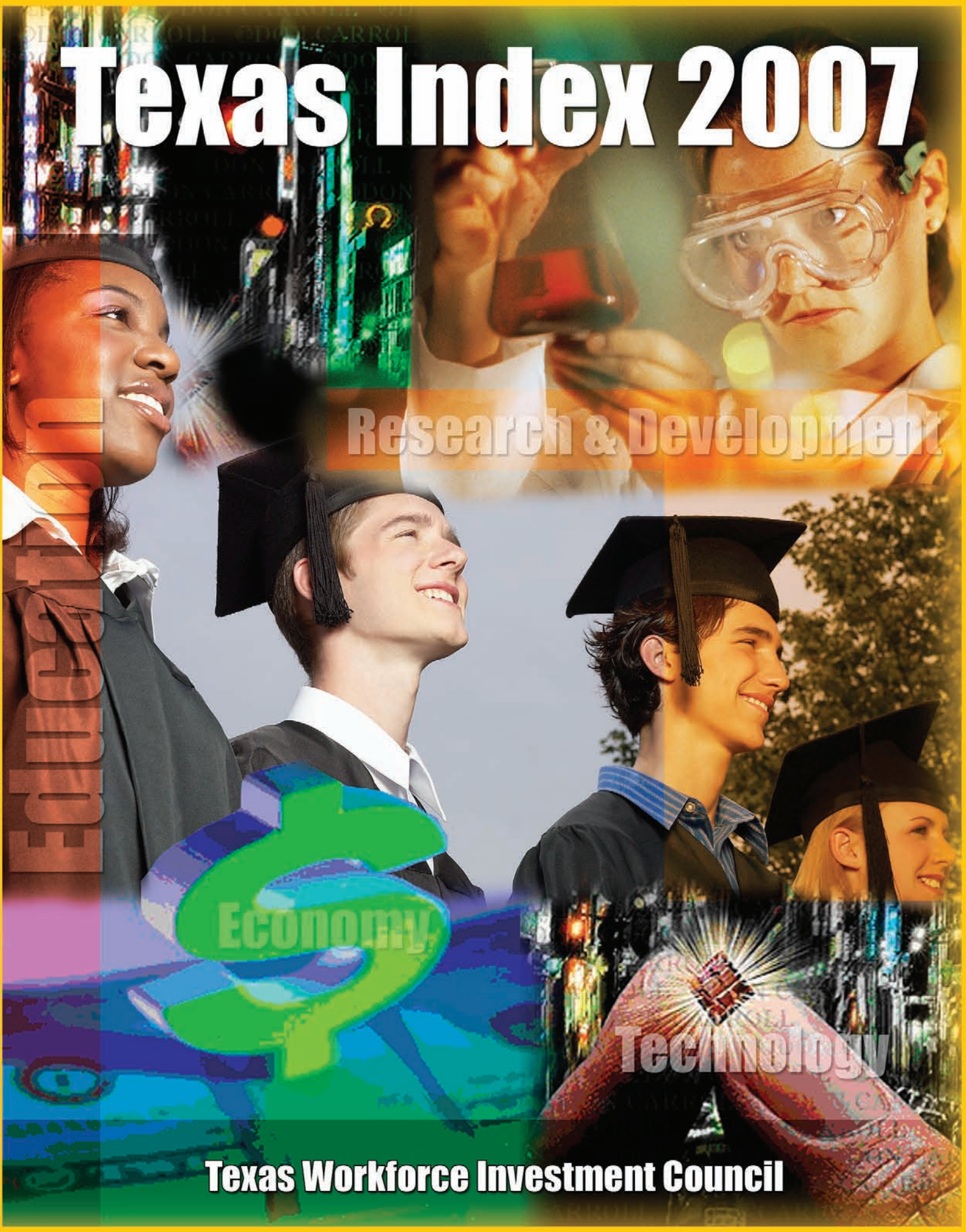
Texas Index 2007



Texas Workforce Investment Council

Texas Workforce Investment Council

January 2008

Dear Fellow Texan:

The Texas Workforce Investment Council (Council) is pleased to present the *Texas Index 2007*. The Texas Index features a series of indicators that provide a snapshot of the state's overall workforce, education and economic health.

The *Texas Index 2007* is the third annual release, providing trend data for a series of 42 indicators across four domains:

- Training and Education
- Research and Development
- Market Composition and Characteristics
- Participant Access and Contribution

Texans live and work in an increasingly competitive global economy, and the state's efforts to improve intellectual, human and financial capital are paramount to building Texas' assets for the future. The Index is meant to provide a picture of how Texas is performing across the four domains, thus identifying achievement as well as areas which need improvement. Underlying the Index is an important value proposition that a skilled and well-educated workforce drives innovation, which in turn drives economic expansion and competitive advantage for Texas employers to succeed in the global marketplace. With this success comes an improved standard of living for the state's citizens.

