Average wages for high-tech workers were $72,400 nationally and $72,300 in Texas. Texas' rank improved to twelfth nationally.
- *Exports* – Texas again ranked second nationally as its high tech exports decreased slightly to $34 million in 2005, accounting for 26% of Texas' exports.
- *Venture capital* – Venture capital investment held at $1.1 billion in 2005. Texas again ranked third nationally.

- AeA, *Cyberstates 2006*™ (April 2006)

Several key state legislative efforts were enacted in recent years to address this need to sustain and grow a dynamic economy. These efforts include:

- *Texas Emerging Technology Fund (TETF)* – Created by the 79th legislative session in 2005, the TETF has made eight awards totaling almost $10.25 million. In addition, eight Regional Centers for Innovation and Commercialization (RCICs) have been established to oversee the potential project application process. The National Association of Seed and Venture Funds recently reported (April 2006) that the TETF ranks eighth based on the size of the fund among all state-backed investment programs.
- *Skills Development Fund* – Managed by the Texas Workforce Commission, the fund has been operating in partnership with public community and technical colleges since FY1996. The 79th Legislature created a stable funding source for this fund. Employers subject to unemployment insurance taxes will now pay an Employment and Training Investment Assessment of 0.1% of wages paid; however, the initial contribution rate and replenishment tax components of the unemployment insurance tax will be reduced by 0.1%. The funds collected through this assessment will be deposited into a new holding fund and allocated according to a specific formula.

Funds are used to assist private employers with the design, financing and implementation of customized job training programs for new or existing jobs. Twenty-three grants totaling almost $8.6 million were awarded during FY2005.[2]

[1] Formerly called the American Electronics Association.
[2] Texas Workforce Commission, Skills Development Fund Annual Report FY2005.

- *Texas Enterprise Fund (TEF)* – Established by the 78th Legislature in 2003, the TEF is used to attract new business or to assist with substantial expansion of an existing business. *Site Selection* magazine (March 2006), for the second consecutive year, awarded the Governor's Cup to Texas for securing the most job creation announcements in the nation for 2005. *Site Selection* highlighted that Texas far exceeded its number from the previous year as well as that of the runners-up in the ranking.

- *Economic Development Bank* – Also established by the 78th Legislature in 2003, the bank provides incentives to businesses seeking to expand or relocate in Texas, as well as assisting local communities with the acquisition of capital for economic development.

Indicator Report Card - 2006

The Indicator Report Card lists all 39 indicators, presented alphabetically within each of the four trend directions. It includes the value for the most recent reporting cycle and the applicable page number for each indicator. For the trend symbols, reference the Key on the following page.

Indicator Report Card - 2006			
Trend	Indicator	Value	Page
↑	Academic-Performed R&D Expenditure per $1000 of Gross State Product	$3.43	26
↑	Associate Degrees Granted as a Percent of the 18-24 Year Old Population	1.64%	16
↑	Average Annual Amount of Small Business Investment Companies Funds Dispersed per $1000 of Gross State Product	$0.27	30
↑	Average Annual Pay per Worker	$40,131.00	37
↑	Average Annual Unemployment Rate	5.30%	35
↑	Bachelor's Degrees Granted as a Percent of the 18-24 Year Old Population	3.56%	16
↑	Employer Firm Births	136,563	38
↑	Export Orientation	$0.15	43
↑	Exports per Capita	$5,632.55	43
↑	Gross State Product per Capita	$38,764.27	42
↑	Labor Productivity	$43.81	36
↑	National Assessment of Educational Progress Test Scores – Math	281	19
↑	Number of Technology Fast 500 Companies per 10,000 Business Establishments	0.58	45
↑	Per Capita Income	$32,384.00	49
↑	Percent of Bachelor's Degrees Granted in Science and Engineering	24.20%	18
↑	Percent of Households with Computers	59%	51
↑	Percent of Households with Internet Access	53.2%	51
↑	Percent of Population Living Above the Federal Poverty Threshold	83.50%	50
↑	Percent of Population 25 Years and Older with High School Diploma	78.30%	14
↑	Total R&D Expenditure per $1000 of Gross State Product	$18.36	26
→	National Assessment of Educational Progress Test Scores – Science	143	19
→	Patents per Capita	0.03%	23
→	Percent of Population Enrolled in Degree-Granting Institutions	5.22%	15
→	Workforce Educational Achievement	13.93	13
→	Venture Capital Invested as a Percent of Gross State Product	0.13%	24
→	Venture Capital Invested per $1000 of Gross State Product	$1.25	24
↓	Employer Firm Terminations	18,653	38
↓	Incoming Foreign Direct Investment per Capita	$4,577.90	44
↓	Industry R&D Expenditure per $1000 of Gross State Product	$13.73	26
↓	Labor Force Participation Rate	67.08%	33
↓	National Institutes of Health Support to Texas Institutions per Capita	$50.31	28
↓	National Science Foundation Funding per Capita	$6.73	29
↓	Number of Patents	6,241	23
↓	Percent of Graduate Degrees Granted in Science and Engineering	25.70%	18
↓	Science and Engineering Graduate and Post-Graduate Students	26,015	18
↓	State Tax Revenue as a Percent of Gross State Product	3.37%	40
↓	Texas Budget Surplus as a Percent of Gross State Product	0.13%	41
↓	Venture Capital per Capita	$48.28	24
↓	Workers' Compensation Premiums Cost per Employee	$254.05	39

Indicators and Analysis

Structure and Key

By design, the report's narrative sections are intended to be succinct. Each domain includes an introductory section, providing summary information and an overview of issues to be considered when reviewing the data and accompanying narrative.

The summary includes general information about the number of indicators included in the domain, as well as the number and percentage for:

Key	
	Positive change in last reporting cycle
	No significant change in last reporting cycle
	Negative change in last reporting cycle
	Comparative data unavailable
	Watch alert

- *Trend* – Each indicator is assigned one of four symbols to denote directional change in the last available reporting cycle. The percentage value for each trend symbol category is calculated based on the total number of indicators in the domain; the total of all percentages in the four symbol categories equals 100%.

  It is important to note that the directional arrows are used to indicate positive, non-significant or negative change in the last reporting cycle, not an increase or decrease in the actual numeric value. This is necessary to ensure commonality of assessment as, by definition, a few of the indicators are counterintuitive in nature. For example, a *decrease* in the Percent of Population Living Above the Federal Poverty Threshold is a *negative* change, while a *decrease* in the Average Annual Unemployment Rate is a *positive* change.

- *Watch alert* – The symbol is used to denote an indicator flagged to watch in the next reporting cycle. Reasons for flagging include: recurring negative change over multiple years; significant negative change in the most recent reporting cycle; legislative changes; anticipated modifications to reporting requirements or processes; or indicator remains low on a comparative basis. The percentage value for indicators flagged for 'watch alert' is calculated based on the total number of indicators in the domain.

In addition to the domain summary, brief narratives are provided for each indicator. In some cases, indicators are grouped to facilitate explanation or comparison across related indicators.

Data Notes

- *Included data* – Data is presented for the most recent five years for which data is available. In a few cases, five years – or five consecutive years – of data is not available for a variety of reasons. These reasons include: data was not collected for a particular year, testing did not occur, the methodology changed, or a primary data source fewer, more recent years of available data.

- *Data normalization* – For many of the indicators, data is normalized by common factors (e.g., per capita, per 1000, percent of Gross State Product [GSP]) to assist in providing equivalent measurement of data year-to-year. In addition, normalization helps to facilitate cross-indicator review as well as global and national comparisons, where applicable.

- *Rounding convention* – The data points contained in the graphs in this report are based on actual data source numeric values. Data values referenced in the index narrative have been

rounded to two decimal places based on the standard rounding convention: .001 to .004 has been rounded down to .00; .005 to .009 has been rounded up to the next highest hundredth.

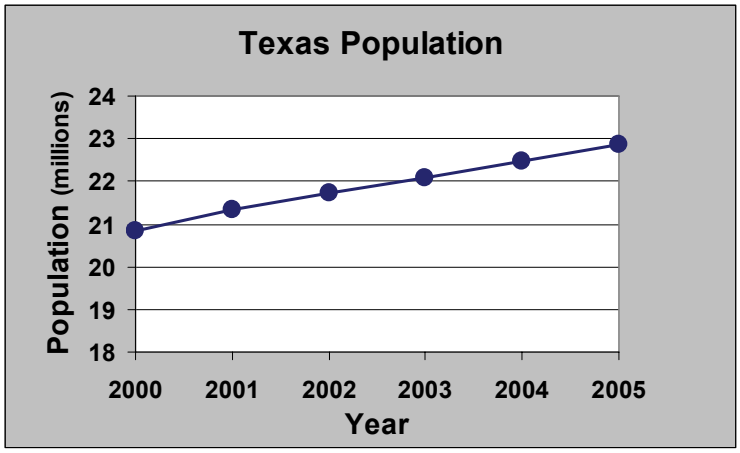
- *Point in time* – Many publicly available data sources continue to be updated for months and years after the initial data release. This is typically due to corrections or clarifications that result from contract reporting finalization or performance audits. Data is verified and updated, as applicable, during the index's development stage. However, due to these changes, data in the index may differ from corrections to the source data.

- *Anecdotal information* – In some cases, data for the most recent calendar or fiscal year was not available for use in indicator calculation. The narrative may include anecdotal information that is counter to the last trend point. For example, the most recent 'final' figures for research and development expenditures are for 2003. The 2003 figures reflect some positive change in comparison to the prior year; however, availability of certain types of federal and state funding has decreased in the interim.

Base level data for state population and Gross State Product (GSP) is provided below.

- *Population base level data* – The population count is increasing, rising from 20.8 million in 2000 to almost 22.9 million in 2005. June 2004 projections from the Texas State Data Center indicate that the state's population is expected to exceed 35 million people by 2040, a 71.5% increase from 2000.

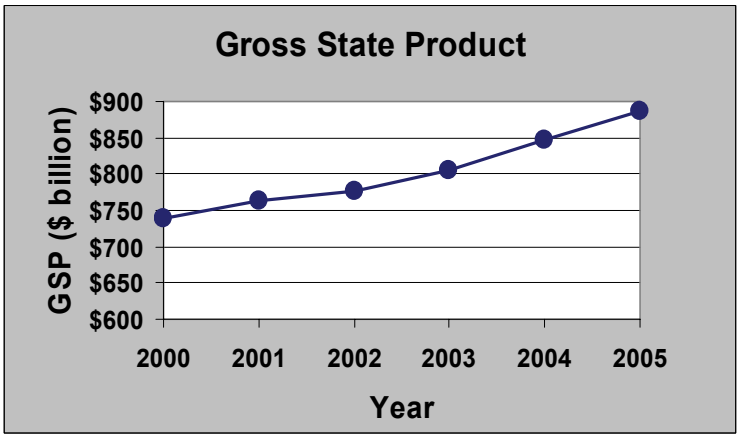
  Several key changes are expected in population composition: majority Hispanic; substantial aging; and variable growth rates for regional and metropolitan areas.



SOURCE: U.S. Census Bureau

- *GSP base level data* – GSP is considered the most comprehensive measure of state economic activity. It is the sum of all value added by industries within the state (i.e., employee compensation, taxes on production and imports, gross operating surplus).

  Based on Texas Comptroller data, Texas' GSP increased significantly in recent years, rising from $738.3 billion in



SOURCE: Texas Comptroller

2000 to $886.2 billion in 2005. Figures released by the U.S. Department of Commerce – Bureau of Economic Analysis (BEA) in June 2006 rank Texas as second nationally, behind California and just ahead of New York.

- *Source information* – Sources for the data sets in the tables and graphs included in this publication are noted. Detailed data tables, methodologies and accompanying documentation are retained at the Council's office.

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Domain 1 – Training and Education

The Training and Education domain includes 10 indicators that provide data about the training and education levels of the Texas workforce. General educational attainment data is included, as well as detailed information pertaining to science, mathematics and engineering. Performance was mixed for the last available reporting cycle, but five of the 10 indicators (50%) experienced a positive change. One indicator related to high school diploma rates has been flagged with a 'watch alert' for the second consecutive year.

Domain 1 Summary			
Number of Indicators - 10			
		No.	%
↑	Positive change in last reporting cycle	5	50%
→	No significant change in last reporting cycle	3	30%
↓	Negative change in last reporting cycle	2	20%
●	Comparative data unavailable	0	0%
⚑	Watch alert	1	10%

Indicator	Page	Alert	Trend
Workforce Educational Achievement	13	-	→
Percent of Population 25 Years and Older with High School Diploma	14	⚑	↑
Percent of Population Enrolled in Degree-Granting Institutions	15	-	→
Associate Degrees Granted as a Percent of the 18-24 Year Old Population	16	-	↑
Bachelor's Degrees Granted as a Percent of the 18-24 Year Old Population	16	-	↑
Percent of Bachelor's Degrees Granted in Science and Engineering	18	-	↑
Science and Engineering Graduate and Post-Graduate Students	18	-	↓
Percent of Graduate Degrees Granted in Science and Engineering	18	-	↓
National Assessment of Educational Progress (NAEP) Test Scores – Math	19	-	↑
National Assessment of Educational Progress (NAEP) Test Scores – Science	19	-	→

Issues for Consideration

An adequate and well-trained labor supply must be available to support the needs of employers seeking to conduct, establish or expand businesses in Texas. Higher education levels, coupled with training in relevant fields, can positively affect the economy through increased productivity and wage levels.

With the increased focus on knowledge-based jobs and global competition, the fields of science, mathematics and engineering are critical subject areas.

National figures released by the U.S. Census Bureau in March 2005 reinforce the value of a college education: workers 18 and over with a bachelor's degree earn an average of $51,206 a year, while

those with a high school diploma earn $27,915. Workers with an advanced degree make an average of $74,602 a year, and those without a high school diploma average $18,734.

While educational opportunities are increasing, the cost of higher education is also rising. This is important when considering other measures such as income and earning levels, as well as the rising cost of living and basic expenses.

Although the indicators included in this domain provide an overall picture of workforce education levels, there are certain factors that should be considered but that are not readily quantifiable. These include:

"Average total tuition and fees at four-year public colleges and universities in 2005-06 are $5,491, $365 (7.1 percent) higher than they were in 2004-05 ... Average total tuition and fees at two-year public colleges in 2005-06 are $2,191, $112 (5.4 percent) higher than in the previous academic year."

Public tuition and fee averages for ***Texas:***

Institution	2005-06	2004-05	Increase
Two-Year	$1,510	$1,420	6%
Four-Year	$4,830	$4,560	6%

- The College Board, *Trends in College Pricing 2005* (October 2005)

- *Lifelong learning* – The focus on lifelong learning has increased in recent years, whether the primary goal is self-improvement or employment-driven.

- *Distance learning* – With increased computer access and the growth of the Internet, credit and non-credit options are more readily attainable. Distance learning opportunities continue to increase, and more courses are available with flexible schedules and in self-paced formats.

- *Company-sponsored training* – More and more, employers are providing financial support for training and education. Whether through tuition reimbursement programs or on-site learning centers, this investment in human capital not only supports ongoing learning by workers, but may have a positive impact on employee loyalty and morale.

- *Community colleges* – According to the American College Testing Program (ACT), 40% of all new jobs will require at least an associate's degree. In the *2005 Skills Gap Report*, the National Association of Manufacturers (NAM) urged government officials to invest in the capacity of community and technical colleges to prepare individuals for careers in high growth industries. NAM reports there is a serious shortage of technical skilled workers and that a two year degree is important for most entry-level positions.

➲ Workforce Educational Achievement

This indicator reflects the average level of education completed, in years, by the adult population 25 years and older. The calculation accounts for high school graduates (diploma or equivalency), completion of some college credit, and attainment of postsecondary degrees (e.g., associate, bachelor's, graduate). The level of educational attainment is often viewed as a credential for employment, and has been positively correlated to life-time earnings of individuals.