I commend this report to you and hope it is a valuable resource that informs your work.

Sincerely,

John Sylvester, Chair

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Texas Index 2007

Texas Workforce Investment Council

December 2007

Table of Contents

Page

Introduction

Texas Workforce Investment Council and Texas' Workforce Development 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, Office of the Governor
- 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 (Destination 2010)* – 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 Texas workforce development 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 2007 (Index)* is the third annual release, providing trend data for a series of 42 indicators across four domains:

- Training and Education (10)
- Research and Development (11)
- Market Composition and Characteristics (14)
- Participant Access and Contribution (7)

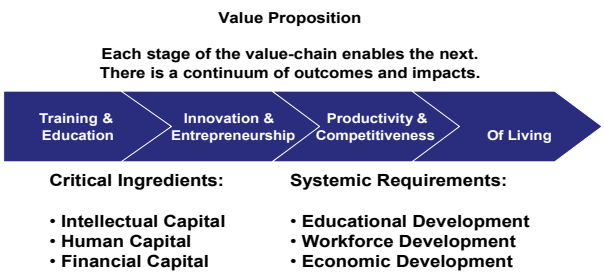
Establishing the Index

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 Texas 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. For the first two editions of the Texas Index, the list was reduced to 39 after: developing indicator definitions, documenting methodology for indicator calculation, and determining data availability, by source and date.
New Indicators	For this version of the Texas Index, three new indicators were added to the Participant Access and Contribution domain. Enhancements in this release also include the addition of national and state comparative data, in order to compare the state's performance to the national level as well as to that of other populous states in as many indicators as possible.
Future Steps	In future years, additional trend data will be gathered and published, including international data. The Texas 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:

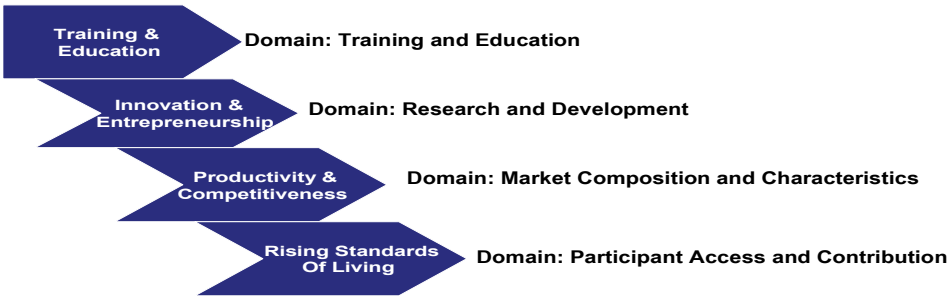
- Intellectual capital and the availability of a well-educated population are required to support innovation and commercialization.
- Human capital and the availability of a well-trained labor supply are required to support the business needs of employers, and increases in worker productivity.
- Financial 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 affected 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 Texas 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 effect 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 *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.

New Economy

"The term refers to a set of qualitative and quantitative changes that in the last 15 years have transformed the structure, functioning and rules of the economy. The New Economy is a global, entrepreneurial and knowledge-based economy in which the keys to success lie in the extent to which knowledge, technology, and innovation are embedded in products and services."

- The Information Technology and Innovation Foundation, *The 2007 State New Economy Index* (February 2007)

High-Tech Growth

Figures released by AeA, a technology trade association, report good performance in Texas' high-tech industry:

- *Jobs* – For the third year in a row Texas was ranked second nationally in tech-related employment. The state added 10,300 (2.4%) high-tech jobs in 2005 and with 445,800 tech jobs was second only to California and just ahead of New York.
- *Wages* – Average wages in 2005 for high-tech workers were $75,500 nationally and $75,400 in Texas. Texas' rank remained at 12th nationally.
- *Exports* – Texas continued to rank second nationally, as its high tech exports increased to $38.6 million in 2006; comprising 26% of Texas' exports.
- *Venture capital* – Venture capital investment increased 28% to $1.4 billion in 2006. Texas again ranked third nationally, behind California and Massachusetts.

- AeA, *Cyberstates 2007*™ (April 2007)

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 25 awards totaling more than $89 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 reported (May 2006) that the TETF ranks eighth based on the size of the fund among all state-backed investment programs.
- *Skills Development Fund (SDF)* – Managed by the Texas Workforce Commission (TWC), the fund has been operating in partnership with public community and technical colleges since FY 1996. 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.

The 80th Legislature increased funding to the SDF by $10 million. Funds are used to assist private employers with the design, financing and implementation of customized job training programs for new or existing jobs. Thirty-one grants totaling almost $10.4 million were awarded during FY 2006.[1]

- *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, and assists local communities with the acquisition of capital for economic development.