> *"While not every student plans to attend college after high school, many of the jobs now being created in a highly technology based economy require abilities equivalent to those expected of the first-year college student."*
>
> - ACT, Inc., *Crisis at the Core* (2005)

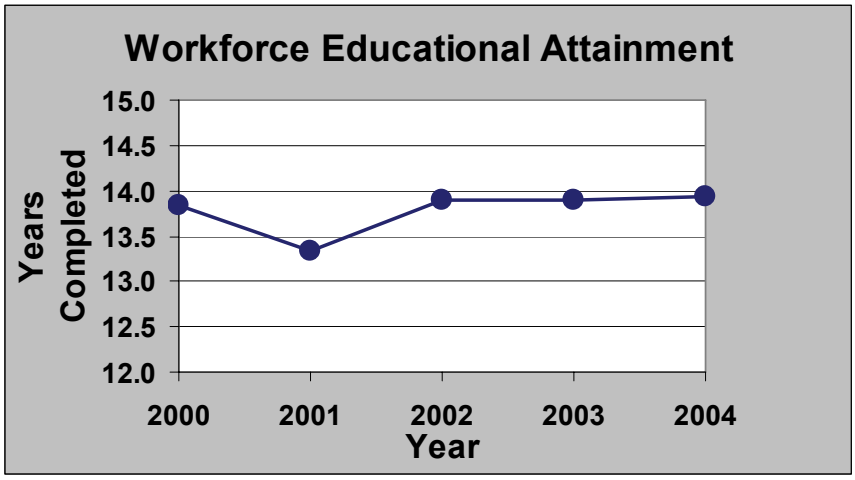
The importance of an educated workforce is noted throughout this domain. From the business side, the availability of a more educated workforce tends to correlate with higher productivity levels and increased innovation. Additionally, individuals with higher levels of education are more geographically mobile and, therefore, may be more willing to relocate for challenging job opportunities.

From the individual perspective, more educated workers not only have more and better employment options, but also higher rates of pay.

Data was obtained from the American Community Survey (ACS). Conducted by the U.S. Census Bureau, the ACS is a relatively new nationwide survey conducted annually in order to provide an up-to-date statistical picture of a community. The ongoing survey will replace the 'long form' census that is conducted every 10 years to gather demographic, housing, social and economic information.

In development since 1996, the ACS was expanded to all states in 2000, thus data is available only for 2000-2004. The average number of years of education varied little over the five-year period, and increased only slightly in 2004:

- 2000 – 13.83
- 2001 – 13.33
- 2002 – 13.89
- 2003 – 13.89
- 2004 – 13.93

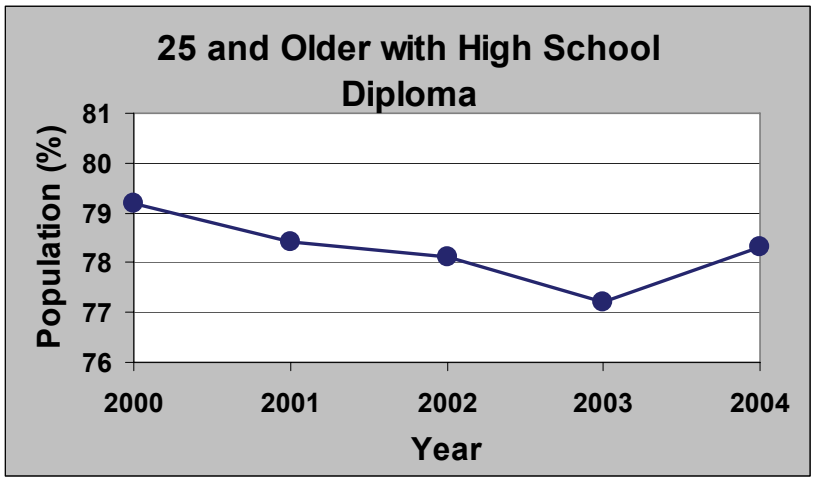


SOURCE: U.S. Census Bureau

Improvement for this indicator and others in training and education is critical to ensuring Texas' future economic growth. As the population ages, many employers are losing experienced workers who have a high degree of historical knowledge about their job, company and industry. Thus, it is even more critical that a large, well-educated labor supply be cultivated.

Percent of Population 25 Years and Older with High School Diploma

An educated workforce is considered to be a more productive workforce, with many employers viewing attainment of a high school diploma, or equivalency, as a basic credential indicating work-readiness. Individuals with high school credentials tend to have higher employment rates.



SOURCE: U.S. Census Bureau

The state's population composition continues to shift in terms of age and ethnic composition. As older workers leave the labor force, the need for new, younger workers with strong educational backgrounds becomes more critical.

Texas' high school diploma rate remained below the 80% mark for each of the last five years, rebounding in 2004 to 78.3% after declining the previous three years. The high for the five-year period was 79.2% in 2000.

As the state strives to attract and retain employers, Texas' high school attainment rate should raise concern for several reasons. For the reasons indicated below, this indicator has been flagged with a '- watch alert' for the next reporting cycle.

- *Lowest level nationwide* – For the 25 and older population, Texas has had the lowest rate in the U.S. for each of the last three years of the reporting cycle. In 2004, the national rate was 85.2% compared to 78.3% for the state.
- *Hispanic achievement rate* – This segment of the population is experiencing rapid growth and will comprise an increasingly larger proportion of the workforce in future years. In 2004, the high school rate for individuals 25 and older was 52.4%, significantly lower than all other race/origin categories.

High School Attainment Rates 2004[3]	
18 to 24 years	74.0%
25 to 44 years	79.7%
45 to 64 years	81.9%
65 years and over	65.5%
White alone	76.9%
Black alone	85.7%
Asian alone	93.0%
Hispanic (of any race)	52.4%
Non-Hispanic White alone	91.7%

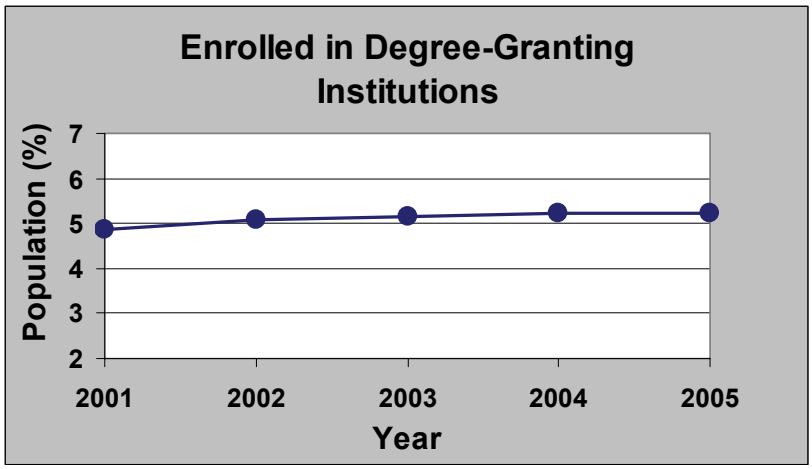
- *Rates for younger population segments* – Nationally, higher success rates are reported for the younger population segments. Texas' performance was counter to this trend in 2004, with the highest credential achievement rate (81.9%) reported for the 45-64 year old age group.

[3]Race/origin data is for individuals 25 and over.

➲ Percent of Population Enrolled in Degree-Granting Institutions

This indicator is calculated based on the total population enrolled in public and private degree-granting institutions, including public universities, independent senior colleges and universities, public community and state colleges, public technical colleges, independent junior colleges and both public and independent health-related institutions.

The lowest enrollment level for the five-year period 2001-2005 was established in 2001 with a rate of 4.85%. Although the total enrollment number increased slightly, the rate remains unchanged from the high of 5.22% reached in 2004.



SOURCES: U.S. Census Bureau and Texas Higher Education Coordinating Board [Includes non-residents]

One of four major goals contained in *Closing the Gaps* – The Texas Higher Education Plan is to increase participation rates in higher education across Texas. The initial goal was to increase the participation rate to 500,000 more students by 2015. In 2005, the goal was revised to increase the participation rate to 630,000 more students by 2015. In *Closing the Gaps by 2015: 2006 Progress Report* (July 2006), mixed results were again reported against the interim targets established for 2005. The fourth annual progress report reflected data for the period 2000-2006:

- *Interim targets* – 2005 targets were exceeded for the total enrollment, as well as African-American and Caucasian enrollment.
- *Hispanic enrollment* – Hispanic enrollment increased by 34.6%, or over 81,000 additional students. Despite its magnitude, this growth was not sufficient to reach the 2005 Hispanic enrollment target. An increase of 43.2% was needed.
- *Post-high school enrollment* –The percentage of recent high school graduates who enter college is not increasing.

While the overall enrollment rate increased in recent years, significant progress still needs to be made for certain demographic segments of the population. Whether individuals are enrolled for personal enrichment, skills upgrade or to seek a degree, the availability of an educated, high quality workforce is essential to the state.

Associate Degrees Granted as a Percent of the 18-24 Year Old Population
Bachelor's Degrees Granted as a Percent of the 18-24 Year Old Population

Many jobs require the acquisition of a formal degree as a requirement for employment. As with all of the education indicators, degree attainment correlates to increased earning potential and employment options, as well as preparation for advanced education.

Approximately twice as many bachelor's degrees are awarded annually in comparison to associate degrees. However, the importance of associate degrees has grown in recent years. For some occupations, employers prefer to hire individuals who have successfully completed this level of formal education and then supplement their skill set with job- and company-specific training.

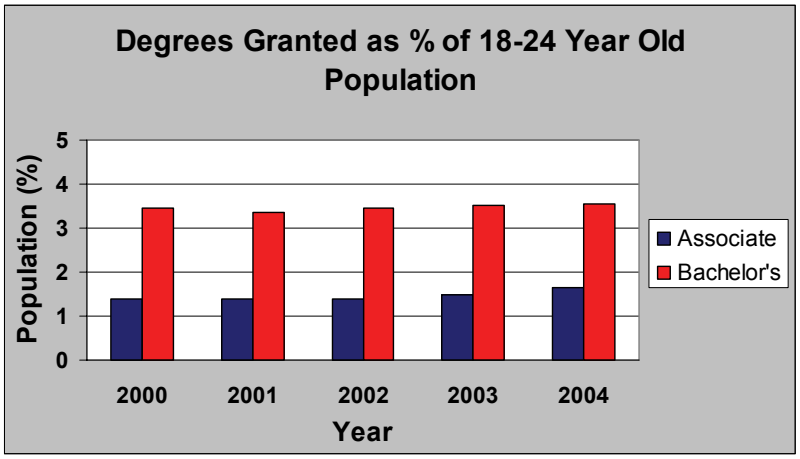
Obtaining an associate degree is often the first step taken beyond the high school diploma, with some individuals continuing to the bachelor's level. Other individuals seek the bachelor's degree as their first postsecondary credential. Bachelor's degree requirements may encompass most, if not all, of those required for a related associate degree. However, in many cases the lower level credential is not sought or awarded.

Degree granted information was obtained from the National Center for Education Statistics (NCES), the primary federal entity for collecting and analyzing data related to education in the U.S. and other nations. NCES has a Congressional mandate to collect, collate, analyze, and report complete statistics on the condition of American education; conduct and publish reports; and review and report on education activities internationally.

The Integrated Postsecondary Education Data System (IPEDS), established as the core postsecondary education data collection program for NCES, is a system of surveys designed to collect data from all primary providers of postsecondary education. The number of associate and bachelor's degrees represents the number conferred by public and private, Title IV-eligible, degree-granting institutions.[4]

Both indicators are calculated as a percentage of Texas' 18-24 year old population (including non-residents), the traditional age range for acquisition of an initial postsecondary degree.

- *Associate* – The percentage has increased slightly from a low of 1.38% in 2002 to 1.64% in 2004.
- *Bachelor's* – After hitting a five-year low of 3.36% in 2001, the percentage rose slightly each year, reaching 3.56 in 2004.



SOURCES: U.S. Census Bureau and National Center for Education Statistics [Includes non-residents]

[4] Title IV – Financial aid programs (e.g., Pell Grants, Federal Work Study Program) for postsecondary students, authorized under Title IV of the Higher Education Act of 1965, as amended.

Area	Type	2003	2004	% Change
Texas	Associate	34,919	39,302	+12.5
	Bachelor's	82,649	85,539	+3.5
U.S.	Associate	632,912	665,301	+5.1
	Bachelor's	1,348,503	1,399,542	+3.8

SOURCE: National Center for Education Statistics

Texas' base numbers for both degree types increased in 2004, rising 12.5% for associate degrees and 3.5% for bachelor's degrees. In comparison to national figures, Texas' rate for degrees granted was higher for associate degrees and slightly lower for bachelor's degrees.

One of four major goals contained in *Closing the Gaps* – The Texas Higher Education Plan addresses success rates: By 2015, award 210,000 undergraduate degrees, certificates, and other identifiable student successes from high quality programs. This goal was revised upward in 2005 from the previous target of 170,000. In *Closing the Gaps by 2015: 2005 Progress Report* (July 2005), positive results were reported against the interim targets established for 2005. The fourth annual progress report reflected data for the period 2000-2004:

- *Credentials awarded* – The number of academic credentials (i.e., certificates, associate and bachelor's degrees) awarded continues to increase, with bachelor's degrees accounting for 41.5% of the 2000-2004 increase.

- *Interim target* – The 2005 target of 28,000 for associate degrees has already been exceeded.[5]

[5] The plan's originally published success targets have been updated to include data from independent institutions.

Percent of Bachelor's Degrees Granted in Science and Engineering
Science and Engineering Graduate and Post-Graduate Students
Percent of Graduate Degrees Granted in Science and Engineering

The importance of science and engineering (S&E) education is increasing, primarily due to the need for a larger labor supply for the growing number of knowledge-based, technology-intensive jobs. In many cases the formal credential is required; however, some employers prefer to hire individuals with applicable coursework completed and then enhance their skill sets via on-the-job training. The availability of workers with S&E credentials is essential to support research and development activities in today's knowledge-based, global economy. Increased innovation is needed to generate and implement new products and technologies that are valued in competitive markets.

The bachelor's and graduate figures reflect degrees granted by Texas' public and private degree-granting institutions, including those granted to non-residents. Calculated as a percentage of the total number of degrees awarded, the indicators take into account the following areas of study:

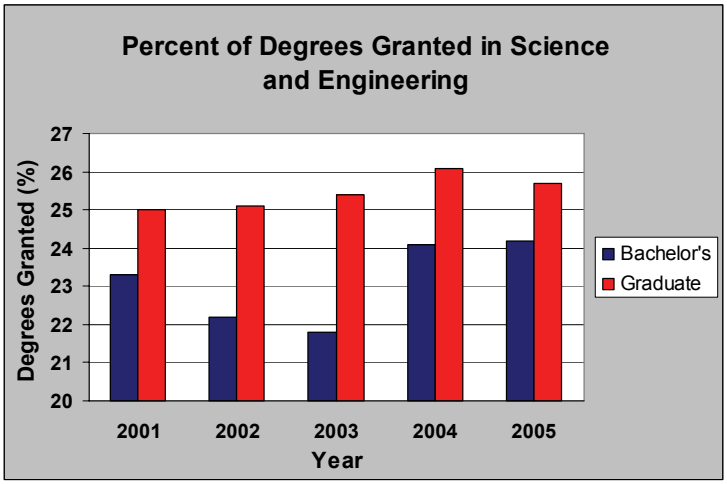
- Agricultural Sciences
- Biological Sciences / Life Sciences
- Conservation and Renewable Natural Resources
- Computer and Information Sciences
- Engineering
- Engineering-Related Technologies
- Health Professions/Related Sciences
- Mathematics
- Physical Sciences
- Science Technologies

Science and Engineering (S&E) on the Rise in U.S.

"In the last half century, the size of the S&E labor force has grown dramatically—with employment in S&E occupations growing 2,510% between 1950 and 2000 (albeit from a small base of 182,000 jobs). Although the highest growth rates occurred in the 1950s, employment in S&E occupations in the 1990s continued to grow by 3 to 4 times the growth of other jobs."

- National Science Foundation, Science and Engineering Indicators 2006 (June 2006)

The percentage of bachelor's degrees granted in S&E fields declined annually over the period 2001-2003 before increasing in 2004 and again slightly in 2005 to a five-year high of 24.2. The percentage of graduate degrees increased slowly over the five-year period, but after reaching a high of 26.1% in 2004 decreased to 25.7% in 2005.



SOURCE: Texas Higher Education Coordinating Board [Includes non-residents]

From 2001-2004, the Texas Higher Education Coordinating Board reported a steady increase in the enrollment numbers of science and engineering graduate and post-graduate students, from 20,318 to 26,128. In 2005, the number decreased slightly to 26,015.[6]

These indicators provide an illustration of how extensive S&E training is in the state, but do not provide documentation of the percentage of students or graduates that remain in the state's workforce upon exit from the higher education arena.

[6] The *Texas Index 2005* included enrollment data only for graduate students.

National Assessment of Educational Progress (NAEP) Test Scores - Math
National Assessment of Educational Progress (NAEP) Test Scores - Science

The National Assessment of Educational Progress (NAEP) tests are given in several subjects at grade levels 4, 8 and 12 in public and nonpublic schools. Also known as 'the Nation's Report Card', the NAEP is required by law with responsibility assigned to the National Center for Education Statistics (NCES) in the U.S. Department of Education. As with all standardized tests, possible biases should be taken into consideration; however, the NAEP tests are currently the only measure of student performance that is uniform across participating states.

Since 1969, periodic assessments have been conducted in reading, mathematics, science, writing, U.S. history, civics, geography and the arts. Beginning in 1990, assessments have been conducted to allow comparisons between participating states, with the content identical to assessments conducted nationally.

Under federal law, the NAEP is voluntary for every pupil, school, school district and state. However, the No Child Left Behind Act of 2001 includes strong incentives for participation. As of the 2002-2003 academic year, states that wish to receive Title I grants from the federal government must participate in the biennial fourth-/eighth-grade reading and math assessments.[7] The NAEP State Profile (April 2005) indicates that 62% of the state's over 4.3 million students are in Title I schools.

Although limited data is available due to the assessment schedule, the eighth-grade math and science scores have been included in the *Texas Index 2006*. Math not only includes concepts used in everyday life, but also those essential to pursuing postsecondary education in science and engineering. The science assessment includes hands-on experiments for a proportion of students, as well as paper-based testing of science concepts. Both subject areas represent critical educational requirements for occupations and industries considered key to the state's future economic growth.

> *"Regrettably, the American K-12 system is failing to provide the math and science skills necessary for kids to compete in the 21st century workforce, and the U.S. higher education system cannot produce enough scientists and engineers to support the growth of the high-tech industry that is so crucial to economic prosperity."*
>
> - AeA, Losing the Competitive Advantage? (February 2005)

Comparative achievement is reported by a scale score. This score represents the numeric summary of what students know and can do in a particular subject (presented for groups and subgroups). Scales are developed independently for each subject and should not be compared across subjects. Scale scores provide an indicator of how effectively students in the state are learning math and science at the middle school level.

[7] Title I is a federally funded assistance program for economically and educationally disadvantaged students. [a section of PL 107-110 – No Child Left Behind Act of 2001, and predecessor, PL 103-382] The Title I status of each participating student is indicated on the NAEP Assessment Administration form. Currently, students classified as Title I include those in schools offering targeted assistance to low-income children and also schools with high rates of low-income children that use Title I funds to support schoolwide programs.

- *Math – Grade 8*. The figures in the table represent the average scale score for participating eighth grade students in Texas, compared to the national average scale score of the nation's public schools. For the first time, the state's performance is significantly higher than the national average.

Year	Texas	U.S.
1996	270	271
2000	273	272
2003	277	276
2005	281	278

SOURCE: National Center for Education Statistics

Of the states and other jurisdictions participating in the 2005 eighth grade math assessment, comparisons to the national performance levels were: 28 – including Texas – had averages above; 7 were not significantly different; and 17 were below the national average.

- *Science – Grade 8*. Average scale scores for Texas and the nation's public schools are presented in the table at right. The science assessment was not conducted in 2003. Texas' average score remains below the national average.

Year	Texas	U.S.
1996	145	148
2000	143	148
2005	143	147

SOURCE: National Center for Education Statistics

Of the states and other jurisdictions participating in the 2005 eighth grade science assessment, comparisons to the national performance levels were: 26 had averages above; 7 were not significantly different; and 12 – including Texas – were below the national average. Texas ranked 17th out of the 44 participating states and the other jurisdictions. The lowest ranking was 22 since several states shared rankings, particularly among the top 10.

Domain 2 – Research and Development

The Research and Development (R&D) domain includes 11 indicators that describe the state of the Texas economy in areas such as patents, venture capital investment and federal grant awards. Of the four domains, this one had the highest incidence of negative change in the last reporting cycle with 5 of 11 indicators (46%) declining. In addition, all three venture capital indicators are again flagged with a 'watch alert', as each has declined or remained flat annually over the five-year period.

Domain 2 Summary Number of Indicators - 11			
		No.	%
↑	Positive change in last reporting cycle	3	27%
→	No significant change in last reporting cycle	3	27%
↓	Negative change in last reporting cycle	5	46%
●	Comparative data unavailable	0	0%
⚑	Watch alert	3	27%

Indicator	Page	Alert	Trend
Number of Patents	23	-	↓
Patents per Capita	23	-	→
Venture Capital per Capita	24	⚑	↓
Venture Capital Invested as a Percent of Gross State Product	24	⚑	→
Venture Capital Invested per $1000 of Gross State Product	24	⚑	→
Total R&D Expenditure per $1000 of Gross State Product	26	-	↑
Industry R&D Expenditure per $1000 of Gross State Product	26	-	↓
Academic-Performed R&D Expenditure per $1000 of Gross State Product	26	-	↑
National Institutes of Health (NIH) Support to Texas Institutions per Capita	28	-	↓
National Science Foundation (NSF) Funding per Capita	29	-	↓
Average Annual Amount of Small Business Investment Companies (SBIC) Funds Dispersed per $1000 of Gross State Product	30	-	↑

Issues for Consideration

Strong performance in this domain would indicate increased potential for innovation and economic growth. Cross-domain relationships should be considered. For example, the availability of a well-educated workforce increases the chance for strong R&D performance, which in turn tends to generate higher wages and productivity rates.

The most recent year for which data is available for the total, industry and academic R&D indicators was 2003. After all three experienced growth in the previous reporting cycle, only total and academic continued to grow in 2003 when viewed per $1000 of Gross State Product (GSP).

The funding shows improvement at the state and federal levels. Federal appropriations to the National Institutes of Health (NIH) continue to increase annually, while the National Science Foundation (NSF) also received a budget increase in FY2006 after experiencing its first budget cut in years for FY2005.

At the state level, the 79th Legislature in 2005 approved a new $200 million Texas Emerging Technology Fund (TETF). The purpose of the fund is to support three major areas of investment:

- Increasing research collaboration between Texas' public and private sector entities to develop new Regional Centers of Innovation and Commercialization (RCICs) where the seeds of an idea can take root in a university lab and eventually grow into a new product marketed by a new firm. Currently, the state has established eight RCICs which oversee the application process for potential projects. To date, awards have been made to seven technology companies, totaling nearly $8.25 million.

- Matching research grants provided by both federal and private sponsors to help innovators acquire the capital to bring their ideas to life.

- Attracting more top-notch research teams from other universities around the nation that will help put Texas' universities on the cutting edge of technology research and development. The first award from the fund was made in February of 2006 to Texas Tech University. Nearly $2 million was provided to support the university's new International Center of Excellence in Agricultural Genomics and Biotechnology.

R&D support is critical in the industrial sectors targeted for growth at the state and national level. To remain competitive, resources must be leveraged to support innovative efforts in the high-tech and science fields.

For many of the indicators in this domain, data has been normalized by common factors (e.g., per capita, per $1000 of GSP, percent of GSP) to assist in providing equivalent measurement of data year-to-year, and to facilitate cross-indicator review.

A note on basic versus applied research:

As used throughout this section, **basic** research involves theoretical or experimental investigation to advance scientific knowledge, without immediate practical application as a direct objective. On the other hand, **applied** research uses knowledge gained through theoretical or experimental investigation to produce products or create situations that will serve a practical purpose and which generally may impact the economy.[8]

While data regarding both types of research are reported here, it is applied research, and the commercialization of ideas into products and services, through venture capital investments that is particularly relevant to the discussion in this report due to its impacts on the Texas economy. The TETF, described above, is just one example of a key tenet of this state's economic and workforce development policy: the importance of applied research, and the dollars invested in activity, to the overall health of the Texas economy.

[8] "Evaluating Federal Research Programs: Research and the Government Program Results Act," Committee on Science, Engineering, and Public Policy, National Academy of Sciences, National Academy of Engineering, Institute of Medicine, 1999.

❶ Number of Patents
➲ Patents per Capita

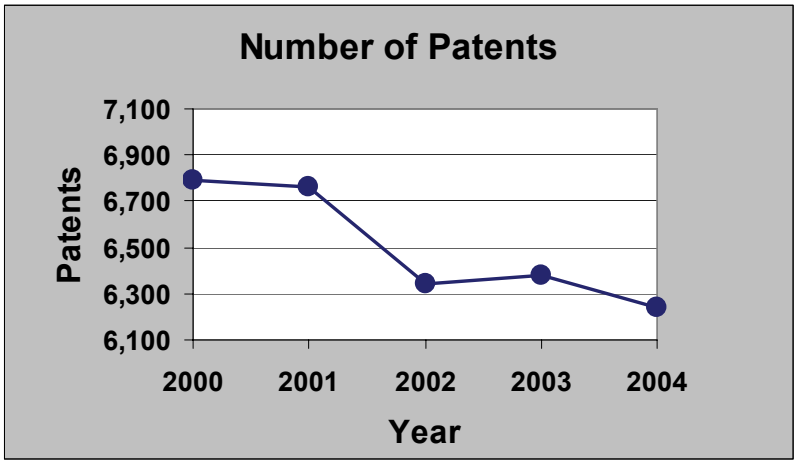
Both indicators are calculated based on the number of patents[9] and statutory invention registrations[10] filed by Texas entities. The origin of a patent is determined by residence of the first-named inventor.

> *U.S patents have enjoyed a period of nearly uninterrupted growth since the late 1980s, increasing from about 80,000 in 1988 to 169,000 in 2003.*
>
> - NSF, *Science and Engineering Indicators 2006* (May 2006)

Patent production is generally considered an indicator of a state's rate of innovation. Higher patent rates tend to indicate the presence of businesses that focus on R&D. Generation of ideas that are then commercialized into the development of new products and technologies potentially increases business output and, often, the ability to pay higher wages. Patent production demonstrates the ability of Texas' businesses to convert ideas developed through applied research into real gains for the state's economy.

In addition, many patents result from research conducted by academia, singularly or through collaborative ventures with industry. Given the recent decline in some types of R&D funding support, demonstration of innovation becomes even more critical to support the growth of knowledge-based enterprises and the target clusters of the Governor's Cluster Initiative, noted in the **Introduction**.

- *Number of Patents* – Texas' patent count hit a five-year high in 2000, with 6,789 patents issued. The number reached a new low of 6,241 in 2004.



SOURCE: U.S. Patent and Trademark Office

- *Patents per Capita* – When viewed on a per capita basis (i.e., number of patents issued to Texas entities, divided by the total population), there has been no significant change in recent years. Based on data from the U.S. Census Bureau and the U.S. Patent and Trademark Office, the rate has continued to hold steady at 0.03% per year during 2000-2004.

[9] Patent – Property right granted by the U.S. government to an inventor 'to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States' for a limited time in exchange for public disclosure of the invention when the patent is granted. [U.S. Patent and Trademark Office]

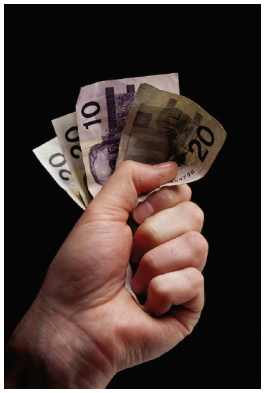
[10] Statutory Invention Registration (SIR) – A published statutory invention registration contains the specification and drawings of a regularly filed nonprovisional application for a patent *without examination* if the applicant fulfills certain requirements. A SIR request may be filed at the time of filing a nonprovisional application for a patent, or may be filed later while the nonprovisional application is pending. [U.S. Patent and Trademark Office]

Venture Capital per Capita
Venture Capital Invested as a Percent of Gross State Product *and* per $1000 of Gross State Product

Venture capital firms often play a key role in both the start-up and expansion of growth industries. Higher levels of venture capital investment typically indicate the presence of investment opportunities, crucial for developing industries and entrepreneurial companies in a rapid-growth mode.

As noted in the **Introduction**, six industry clusters have been targeted for growth by the state: advanced technologies and manufacturing, aerospace and defense, biotechnology and life sciences, information and computer technology, petroleum refining and chemical products, and energy. To be successful, increased venture capital and R&D support must be leveraged.

> *"Venture capital addresses the funding needs of entrepreneurial companies that generally do not have the size, assets, and operating histories necessary to obtain capital from more traditional sources, such as public markets and banks."*
>
> - Global Insight, *Venture Impact 2004* (July 2004)



Data is presented in three ways, with the two GSP data sets merged, for the period 2000-2004 in an effort to facilitate cross-indicator review with indicators in this, and other domains:

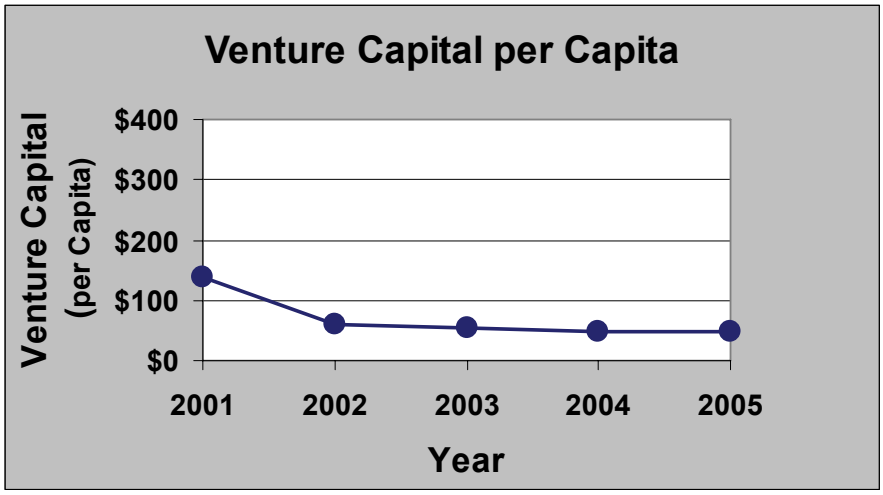
- *Per Capita* – Venture capital invested in Texas, divided by the Texas population.
- *Percent of GSP* – Venture capital invested in Texas, divided by Texas GSP
- *Per $1000 of GSP* – Venture capital invested in Texas, divided by Texas GSP (divided by 1,000).

The three venture capital indicators have been flagged for '⚑ - watch alert', as the rates for each declined or remained flat almost every year in recent reporting periods. All indicator trend lines are based on data from PricewaterhouseCoopers. It should be noted that the total U.S. venture capital investment level has been generally declining since 2000.

The total amounts of venture capital invested in Texas were (in millions):

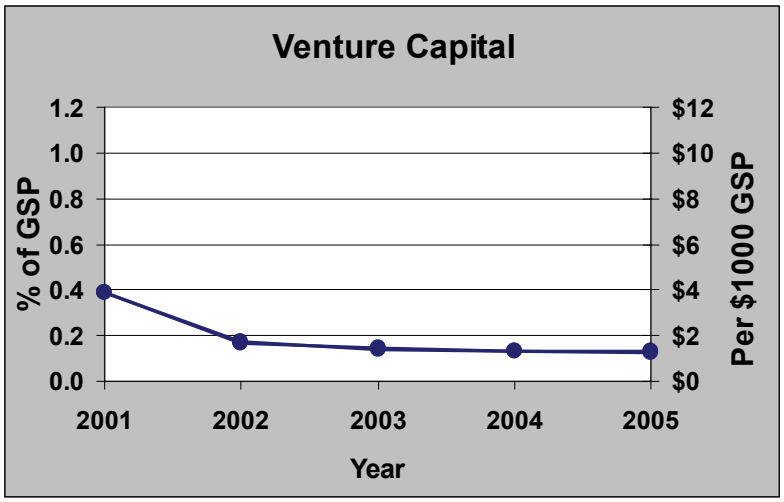
- 2001 – $2,959.2
- 2002 – $1,309.7
- 2003 – $1,164.6
- 2004 – $1,096.5
- 2005 – $1,103.7

The five-year high for the per capita rate was set in 2001 with a rate of $138.70. Since that time, the rate declined annually to a low mark of $48.28 in 2005.



SOURCES: U.S. Census Bureau and PricewaterhouseCoopers

As noted previously, a chart is also included to illustrate venture capital investment as a percent of GSP *and* per $1000 of GSP – essentially two ways to display the same data for comparative purposes.



SOURCES: Texas Comptroller and PricewaterhouseCoopers

- *Percent of GSP* – When viewed as a percentage of GSP, the rate fell from a high of 0.38% in 2001 to holding at the five-year low of 0.13% in 2005.
- *Per $1000 of GSP* – Similarly, the rate per $1000 of GSP declined from $3.87 in 2001 to $1.25 in 2005, almost even with $1.29 in 2004.

2005 year-end data released by PricewaterhouseCoopers did show a slight increase in Texas' investment levels and the number of deals made:

- *Number of deals* – 167 in 2005, up from 157 in 2004.
- *Investment level* - $1,103.7 million in 2005, up from $1,096.5 million in 2004.

While Texas experienced a slight decline per capita in venture capital investments for 2005, the national picture continued to improve slightly. National annual investment continued to rise from the (revised) low of $19.6 billion in 2003. As reported in PricewaterhouseCoopers' *MoneyTree Capital Profile for the United States* (April 2006), the upward trend continued in 2005, as $22.4 billion was invested into 3,039 deals.

Despite the declining rates in Texas, a July 2004 Global Insight report contained some positive data. Over the period 2000-2003, venture capital-backed companies fared better in both job creation and revenue growth than their U.S. private company peers in 10 industries including: biotechnology; computer hardware and services; computer software; industrial/energy; and semiconductors and electronics. Across these industries, venture capital-backed companies fared 6.5 and 11.6% better in terms of job creation and revenue growth, respectively.

When looking at the results generated over a longer-term (1970-2003), Texas ranked second in both job and revenue production.

Rank	State	Jobs 2003	Revenues 2003	Venture Capital Investment 1970 - 2003
1	California	2,470,942	$437.8	$140.1
2	Texas	899,173	$188.1	$20.5
3	Massachusetts	712,329	$107.4	$35.5

SOURCE: Global Insight [Revenues and Investment in billions]

Additionally, the National Association of Seed and Venture Funds recently reported (April 2006) that from 1995-2005 venture capital investments in the U.S. totaled $340.6 billion. Of that amount, 42.1% ($143.4 billion) went to California, 10.4% ($35.5 billion) went to Massachusetts, and 5.7% ($19.5 billion) went to Texas.

Total R&D Expenditure per $1000 of Gross State Product
Industry R&D Expenditure per $1000 of Gross State Product
Academic-Performed R&D Expenditure per $1000 of Gross State Product

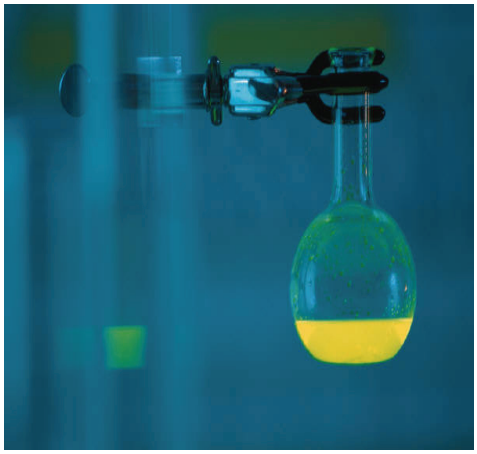
Research and development (R&D) expenditure rates provide an indication of government and private sector efforts to obtain, or increase, competitive advantage in science and technology. Ongoing development of new products, production techniques and technologies is important to sustaining a healthy, growing economy.

While industry R&D, with its applied research approach, is clearly product-oriented, academic R&D endeavors and funding generally tend towards basic research. The challenges for the Texas economy in this area are: (1) to maintain basic research funding at levels sufficient to make institutions of higher education in Texas powerhouses in innovation and in attracting faculty, and (2) to stimulate applied research in Texas' academic environment, as supported by the TETF.

The three R&D expenditure indicators are based on data reported to the NSF, with 2003 being the most recent year for which data is available. The NSF has a federal mandate to provide a central clearinghouse for the collection, interpretation and analysis of data on scientific and engineering resources. NSF data is not available for 2001 Total or 2000 Academic R&D expenditures.

> *"Research and development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications. R&D is a term covering three activities: basic research, applied research, and experimental development."*
>
> - Organisation for Economic Co-operation and Development *Factbook 2005*

Data is presented for total (industry plus national), industry and public and private academic institutions expenditure rates, normalized per $1000 of GSP. As noted earlier, Texas' GSP has increased significantly in recent years, rising annually for each of the relevant reporting cycles included in the index.

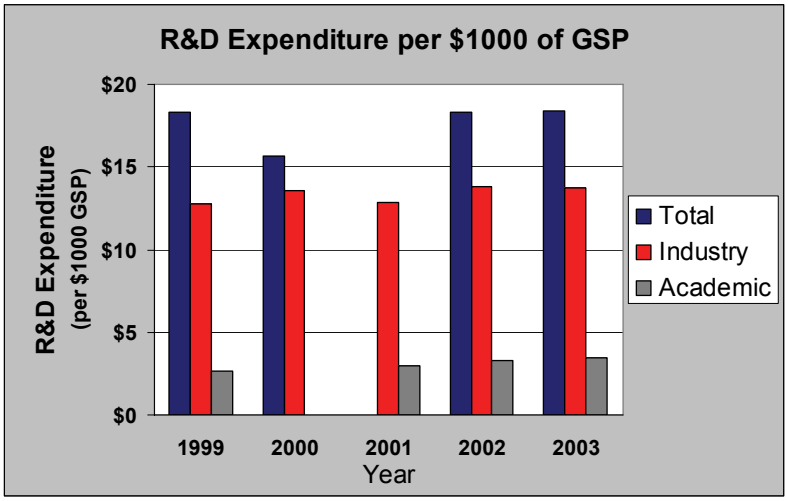


Each of the three indicators remained steady in the last reporting cycle:

- *Total* – Up slightly to $18.36 in 2003, from the previous recent high of $18.30 in 2002.
- *Industry* – Down slightly to $13.73 in 2003, from $13.83 in 2002.
- *Academic* – Up slightly $3.43 in 2003, from the previous high of $3.26 in 2002.

Federal funding of academic R&D performed in the U.S. reached a record high of $26.7 billion in 2003. According to an NSF *InfoBrief* released in August 2005, funding increased 9% from 2002 levels.

Federal funds traditionally account for the majority of academic R&D expenditures. In 2003, U.S. academic institutions spent $40 billion on R&D, including $25 billion in federal dollars. Three agencies were responsible for about 85% of the federal obligations: NIH (63%); NSF (13%); and Department of Defense (9%).[11]



SOURCES: National Science Foundation and Texas Comptroller

While a number of Texas institutions are successful in receiving large R&D grants from national institutes, in recent years no Texas institution has placed higher than fourteenth when compared with other states' colleges and universities in R&D expenditures.[12]

One of the revised goals included in *Closing the Gaps* – The Texas Higher Education Plan is to increase the level of federal science and engineering research funding to Texas institutions from 5.6% of the obligations in 2000 to 6.2% in 2010, and to 6.5% of obligations to higher education by 2015. In FY2004, federal funds accounted for 58.1% of the research funds expended, an increase from 56.1% in FY2003.

The TETF, created and funded at $200 million by the 79th Legislature and one of the Governor's economic development priorities, was established to expedite innovation and commercialization; increase higher education applied technology research capabilities; and attract, create, or expand private-sector entities that will promote a substantial increase in high-quality jobs. Key to the success of this last goal is the public funding of applied research, at the university level, which will ultimately bring the results of research to the market faster, thus commercializing ideas and creating new businesses along the way. There have been eight TETF grants to-date, totaling almost $10.25 million.

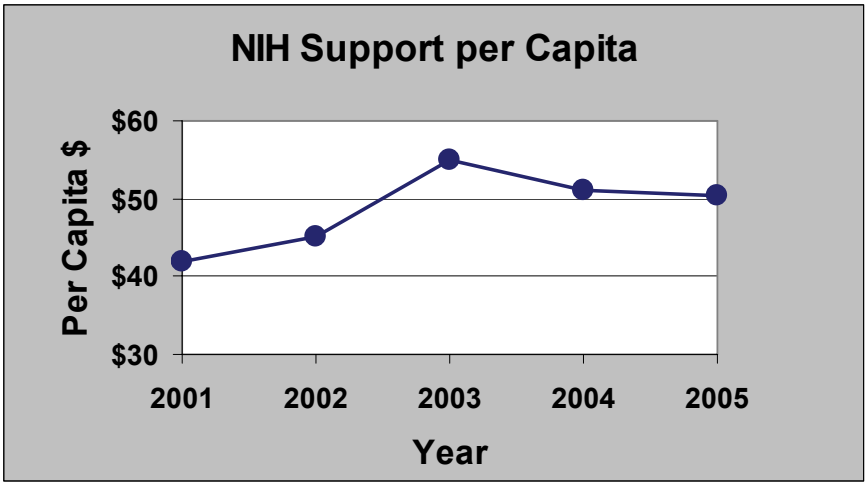
> *"Over the next decade, emerging technologies will generate $3 trillion in revenue worldwide. The question is, where will those investments be made and who will reap the benefits? Our TETF helps ensure that Texas has the competitive edge to provide greater opportunity, prosperity and a brighter future for all of our people."*
>
> - Governor Rick Perry (5/31/06)

[11] NSF, *Science and Engineering Indicators 2006*.
[12] Ibid.

National Institutes of Health (NIH) Support to Texas Institutions per Capita

The National Institutes of Health (NIH), a part of the U.S. Department of Health and Human Services, is the primary federal agency for conducting and supporting medical research globally and nationally. NIH provides financial support to researchers – annually investing over $28 billion in medical research. Primarily through competitive grants, NIH supports research at hospitals, universities and medical schools.

A high level of NIH funding may indicate the existence of a strong research community, with corresponding innovations in health- and science-related treatments and technologies.



SOURCES: National Institutes of Health and U.S. Census Bureau

The chart reflects the per capita NIH support rate, i.e., total NIH funding to Texas, divided by the total population of Texas.

Over the five-year period, the state's population has increased annually, as did the per capita NIH funding until declining in 2004 and again slightly in 2005 to a rate of $50.31.

Texas has ranked sixth in terms of total NIH dollars awarded for fiscal years 2001-2005, with the top three being California, Massachusetts and New York. Although a decline occurred in 2005 in terms of per capita dollars, the number of awards remained about the same, decreased by six, while the dollar amount increased from the previous year by almost $2 million. The FY2005 figures are presented below:

Rank	State	No. of Awards	Total Award Amount
1	California	7,460	$3,301,232,109
2	Massachusetts	5,193	$2,272,775,609
3	New York	4,986	$2,020,859,690
4	Maryland	2,593	$1,764,278,447
5	Pennsylvania	3,585	$1,452,228,510
6	Texas	2,830	$1,149,983,026

SOURCE: National Institutes of Health [Rank order by total dollars]

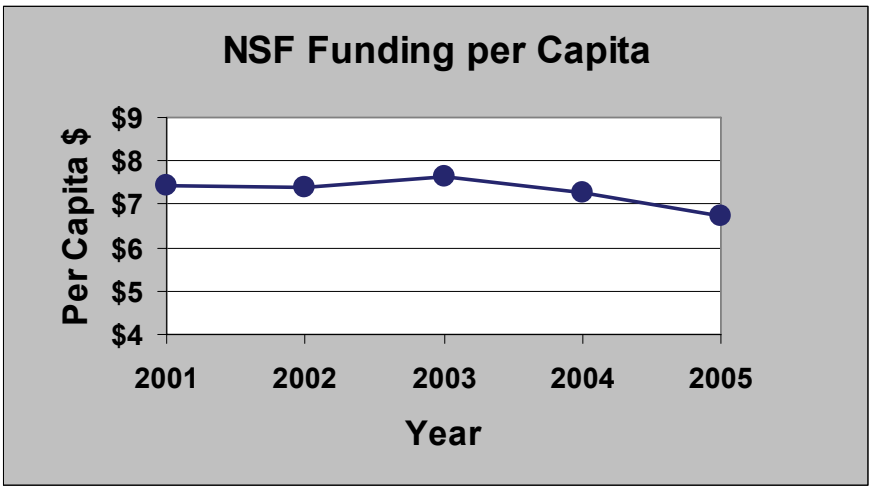
As previously noted, one of the goals included in *Closing the Gaps* – The Texas Higher Education Plan is to increase the level of *federal* science and engineering research funding to Texas institutions by 6.5% of obligations to higher education institutions across the nation by 2015. Notably, NIH funds accounted for 64% of federal research support for science and engineering to Texas higher education institutions in FY2004.

National Science Foundation (NSF) Funding per Capita

The National Science Foundation (NSF), established by Congress in 1950 as an independent federal agency, is the funding source for approximately 20% of all federally supported basic research conducted by U.S. colleges and universities. NSF funds research and education in most fields of science and engineering as well as the social sciences. Grants and cooperative agreements are awarded to colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations nationwide.

High levels of NSF funding for research and development efforts can indicate the presence of a strong postsecondary educational system, as well as an environment conducive to supporting high-tech startups and expansion efforts.

The chart presents total NSF funding to Texas entities, divided by the total population of Texas. The high for the five-year period was in 2003, before declining from $7.64 per capita to $6.73 in 2005.



SOURCES: National Science Foundation and U.S. Census Bureau

While the decrease is partly attributable to the growth in population, Texas total funding decreased from $163.7 million in 2004 to $153.8 million in 2005. Texas was ranked ninth in terms of total NSF funding for both years. However, the number of awards increased from 849 in 2004 to 885 in 2005. Texas was ranked sixth both years.

For FY2006, the NSF received a budget increase from the previous year when the NSF budget was cut for the first time in 16 years. The NSF was funded at $5.58 billion, which was $100 million (1.8%) above the FY2005 level but $24 million below the FY2006 request. The flat level of funding may continue to affect Texas' R&D expenditure rates negatively if Texas' rate of NSF awards and proportion of funding allocation remain consistent with previous years.

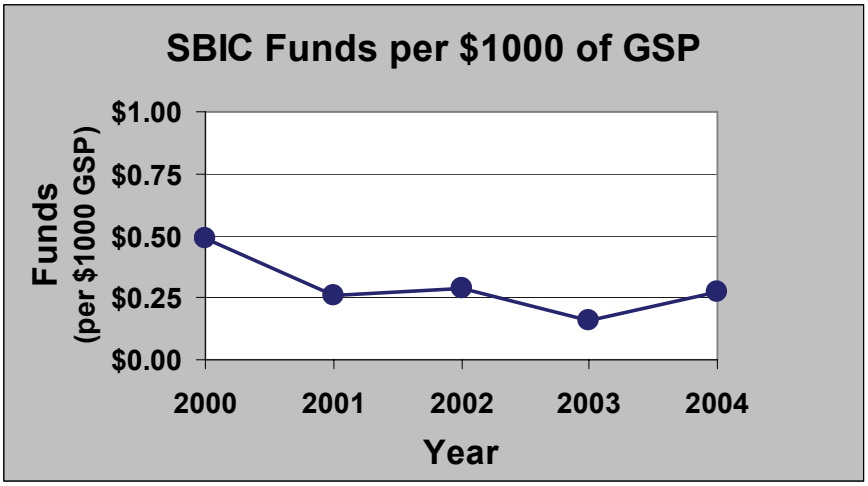
Average Annual Amount of Small Business Investment Companies (SBIC) Funds Dispersed per $1000 of Gross State Product

The Small Business Investment Company (SBIC) program is a part of the U.S. Small Business Administration (SBA). Created in 1958, the SBIC program is designed to help fill the gap between the availability of venture capital and the needs of small businesses for start-up or growth.

SBIC investing, as a subset of the overall venture capital industry, is responsible for the creation of millions of jobs and billions of dollars in corporate revenues, resulting in federal and state taxes paid, and countless improvements to health, safety and quality of life.

The program does not target specific industries. However, with a 10 year obligation timeline it is not necessarily a viable option for all business strategies (e.g., early-stage, pre-FDA approval biotechnology).

> *"…the federal government is the largest single investor in U.S. private equity funds. At the end of FY2003, SBA had close to $5.5 billion invested in 435 funds, plus another $3.7 billion in available commitments. Together with private capital topping $12 billion, the program totals over $21 billion in private equity capital dedicated to America's entrepreneurs."*
>
> - SBA, SBIC Frequently Asked Questions (FAQs)



SOURCES: U.S. Small Business Administration and Texas Comptroller

The chart represents the fiscal year annual amount of SBIC funds dispersed in Texas, normalized per $1000 of Texas' GSP.

The five-year high for the rate was realized in 2000 at $0.49, and after declining to a five-year low in 2003 of $0.16, the rate then increased to $0.27 in 2004. In 2004, the state ranked fifth nationally in terms of number of licensees and third in terms of funding.

Year	No. of Licensees	Funding
2000	238	$364,990,595
2001	228	$201,758,054
2002	252	$222,844,305
2003	223	$130,923,164
2004	249	$229,932,391

SOURCE: U.S. Small Business Administration

This improvement in SBIC awards to Texas' small business entrepreneurs indicates that venture capital resources to small business from this federal program are contributing to small business start-ups and expansion during the current economic upturn. According to the SBA, in 2003, 98.6% of employer firms in Texas were classified as small firms. Therefore, venture capital inflow, through vehicles like SBIC investing, is a key driver to increasing the contribution that small business, and its workforce, make to state GSP. In 2004, Texas received SBIC allotments generally in proportion to its share of national GSP, a significant improvement from 2003 and an important trend to maintain to support the positive impact of small businesses on the state's economy.

Domain 3 – Market Composition and Characteristics

The 14 indicators in this domain provide information about the state's workforce and employers. Data elements include employment-related indicators such as labor force participation, unemployment, gross state product, and exports information about the Texas economy. Based on the most recent data available, eight (57%) of the 14 indicators experienced a positive change. One indicator related to incoming foreign direct investment (FDI) has been flagged with a 'watch alert'.

Domain 3 Summary Number of Indicators - 14			
		No.	%
↑	Positive change in last reporting cycle	8	57%
→	No significant change in last reporting cycle	0	0%
↓	Negative change in last reporting cycle	6	43%
●	Comparative data unavailable	0	0%
⚑	Watch alert	1	7%

Indicator	Page	Alert	Trend
Labor Force Participation Rate	33	-	↓
Average Annual Unemployment Rate	35	-	↑
Labor Productivity	36	-	↑
Average Annual Pay per Worker	37	-	↑
Employer Firm Births	38	-	↑
Employer Firm Terminations	38	-	↓
Workers' Compensation Premiums Cost per Employee	39	-	↓
State Tax Revenue as a Percent of Gross State Product	40	-	↓
Texas Budget Surplus as a Percent of Gross State Product	41	-	↓
Gross State Product per Capita	42	-	↑
Exports per Capita	43	-	↑
Export Orientation	43	-	↑
Incoming Foreign Direct Investment per Capita	44	⚑	↓
Number of Technology Fast 500 Companies per 10,000 Business Establishments	45	-	↑

Issues for Consideration

The availability of an adequate labor supply is important when promoting business growth and expansion opportunities. Other factors, including business costs such as taxes and workers' compensation premium rates may affect employer decisions related to business expansion and, therefore, job growth.

The determination of positive or negative change in the last reporting cycle is made based on a given indicator's impact of the state's overall economic health. For many of the indicators, the effects of growth or decline may vary for businesses and individuals. For example:

- *Labor productivity* – Increases in labor productivity point to economic growth and business revenue increases achieved through a lower cost of doing business.

- *Labor costs* – While higher rates of pay have a direct, positive impact on a state's citizens, high labor costs may discourage new firm start-ups, as well as relocation and expansion plans.

- *State taxes* – Tax revenues are a primary funding source for Texas' general-revenue appropriations. Business-related and personal taxes may negatively effect the decision of workers or employers respectively, when considering Texas-based locations.

As noted in the discussions on specific indicators, there are three related factors that cannot be readily quantified. These are:

- *Declining benefit coverage* – Due to the increasing cost of health insurance and other benefits, the percentage of today's workers with coverage continues to decline. This has a potentially negative effect in terms of worker health, and should also be considered when assessing pay rates, given the impact on disposable income.

- *Gross State Product (GSP) growth* – GSP calculations do not take into account *what* is being produced and, therefore, do not measure the portion of growth accounted for by non-desirable expenditures such as environmental clean-up.

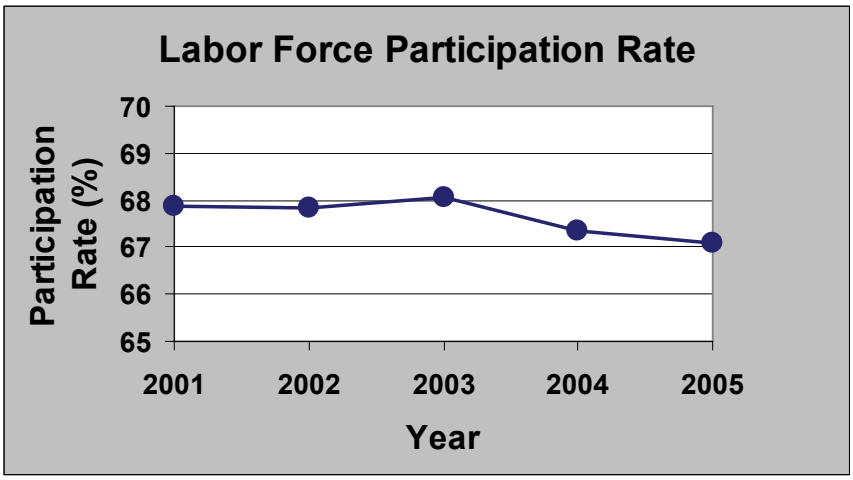
- *Workers' compensation reform* – Workers' compensation legislation enacted in 2005 is expected to bring about major changes in the system. Implementation is well underway, in anticipation of positive effects on job growth rates and other indicators in future years.

Labor Force Participation Rate

The labor force participation rate is determined by calculating the civilian labor force as a percent of the civilian noninstitutional[13] population. It is a basic indicator of the availability of workers.

However, an available worker is not necessarily the right match for a given employer or occupation. As noted in the **Training and Education** section, employer preferences related to applicant skill sets and education backgrounds should be considered, particularly as the state focuses on the growth of technology-based jobs.

After reaching 68.05% in 2003, the labor force participation rate declined to 67.08% in 2005. Although the rate continued to decline, Texas remained above the national average of 66.05% in 2005.



SOURCE: U.S. Department of Labor

National projections through the year 2012[14] indicate that rate changes will continue to mirror population changes:

- *Gender* – Higher growth rates for women in the workforce is expected to continue, although this growth is starting to slow. In 2004, women's labor force participation rate was 59.2% and women comprised 46% of the total labor force. The rate for men is expected to grow at a slower pace, while their aggregate share of the labor force is projected to decline to 53.2% in 2012.
- *Baby boomers* – In 2012, those born between 1946 and 1964 will be 48 to 66 years of age. At that time, youth are projected to comprise 15% of the labor force and those over the age of 55, about 19%. Prime age workers, considered to be between the ages of 25 and 54, will make up about 66% of the labor force.
- *Hispanics* – This population segment is expected to comprise an increasingly larger share of the labor force due to the growth of the segment as a whole and the relatively lower ages of individuals in the labor force.

> *"Many of these explanations imply the sluggish pace of jobs gains to be the result of weakness in aggregate demand and labor demand. However, some observers have suggested that broad demographic changes affecting labor supply—such as the aging of the population—could account for part of the sluggishness of job growth."*
>
> - Federal Reserve Bank of Kansas City, *Economic Review* (First Quarter 2006)

Intuitively, the labor force participation rate, either up or down should track correspondingly with economic expansion or contraction. However, job growth during the current economic expansion has been slower than in previous expansions.

[13] Civilian noninstitutional population: Persons 16 years of age and older who are not inmates of institutions (e.g., penal and mental facilities, homes for the aged), and who are not on active duty in the Armed Forces. [U.S. Department of Labor - Bureau of Labor Statistics]
[14] U.S. Department of Labor, *Monthly Labor Review* (February 2004, June 2006).

Economic researchers at the Federal Reserve Bank of Kansas City point to structural changes in the economy as the reason for a decrease in the trend rate of job growth.[15] Long-term demographic and cultural trends have likely contributed to decreases in employment growth and labor force participation rates. There has been a significant slowing in population growth resulting from fluctuations associated with the baby boom and a general aging of the population thereby impacting the labor supply. Recently, there has also been a slowdown in the increase in the labor participation rate of women, which saw a significant rise in the last half of the twentieth century but may now be reaching a plateau. In addition, the participation rate of men has decreased significantly over the same time period, reflecting an upward trend in such factors as early retirement.[16]

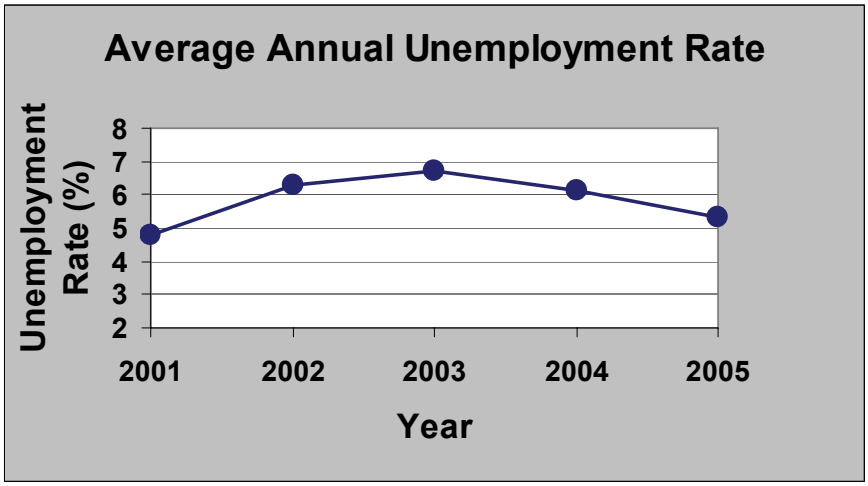
While the labor participation rate continued to decline, the labor productivity rate rose again, with a relatively sharp increase in 2005. These trends continue to point to a significant structural shift in both the state and national economies.

Evaluation of trends in temporary versus permanent layoffs and job relocations support the conclusion that permanent, structural changes to industry sectors have created the labor participation rate seen during the current economic growth and preceding economic recovery. Ultimately, structural changes to the economy explain why employment, as noted in the labor force participation rate, has remained static or fallen. If, as seems the case, job growth depends on the creation of new positions in different industries, a significant lag is anticipated before employment begins to rebound.[17] Employers incur risks in creating new jobs, and require additional time to establish and fill positions. Workers may be required to reorient their skills to new industries since jobs lost in other industries are not being returned.

[15] "The Trend Growth Rate of Employment: Past, Present, and Future" Todd E. Clark and Taisuke Nakata, Federal Reserve Bank of New York, *Economic Review*, First Quarter 2006.
[16] Ibid.
[17] "Current Issues in Economics and Finance: Has Structural Change Contributed to a Jobless Recovery?" Erica Groshen and Simon Potter, Federal Reserve Bank of New York, Volume 9, Number 8, August 2003.

Average Annual Unemployment Rate

This indicator represents the number of unemployed individuals as a percent of the Texas labor force. Individuals are classified as unemployed if they do not have a job, have actively looked for work in the prior four weeks and are currently available for work. Based on U.S. Department of Labor – Bureau of Labor Statistics' definitions, this includes individuals that were not working but were waiting to be recalled to a job following temporary layoff. The indicator does not account for individuals who were never in the labor force or who had stopped seeking work.



SOURCE: U.S. Department of Labor

After a five-year high of 6.7% in 2003, the average annual rate for Texas continued to improve to 5.3% in 2005. This was slightly higher than the national average, which was 5.1% in 2005.

Performance continued to improve in the last reporting cycle, with a decline in the unemployment rate. Changes in the unemployment rate may impact the Texas economy and its citizens in either positive or negative ways, depending on the direction of the change. A low unemployment rate is desirable due to negative impacts of a higher rate, including:

- *Economic impact:* Rising unemployment has a direct impact on the economy: a higher rate is indicative of a loss of current jobs; decrease in job growth rates; and decreases in discretionary spending.
- *Community and social impact:* High rates may contribute to problems such as crime, domestic violence and substance abuse.
- *Personal impact, including:*
  - *Financial hardship* – Unemployment and underemployment correlate to financial problems for individuals and households, particularly if medical or other benefits are lost or decreased.
  - *Underemployment*[18] – In times of high unemployment, more individuals are likely to be underemployed (i.e., employed part-time when seeking full-time work; working in a low-paying job that requires less skill or training; or employed in a job that is not challenging or does not encourage growth).
  - *"Discouraged worker effect"* – Calculations do not account for individuals that have stopped actively seeking work, thus removing themselves from the measured labor force.[19]

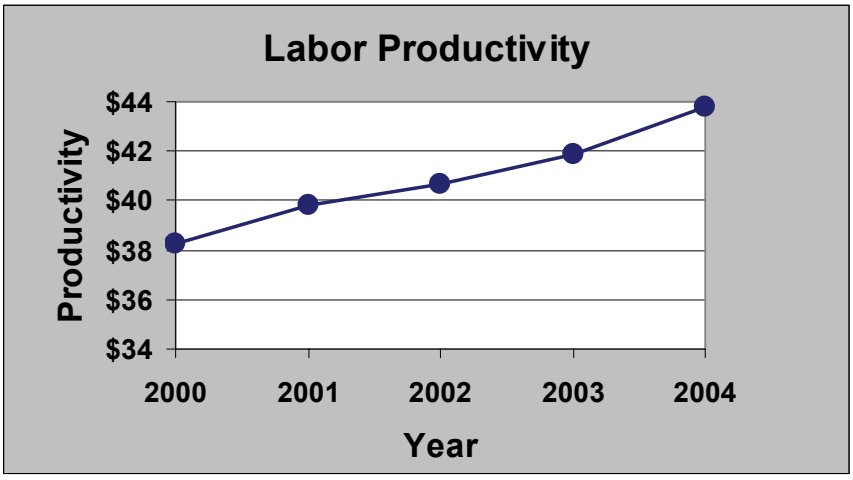
[18] No official government statistics are available on the total number of persons who might be viewed as underemployed. Difficulties include the development of an objective set of criteria and a means for quantifying associated economic loss. [U.S. Department of Labor - Bureau of Labor Statistics]
[19] FleetBoston Financial, *Fleet economist* (January 20, 2004).

Labor Productivity

Labor productivity measures the ratio of output per hour as determined by GSP divided by the total hours worked by the Texas workforce. From a business standpoint, increases in productivity indicate economic health driven by decreased costs, rising profits, development of innovative production methods and the ability to better compete in national and global markets. For the labor force, productivity growth may also indicate wage and salary increases.

The calculation does not measure the value added by various production factors (e.g., labor, capital). Thus, while rate increases are viewed as positive, other related factors may require consideration. These factors include:

- *Output type and impact* – The calculations do not take into account what is produced, just the quantity. Thus, environmental impact is not taken into consideration.
- *Possible job loss* – In some cases, productivity improvements may be realized due to new or improved automation techniques. While advantageous to employers, such changes may result in job consolidation or loss.



SOURCES: U.S. Department of Labor and Texas Comptroller

The Texas rate increased annually over the five-year period 2000-2004, rising to a high of $43.81 in 2004 – a 5% increase over the preceding year.

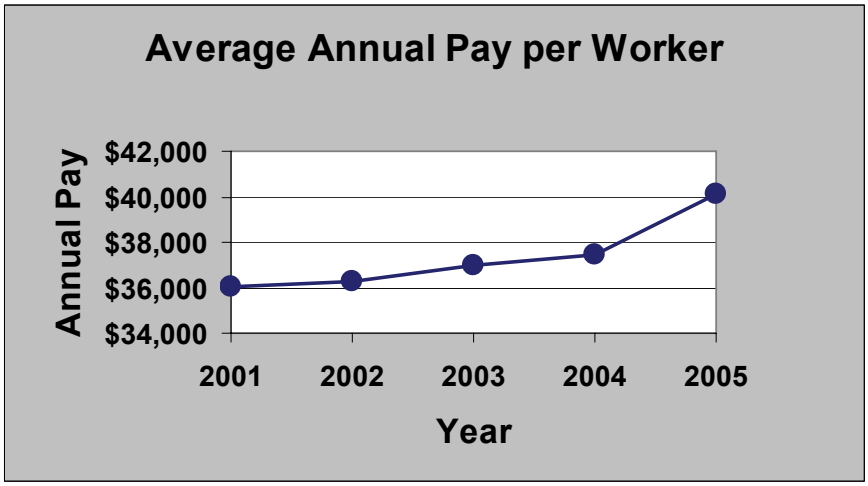
As noted above, increased productivity is generally noted as a positive indicator for employers and the state. The increased dollars feed directly into the "bottom line" of both. However, labor productivity continues to track upwardly with the current economic recovery, while overall labor force participation has again declined. Various demographic and socioeconomic trends are exerting downward pressure on job growth and participation rates, as mentioned previously in the discussion on the decreasing labor participation rate. In FY2005, there were 256,400[20] jobs created in the state as of July 2006 estimates, a 2.7% increase.

[20] Texas Economic Indicators, Texas Comptroller of Public Accounts. Although not explicitly characterized by the Comptroller, the Council assumes that this figure reflects net new jobs.

Average Annual Pay per Worker

Higher wage levels are often correlated with higher job quality and standard of living. In addition, higher wages may increase employers' options when seeking to attract or retain qualified workers. This is increasingly important given Texas' goal of job and business growth in the high-tech and knowledge-based industry sectors.

The chart displays annualized average weekly wages rates for Texas employees. The rate rose annually over the five-year period, climbing to a new high of $40,131 in 2005.



SOURCE: Texas Workforce Commission

While base wages are important, the availability of employee benefits should also be considered when accessing economic health. Frequently, jobs are offered on a temporary or contract basis. Many employee benefits once considered standard may not be provided, or are only available after longer probationary periods, or have increasing co-payment rates.

Percentage of Texas workers who in 2004 had health insurance coverage and those who participated in a retirement plan. Among the states, Texas ranked in the bottom ten in both categories:

- Employee Benefit Research Institute, *Fast Facts* (January 2006)

Benefit	Percent	Rank
Insurance	54.2%	45
Retirement	43.6%	44

A recent study[21] by the Employee Benefit Research Institute (ERBI) reported that the percentage of the U.S. population under age 65 (i.e., Medicare-eligible) with health insurance coverage continued to decline in 2004 to a new post-1994 low of 82.2%. Declines in health insurance coverage have been recorded in all but two years since 1994. In addition, the percentage with employment-based coverage dropped from 64.4% in 1994 to 62.4% in 2004.

ERBI studies indicate that younger workers are generally less likely to have a job with retirement benefits:

- Employee Benefit Research Institute, *Fast Facts* (June 2006)

401(k) Ownership (2003)	
Age	**Percent of U.S. Workers**
21-30	25.1%
31-40	38.2%
41-50	41.3%

In general though, the greater disposable income afforded through increases in the average annual pay results in increased spending on goods and services across the economy, ultimately increasing GSP, economic growth, and job creation.

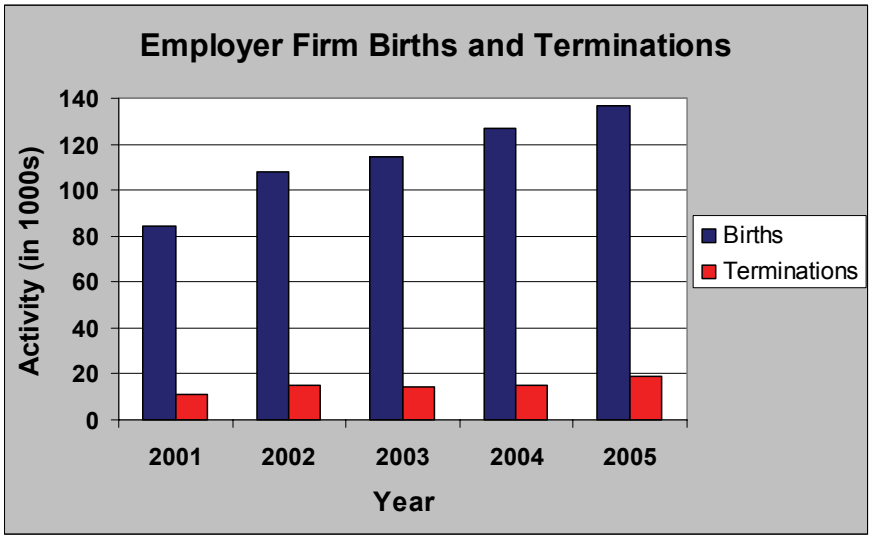
[21] EBRI Issue Brief #287, based primarily on data from the U.S. Census Bureau's March 2005 Current Population Survey (November 2005).

Employer Firm Births
Employer Firm Terminations

The data presented for employer firm births includes both domestic- and foreign-owned entities registered with the Texas Office of the Secretary of State. Similarly, the firm termination figures include domestic firms that were dissolved and foreign firms that were terminated or withdrawn during the relevant reporting periods.

Both indicators measure competitiveness. A higher rate of firm births indicates new business start-ups or relocations, which typically provide new jobs, as well as the opportunity for development of new products and production techniques. In addition, increases in this rate may indicate the availability of financing from both new and traditional sources.

Business terminations occur for many reasons such as owner retirement, inadequate marketing and poor choice of location. However, tax rates, lack of qualified workers, degree of regulation and reporting requirements may also be contributing factors.



SOURCE: Texas Office of the Secretary of State

Firm births have risen each year since 2001 – reaching the new five-year high of 136,563 in 2005.

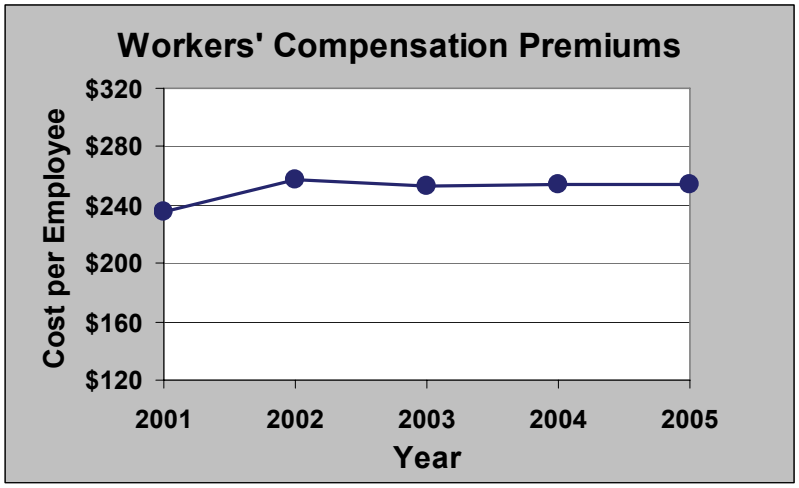
The number of terminations increased for the second year in a row, reaching a new five-year high of 18,653 in 2005.

In order to make it easier to start a business, Texas has initiated a process to simplify state reporting and licensing requirements by providing a guide to starting a business in Texas. The Texas Business Portal website (www.business.texasonline.com) was launched in March 2005. The Office of the Governor has initiated Phase I of the Consolidated Business Application (CBA) project. Phase I will include the Retail/Convenience Store/Restaurant business type. The CBA project is intended to make it easier for a citizen to start a new business in Texas by simplifying the permit process for new business owners and by facilitating information sharing between state agencies.

In addition, Senate Bill 96, 79th Legislature (2005), provides for the expansion of Internet services by requiring each state agency to make all forms available online. It is expected that as these initiatives mature, they will continue to facilitate the business start-up and maintenance processes, perhaps helping to increase firm births and decrease terminations.

Workers' Compensation Premiums Cost per Employee

This indicator was calculated by dividing total workers' compensation premiums collected in Texas by the total employment count. It is important to note that, with the exception of public entities, workers' compensation coverage is optional for employers in Texas. This indicator is important in that higher premium costs directly correlate to higher business costs. When compared to other states, high premium rates may impact employers due to costs, thereby adversely affecting job and wage growth rates.



SOURCES: U.S. Department of Labor and Texas Department of Insurance

Over the five-year period 2001-2005, the cost per employee peaked at $257.42 in 2002. The rate declined in 2003 to $253.42 before increasing slightly each of the next two years to $254.05 in 2005. While the total premium amount increased annually with the exception of 2003, the total employment count rose each year. Attributable factors to premium increases in Texas include the rising cost of health care generally and, as noted in legislative hearings on the workers' compensation system in Texas, the states' burdensome workers' compensation system administration itself. As with any other genuine operating expense, increasing workers' compensation premiums simply raises the cost of doing business in this state, ultimately impacting state GSP negatively.

Workers' Compensation Reforms

Major workers' compensation reform legislation was passed by the 79th Legislature in 2005. House Bill 7 took effect September 1, 2005. Since that time:

- The functions of the Texas Workers' Compensation Commission have been transferred to a new division in the Texas Department of Insurance. This division (Division of Workers' Compensation) has launched a number of return-to-work initiatives, including a new pilot program that will assist small employers in returning injured employees to work more quickly.
- A new Office of Injured Employee Counsel has been established in the new division.
- The weekly benefit cap for injured workers was increased by as much as 15% beginning in 2006.
- The first worker's Compensation Health Care Network in Texas was certified in March 2006, with numerous other applications pending. Health Care Networks are intended to lower medical costs and improve the quality of care for injured workers.

Major reforms for workers' compensation were enacted by the 79th Legislature in 2005. When signing House Bill 7 into law, Governor Perry noted that under the current system: one in four Texans injured in the workplace will never fully return to work because of lack of care; doctors have been dropping out of the system because they cannot afford to participate; and employers are paying one of the highest rates in the nation.

Based on information in the fiscal note for the House Bill 7 conference report, a positive net impact in excess of $1.9 million was estimated for the FY2006-FY2007 biennium. Reforms like this help to improve the business climate and encourage employers to locate or expand or their businesses in Texas.

State Tax Revenue as a Percent of Gross State Product

This indicator is calculated by dividing total state tax revenue by total GSP. An increase in the tax share is considered a negative change, considering the three components that comprise GSP: employee compensation, taxes on production and imports and gross operating surplus.

Higher state taxes make a state less attractive to both employers and workers, or for business location and expansion due to the inherently increased costs. However, tax collections are the main funding source for the state's general-revenue appropriations.[22]

State tax revenues include:

- Sales Tax
- Motor Vehicle Sales/Rental, Manufactured Housing Sales and Use Tax
- Motor Fuels Taxes
- Franchise Tax
- Insurance Occupation Taxes
- Natural Gas Production Tax
- Cigarette and Tobacco Taxes
- Alcoholic Beverages Taxes
- Oil Production Tax
- Inheritance Tax
- Utility Taxes
- Hotel and Motel Tax

Results of Special Session (2006)

The 3rd Called Session of the 79th Legislature was convened to address the Texas Supreme Court mandate to correct the unconstitutional nature of school funding caused by the property tax cap. Legislation from the session signed by the Governor includes:

House Bill (HB) 1 dedicates $2.1 billion of the budget surplus to the reduction of school property taxes by $0.17 in 2007 and increases the state's share of school funding to 50%.

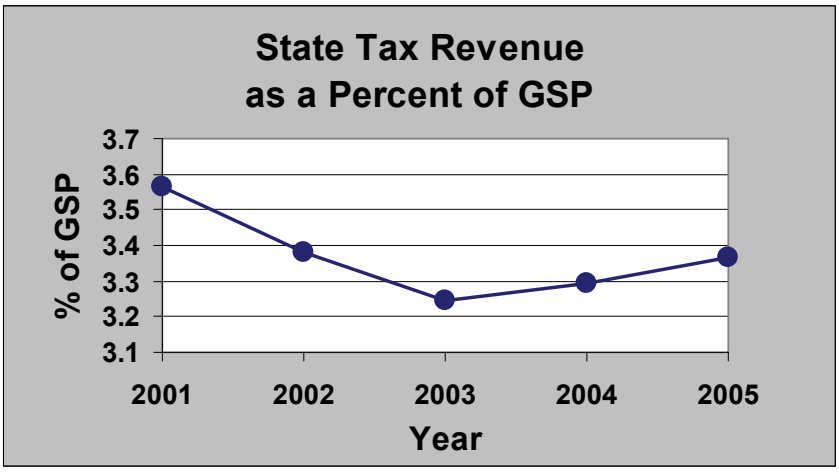
HB 2 requires the new tax revenue be used for school property tax relief.

HB 3 establishes a new method of business franchise taxation.

HB 4 changes the method by which the tax on the sale of a used vehicle is calculated.

HB 5 increases the tax on cigarettes and smokeless tobacco.

In 2005, taxes accounted for 45.3% of state revenue, with Sales Tax contributing the largest share of 24.8%. This equated to a 5.8% increase in collections from 2004. The 3rd Called Session of the 79th Legislature restructured the tax system in order to increase revenue from some forms of sales tax and broaden the base from which the franchise tax is collected.



SOURCE: Texas Comptroller

When calculated as a percent of GSP, the indicator set a high mark of 3.56% in 2001. After a two-year decline, the percentage value rose each of the last two years to 3.37% in 2005.

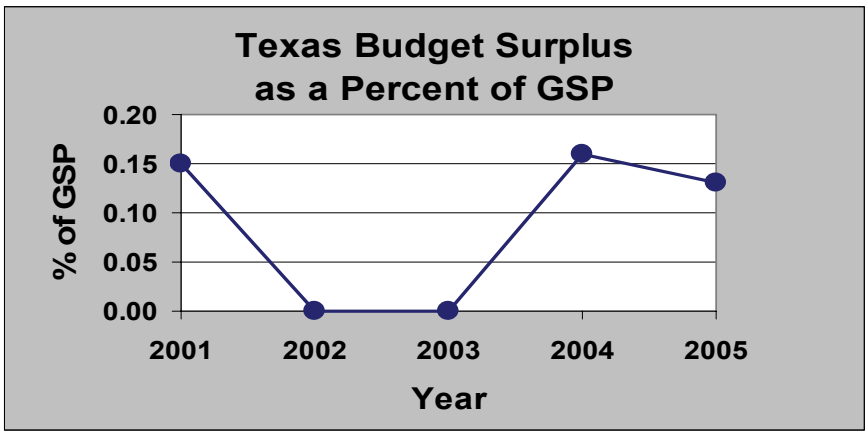
[22] Other general revenue funding sources include (1) non-tax receipts such as fees, lottery proceeds and interest and (2) the ending balance from the previous biennium. [Texas Comptroller]

Texas Budget Surplus as a Percent of Gross State Product

Budget surpluses are generally considered to be an indicator of fiscal responsibility in a healthy economy. As such, the need for business and personal tax increases may be lessened or even repealed. Surpluses, then, contribute to the state's competitive advantage as businesses may find the state a more desirable place to locate or expand.

Texas had a budget surplus in three of the last five years. The highest level was realized in 2004 (in millions):

- 2001 - $1,154.33
- 2004 - $1,354.43
- 2005 - $1,117.16



SOURCE: Texas Comptroller

For the years in which Texas had a state budget surplus, data has been normalized as a percentage of the GSP. As noted in the **Indicators and Analysis** section, Texas' GSP base level increased annually over the five-year period. When viewed as a percent of GSP, the level fell to 0.13% in 2005 from 0.16% in 2004. HB1 of the Legislature's 3rd Called Session dedicated a portion of the current budget surplus to fund education. This allocation replaced the reduction in funding from property tax revenue that resulted from the property tax rate cap contained in the same bill.

Stabilization 'Rainy Day' Fund Facts

"In addition to the transfer of $594 million from fiscal 2004 tax collections and $905 million from fiscal 2005 tax collections, this estimate anticipates that an additional $1.4 billion will be transferred to the ESF in fiscal 2007. At the end of fiscal 2007, the ESF balance is expected to total just under $1.1 billion."

- Texas Comptroller (Revenue Estimate, April 2006)

Texas' Economic Stabilization Fund (ESF) was created by the Legislature in 1987[23].

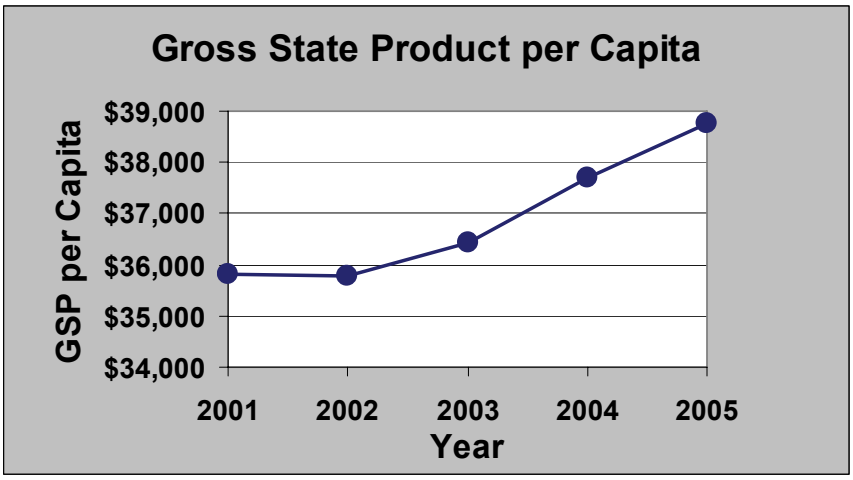
- The ESF is primarily funded with 75% of the amount by which oil and gas tax collections in any year exceed 1987 collections and half of any unencumbered general revenue surplus at the end of each biennium.
- It is capped at 10% of the general revenue income during the previous biennium.
- A three-fifths vote in both the House and the Senate is required to appropriate money in the fund.
- There is no required balance.

While many states, including Texas, create a stabilization fund in an effort to help offset fiscal instability in cases of an economic downturn, budget surpluses afford the Legislature and the Governor the opportunity to fund critical pilot projects, economic development innovation projects, like the new Texas Emerging Technology Fund (TETF)[24]. The Comptroller reports that for the three-year period 2005-07, the Legislature appropriated and/or authorized the transfer of $1.7 billion from the state's stabilization fund.

[23] Added to the Texas Constitution in 1988 as Article 3, Section 49-g. Action by the 70th Legislature in 1987 (HJR 2).
[24] House Bill 1765, enacted by the 79th Texas Legislature, Regular Session.

Gross State Product per Capita

GSP is typically considered to be the most comprehensive measure of a state's overall economic activity. It is estimated as the sum of three components: employee compensation, taxes on production and imports[25], and gross operating surplus[26]. For this indicator, GSP is presented on a per capita basis. *GSP per capita* provides a measure of the resources available to a country or state relative to the size of its population.



SOURCES: U.S. Census Bureau and Texas Comptroller

As noted in the **Indicators and Analysis** section, Texas' GSP base level has increased annually in recent years, as has the population.

After a slight decline in 2002, the per capita rate increased annually – rising to a new high of $38,764.27 in 2005.[27]

Rapid GSP growth indicates a strong economy, while slowed or declining growth rates would be indicative of economic downturn or recession. While increases indicate economic growth, other factors that are not as readily available should be taken into consideration, e.g.:

- *Type of production* – GSP accounts for production quantity, but not what is being produced. Increases may be due in part to less desirable expenditures, including major medical, security system installation, and pollution clean-up.

In 2005, growth in real U.S. GSP slowed somewhat, with GSP growing in the District of Columbia and every state except Louisiana which was severely impacted by Hurricane Katrina. 2005 figures released by the U.S. Department of Commerce - Bureau of Economic Analysis (BEA) again ranked Texas third in real GSP, following California and New York. The state's growth rate of 4.3% ranked sixteenth, up from twenty-first in 2004.

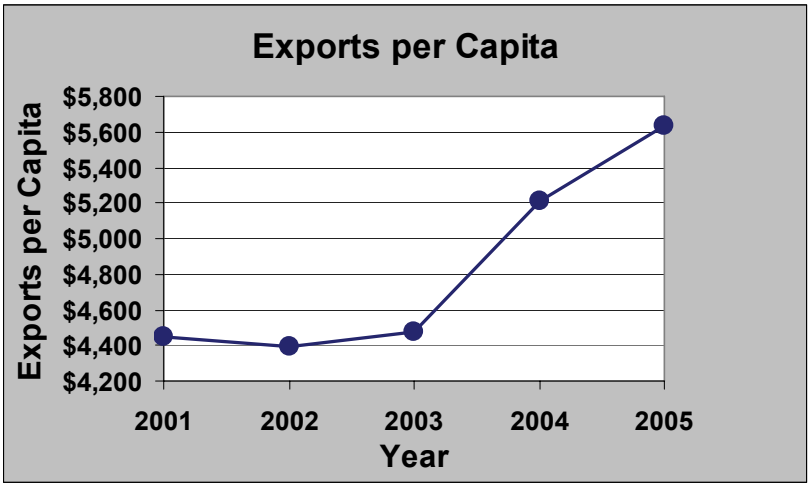
[25] Taxes on production and imports (TOPI) consists of tax liabilities, such as general sales and property taxes, that are chargeable to business expense in the calculation of profit-type incomes. Also included are special assessments. [U.S. Department of Commerce - Bureau of Economic Analysis (BEA)]
[26] Gross operating surplus includes the losses of corporations, proprietors' losses, and government subsidies – subsidies are subtracted from gross operating surplus. Consequently, gross operating surplus for an industry may be negative. [BEA]
[27] GSP figures are chain-weighted based on 1996 dollars. Chained index weighting is an alternative way of weighting together the subaggregates that form GDP (or GSP). The key difference to the fixed-weight aggregation is that prices are continuously updated; thus, 'substitution bias' is avoided and indicators are independent of the choice of base year. [Organisation for Economic Co-operation and Development (OECD)]

Exports per Capita
Export Orientation

A strong export[28] sector is generally viewed as a favorable indication of the ability to compete in both national and global markets. Economies that are more 'open' tend to be more productive and stronger exports are seen during robust economic times.

Export data is reported with two indicators; a per capita basis and through export orientation as a percentage of Texas GSP.

Per capita exports, represented here, indicate the total state exports (i.e., trade in goods and services exported to the rest of the world), divided by the Texas population. The per capita rate rose 8% in 2005, reaching a new five-year high of $5,632.55.



SOURCES: U.S. Census Bureau and Texas Business and Industry Data Center

Export Orientation can be defined in terms of a trade openness ratio expressed as a percentage of GSP (i.e., export value per dollars of GSP). There has been no significant change in recent years, as both export valuation and GSP increased annually. Based on data from the Texas Business and Industry Data Center and the Texas Comptroller, the ratio rose slightly to 0.15 (also expressed as 15%) in 2005 from the previous high of 0.14 reached in 2004, after holding at 0.12 in 2001-2003. (These ratios may also be interpreted in terms of dollars per GSP; for example, $0.15 of each dollar of GSP is attributable to exports.)

Increasing export orientation, and its contribution to the state's GSP, is desirable; more goods exported by Texas businesses represent more capital investment, higher wages, and more new jobs.

Exports in technology-intensive industries are becoming increasingly more important in today's economy. Figures released by the AeA trade association in *Cyberstates 2006*™ indicated that Texas continued to rank second in the U.S. in high-tech exports but did not experience an increase from the previous year. In 2005, high-tech exports represented 26% of Texas' exports and totaled $34 billion, slightly down from 30% and $34.7 billion in 2004.

Rank	State	Exports – Total Dollar Value			
		2002	2003	2004	2005
1	Texas	$95.40	$98.85	$117.24	$128.76
2	California	$92.21	$93.99	$109.97	$116.82
3	New York	$36.98	$39.18	$44.40	$50.49

SOURCE: U.S. Census Bureau - Foreign Trade Division [in billions]

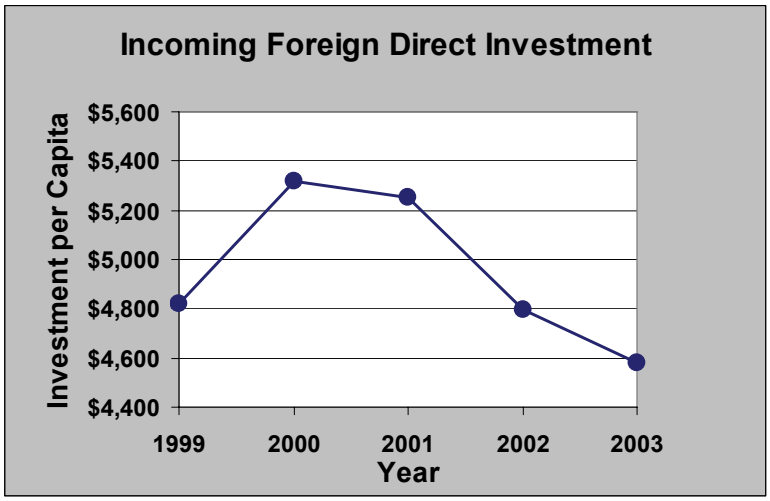
In 2005, for the fourth year in a row, Texas was ranked as the number one state by export revenues. Texas exports for 2005 totaled $128.8 billion, an increase of 9.8% from 2004.[29]

[28] Export – A domestic good or service that is sold to a foreign resident from a U.S. resident. Exports include government and nongovernment goods and services; however, they exclude goods and services sold to the U.S. military and diplomatic and consular institutions abroad. Exports do include goods and services that were previously imported. [U.S. Department of Labor - Bureau of Labor Statistics]
[29] Texas Business and Industry Data Center.

Incoming Foreign Direct Investment per Capita

Foreign direct investment (FDI)[30] is the inflow of direct foreign capital to the state. For comparative purposes, it has been calculated on a per capita basis. According to the Organisation for Economic Co-operation and Development (OECD), the investment is not required to establish controlling interest in a business to be included in the calculation.

As with other investment areas, increased foreign investment levels have a positive impact, particularly in today's globally competitive markets. The availability of this new capital leads to the technology development or transfer and also broadens company marketing strategies.



SOURCES: U.S. Census Bureau and Texas Business and Industry Data Center

> *"Outlays by foreign direct investors to acquire or establish U.S. businesses were $86.8 billion in 2005, little changed from [a revised] $86.2 billion in 2004. Outlays remained considerably below those in 1998–2001, when new investment outlays were historically high, ranging from $147.1 billion to $335.6 billion."*
>
> - BEA (June 2006)

This indicator has been flagged for '⚑ - watch alert' since the rate continues to decline in recent reporting periods. The most recent data available for this indicator is for 2003. After a 10.3% increase to the high of $5,316.23 in 2000, the per capita rate decreased 13.9% over the next 3 years to $4,577.90 in 2003.

The data reflect a further decline due to the combined effect of investment decreases following the boom of the late 1990s and increases in the Texas population count. According to a February 2006 report from AngelouEconomics, Texas and California lead the U.S. as destinations for FDI in new plants and equipment, although growth has decreased for both states. The U.S. is both the world's leading source of FDI and destination for FDI.

A recent study by the National Foundation for American Policy (June 2006) reported that foreign-owned companies employed nearly 5.3 million workers in 2003. Of these, 561,000 were in California, 382,600 were in New York, and 339,300 were in Texas.

Increasing direct foreign investment in Texas continues to be a key priority of the Governor's office. The direct benefits of such investments are demonstrated by the April 2006 decision of Samsung Electronics Company to build a second computer chip manufacturing facility in Austin. The facility will add at least 900 new jobs to the area. It may be the largest-ever single investment by a foreign company in a U.S. plant, with construction costs potentially reaching $4 billion.[31] Governor Rick Perry announced the project is supported by a $10.8 million grant from the Texas Enterprise Fund.

[30] FDI - Ownership or control, directly or indirectly, by one foreign person, or entity, of 10 percent or more of the voting securities of an incorporated enterprise or an equivalent interest in an unincorporated business enterprise. [BEA]

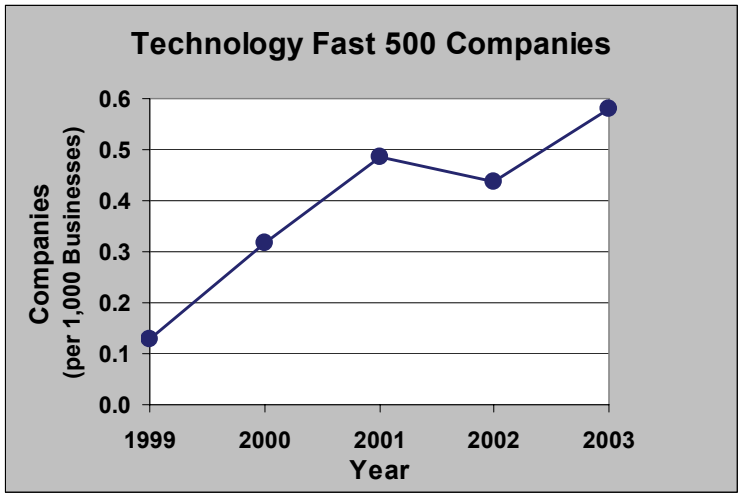
[31] *Texas Labor Market Review*, Texas Workforce Commission, May 2006.

Number of Technology Fast 500 Companies per 10,000 Business Establishments

The Technology Fast 500 North America is one of three industry rankings, accompanied by Asia Pacific 500 and EMEA 500 (Europe, Middle East and Africa), created by Deloitte to recognize the 500 fastest growing technology companies in each region.

The Technology Fast 500 includes public and private companies in all areas of technology including the Internet, biotechnology, medical/scientific and computers/hardware. To be considered, a company must:

- own proprietary technology that contributes to a significant portion of the company's operating revenues, and
- devote a significant proportion of revenues to research and development of technology.



SOURCES: U.S. Census Bureau and Deloitte

Companies must be headquartered in North America, and have been in business a minimum of five years. Base operating revenues must be at least $50,000 USD[32], with current-year operating revenues of at least $5 million USD, increased from last year's base criteria of $1 million.

Data is presented per 10,000 Texas-established businesses. The indicator reached a new high for the five-year period at 0.58 in 2003.

The rate could not be calculated for 2004 and beyond, as the number of businesses established, as reported by the U.S. Census Bureau, was not yet available. However, the actual count of Texas-based businesses in the ranking increased during that period. The state's new high of 41 businesses in 2005 was second only to California.

[32] United States dollars.

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Domain 4 – Participant Access and Contribution

The Participant Access and Contribution domain is comprised of four indicators of citizens' economic status and self-sufficiency, including traditional income and poverty indicators. In addition, household access to computer technology is considered. All four of the indicators had a positive change in the last available reporting cycle.

Domain 4 Summary Number of Indicators - 4			
		No.	%
↑	Positive change in last reporting cycle	4	100%
→	No significant change in last reporting cycle	0	0%
↓	Negative change in last reporting cycle	1	0%
●	Comparative data unavailable	0	0%
⚑	Watch alert	0	0%

Indicator	Page	Alert	Trend
Per Capita Income	49	-	↑
Percent of Population Living Above the Federal Poverty Threshold	50	-	↑
Percent of Households with Computers	51	-	↑
Percent of Households with Internet Access	51	-	↑

Issues for Consideration

Per capita income is a valuable indicator of overall economic health. However, it does not adequately account for equity across household types or state sub-regions. In addition, the rising cost of individual and household expenses, as well as the type of expenses, cannot be factored in.

Poverty thresholds are used for calculating all official poverty population statistics, including the number of individuals considered to be living in poverty. These are derived from federal 'poverty guidelines', which are a simplified version of the federal poverty thresholds that are used for administrative purposes, such as determining eligibility for certain federal programs.

Household computer and Internet access rates provide basic information about computer usage, access and literacy. These indicators can also serve as a signal of willingness and ability to conduct business or obtain training through the use of computer technology, which may have a positive effect on production or education attainment levels, respectively.

In *The 2002 State New Economy Index*, the Progressive Policy Institute points to the increased use of digital electronic methods to conduct business and government transactions (e.g., tax payments, driver's license renewals). This trend can be viewed as having a positive impact not only on household technology access but also on many key indicators including income levels, educational participation and attainment, and productivity.

In this 2002 report, Texas ranked third in the "Measure of the Utilization of Digital Technologies in State Governments", following Michigan and Washington. Using computer technology, services can be provided at a lower cost and be more readily accessible. For example, the Texas Business Portal

website (www.business.texasonline.com) was launched in March 2005, simplifying the process of fulfilling state reporting and licensing requirements and providing a guide to starting a business in Texas. The Office of the Governor has initiated Phase I of the Consolidated Business Application (CBA) project. Phase I will include the Retail/Convenience Store/Restaurant business type. The CBA project is intended to make it easier for a citizen to start a new business in Texas by simplifying the permit process for new business owners and by facilitating information sharing between state agencies.

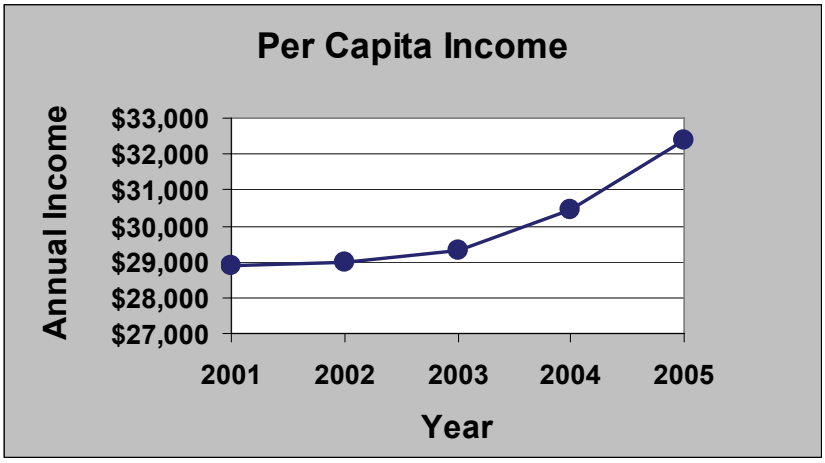
In 2005, the 79th Legislature enacted Senate Bill 96 which provides for the expansion of Internet services by requiring each state agency to make all forms available online. In addition to serving Texas businesses with streamlined forms, TexasOnline (www.state.tx.us), the official website for the State of Texas, also offers popular online services to the general public. These services include, but are not limited to, the ability to renew driver's license, renew vehicle registration, and order driver records.

Per Capita Income

Per capita income represents the annual, total personal income of Texas residents, divided by the Texas population. Data has been normalized for comparative purposes, representing all Texans rather than just those who work. Traditionally, personal income includes wage earnings, rental income, personal dividend and interest income, and personal current transfer receipts (e.g., unemployment insurance, Medicare/Medicaid).

The figure for Texans increased annually over the five-year period, reaching a new high of $32,384 in 2005, an increase from the 2004 level of $30,464.

Though increasing statewide, there is continued disparity in different regions across the state. Income levels are significantly higher in larger metropolitan areas such as Dallas and Houston that have a greater number of jobs in higher-paying occupations.



SOURCE: Texas Comptroller

While a commonly used indicator of personal income and economic well-being, there are many factors that per capita income does not account for, e.g.:

- *Income inequality* – the gap between higher and lower wage earners.
- *Cost of living increases* – when individual or household bills increase at rates exceeding net earnings and/or disposable income.
- *Quality of life* – high income may be due to longer work hours, accompanied by loss of time available for personal, family or community endeavors.

What is competitiveness?

" …a state or metropolitan area to be competitive if it has in place the policies and conditions that ensure and sustain a high level of per capita income and its continued growth … able both to attract and incubate new businesses, and to provide an environment that is conducive to the growth of existing firms."

- Beacon Hill Institute, *Competitiveness Report 2004*

Data released by the U.S. Department of Commerce – Bureau of Economic Analysis (BEA) in March 2006 indicated a national per capita income growth rate of 4.6% in 2005, a slight decrease from the 5% (revised) growth rate in the previous year.

Based on BEA figures, Texas experienced a growth rate of 5.6%. This ranked Texas tenth in the country by growth rate and twenty-seventh nationally in terms of per capita income. BEA noted that the strong growth rates in the Southwest region, including Arizona, New Mexico, Oklahoma, and Texas, are largely attributable to its durable manufacturing (particularly machinery and computers) and mining sectors. This region also gained population at twice the national rate and had the largest percentage increase in per capita income.

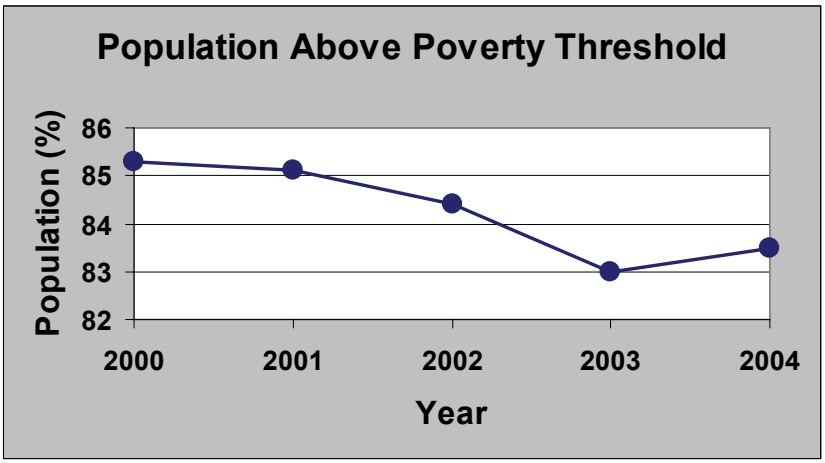
Percent of Population Living Above the Federal Poverty Threshold

A basic measure of economic self-sufficiency, this indicator is calculated by setting the total Texas population as 100%, then subtracting the percentage of population living below the federal poverty threshold.

State figures have been extrapolated from data obtained through the U.S. Census Bureau's Current Population Survey (CPS), a sample survey of approximately 100,000 households nationwide. Poverty is measured by comparing family income with one of the 48 poverty thresholds that vary by size of family and ages of the members. Sample thresholds for 2004, the most recent year for which data is available, include:

- $9,827 for one person under age 65
- $19,223 for a four person household with three related children under 18 years of age

In 2004, 87.3% of the U.S. population was above the 100% poverty threshold – a slight decline from the 2003 figure of 87.5%. In 2004, 36.9 million people lived in poverty nationwide, up 1 million from 2003.



SOURCE: U.S. Census Bureau

While better than the national figures, Texas' performance has declined in recent years, falling from a high of 85.3% in 2000 before showing improvement in 2004 at 83.5%, up from 83% in 2003.

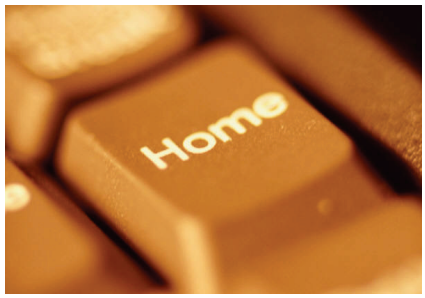
Notably, this five-year trend coincided with a period of annual increases in per capita income as noted by the preceding indicator. As with per capita income, various cities or regions within a state have highly disparate levels. Given the relatively low threshold levels, many individuals and households that are above the poverty line are struggling economically.

However, a basic measure of poverty incidence may serve as an indicator of a state's economic health. Higher levels of poverty are typically highly correlated with a number of negative factors, including:

- Increased costs to and participation in the welfare system.
- Possible slowing of economic growth.
- Higher crime rates.
- Fewer health care benefits and service options.
- Lower educational participation and completion rates.

Percent of Households with Computers
Percent of Households with Internet Access

Access to computers and the Internet is dramatically changing the way individuals work and live in today's society:



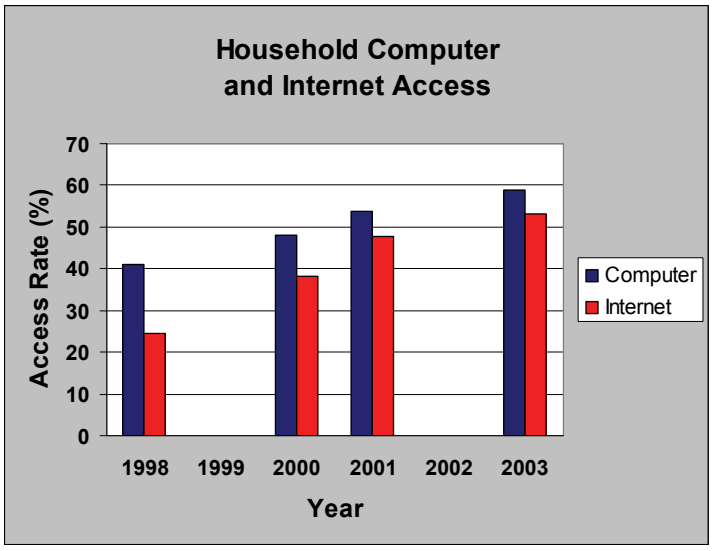
- *Conducting business* – telecommuting, online research and analysis, banking and personal financial management.
- *Learning* – educational research, distance learning.
- *Job search* – resume posting and job match services.

These factors have a potentially positive impact on the Texas economy, as they may contribute to increased sales, education and training attainment, and job search opportunities.

Computer technology options – hardware, software and online access – continue to advance at a rapid rate. As the technology improves, costs continue to decline, thereby making personal access to computers and the Internet more available to U.S. households and shrinking the 'digital divide'.

Higher access rates may indicate citizens' increased access and willingness to utilize online education and business options. In addition, job composition changes may occur within selected industry sectors. For example, the banking and finance industry may experience a growth in information technology jobs countered by a decrease in the demand for bank tellers and frontline staff. Entry-level job requirements and on-the-job training requirements shift as this change occurs.

> *Digital Divide – the divide between those with access to new technologies and those without … one of America's leading economic issues.*
>
> - U.S. Department of Commerce - NTIA



SOURCE: U.S. Department of Commerce – NTIA

The National Telecommunications and Information Administration's (NTIA) *A Nation Online* series, while not published annually, indicates steady growth in the percent of Texas households with computer and Internet access. Rates in 2003 reached:

- *Percent of Households with Computers* – 59%, up from the revised 2001 level of 53.7%
- *Percent of Households with Internet Access* – 53.2%, up from the revised 2001 level of 47.7%.

According to the U.S. Census Bureau, Texas ranks 39th in these categories.

It is important to note that these numbers reflect household rather than individual access rates. Further, many individuals obtain access at work locations, libraries, educational institutions and workforce centers across the state.

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Summary

The *Texas Index 2006* was created to provide a series of indicators that may eventually assist in demonstrating the linkage of workforce development programs and services to state-level economic success. In the short-term, it provides system stakeholders with an indication of the state's general workforce, education, and economic health.

Trend lines for the 39 indicators showed the following changes in the most recent reporting cycle:

- *Positive change* – 20 of 39 indicators (51%)
- *No significant change* – 6 of 39 indicators (15%)
- *Negative change* – 13 of 39 indicators (33%)

Texas continues to fare well in all four domains, with a majority of the indicators reflecting a positive change. However, with 33% of the indicators moving in a negative direction, it remains important to watch these critical trend lines in coming years.

Five indicators, flagged with a '⚑ - watch alert' for the next reporting cycle, will again deserve close observation. These educational attainment and investment indicators are critical to a knowledge-based economy, innovation and the commercialization of ideas to the market. These indicators are:

1. Percent of Population 25 Years and Older with High School Diploma
2. Venture Capital per Capita
3. Venture Capital Invested as a Percent of Gross State Product (GSP)
4. Venture Capital Invested per $1000 of GSP
5. Incoming Foreign Direct Investment (FDI) per Capita

Results noted in this index show that Texas is generally doing well in building its asset-base for the future. Of note:

- With the exception of the graduate and post-graduate science and engineering enrollment rate and the percent of science and engineering degrees granted, all of the enrollment and credential indicators had a positive change or no change.
- Both per capita income and average pay rates again rose, and the labor productivity and unemployment rates also again improved.
- Positive results were again reported for firm births, exports, and GSP per capita. Patents per capita remained unchanged.
- Academic and total research and development expenditure rates again rose. Industry rate decreased slightly.

- Small Business Investment Companies funding reversed its downward trend.

However, several related indicators again reflected a negative change or remained unchanged: venture capital, foreign direct investment and federal National Institutes of Health and National Science Foundation funding. A negative trend in these areas may adversely impact the potential for innovation, entrepreneurship and economic growth. Future funding and support for research and development, additional venture capital investment and other financing for business start-up and expansion will reverse these trends.

The state's continued efforts to improve intellectual, human and financial capital are paramount to building Texas' assets for the future. As previously noted, several key state legislative efforts have been enacted in recent years to address the need to sustain and grow a dynamic economy. For example, the Governor's target industry clusters initiative and the Texas Emerging Technology Fund should positively impact a number of the indicators in the coming years.

All partners of the Texas Workforce Development System play a vital role through their mandated economic, educational and workforce development responsibilities. Each must continue to work individually and collaboratively, and with private entities, to develop a cohesive system that meets the needs of employers and participants today and in the future. Continued areas of emphasis are:

- Research and development support must be leveraged for growth within the state, as well as nationally.
- Workforce and education initiatives, particularly in the fields of science, math, and engineering, must be designed to ensure that an adequate, well-trained labor supply is available for current jobs with new skill requirements, as well as new jobs.
- Business growth and expansion must be supported, including efforts aimed at retaining and commercializing intellectual property developed within the state.

This index is produced annually for distribution to the Council, the Governor, policy makers, and workforce system partners and stakeholders. Work will continue to regularly validate data sources for currency, accuracy and reliability; review and evaluate secondary data sources; and collect additional comparative data for inclusion in future releases.

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