[1] TWC, Skills Development Fund Annual Report Fiscal Year 2006.

Indicator Report Card - 2007

The Indicator Report Card lists all 42 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 - 2007			
Trend	Indicator	Value	Page
↑	Associate's Degrees Granted as a Percent of the 18-24 Year Old Population	1.73%	17
↑	Average Annual Amount of Small Business Investment Companies Funds Dispersed per $1000 of Gross State Product	$0.16	37
↑	Average Annual Pay per Worker	$42,380.00	45
↑	Average Annual Unemployment Rate	4.9%	43
↑	Bachelor's Degrees Granted as a Percent of the 18-24 Year Old Population	3.67%	17
↑	Employer Firm Births	136,845	46
↑	Export Orientation	0.14	51
↑	Exports per Capita	$6,418.713	51
↑	Gross State Product per Capita	$45,718.90	50
↑	Labor Productivity	$52.92	44
↑	National Science Foundation Funding per Capita	$8.55	36
↑	Number of Technology Fast 500 Companies per 10,000 Business Establishments	0.82	54
↑	Per Capita Income	$34,190.00	56
↑	Percent of Bachelor's Degrees Granted in Science and Engineering	23.4%	20
↑	Percent of Households with High-Speed Internet Access	37.3%	59
↑	Percent of Population Living Above the Federal Poverty Threshold	83.8%	57
↑	Science and Engineering Graduate and Post-Graduate Students	34,484	20
↑	Texas Budget Surplus as a Percent of Gross State Product	0.7%	49
↑	Venture Capital per Capita	$59.00	29
↑	Venture Capital Invested as a Percent of Gross State Product	0.13%	29
↑	Venture Capital Invested per $1000 of Gross State Product	$1.29	29
→	Homeownership Rate	66%	61
→	Percent of Graduate Degrees Granted in Science and Engineering	31%	20
→	Percent of Population Enrolled in Degree-Granting Institutions	5.1%	15
→	Percent of Population 25 Years and Older with High School Diploma ⚑	78.7%	14
→	Workforce Educational Achievement	13.91	13
↓	Academic-Performed R&D Expenditure per $1000 of Gross State Product ⚑	$3.11	32
↓	Employer Firm Terminations	49,423	46
↓	Incoming Foreign Direct Investment per Capita ⚑	$4,435.49	53
↓	Industry R&D Expenditure per $1000 of Gross State Product ⚑	$12.17	32
↓	Labor Force Participation Rate ⚑	66.7%	41
↓	National Institutes of Health Support to Texas Institutions per Capita ⚑	$45.80	35
↓	Number of Patents	5,526	27
↓	Patents per Capita	0.0002	27
↓	Percent of Population Living Above 200% of the Federal Poverty Threshold	61.3%	57
↓	State Tax Revenue as a Percent of Gross State Product	3.1%	48
↓	Total R&D Expenditure per $1000 of Gross State Product ⚑	$15.80	32
↓	Workers' Compensation Premiums Cost per Employee	$256.10	47
●	National Assessment of Educational Progress Test Scores – Math	281	22
●	National Assessment of Educational Progress Test Scores – Science	143	22
●	Percent of Households with Computers	59%	59
●	Percent of Households with Internet Access	53.2%	59

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 the following:

Key	
↑	Positive change in last reporting cycle
→	No significant change in last reporting cycle
↓	Negative change in last reporting cycle
●	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: (1) data was not collected for a particular year; (2) testing did not occur; (3) the methodology changed; or (4) a primary data source contained fewer years of 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 one or 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.

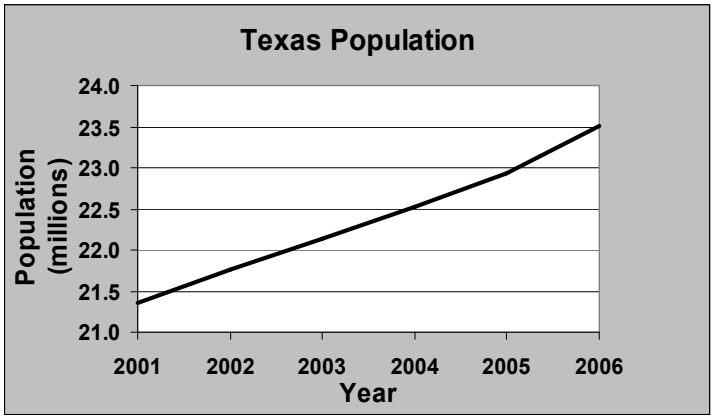
- *Point in time* – Many publicly available data sources continue to be updated for months and years after the initial data release. This is typically due to corrections or clarifications that result from contract reporting finalization or performance audits. Data is verified and updated, as applicable, during the *Index's* development stage. However, due to these changes, data in the *Index* may sometimes differ from corrections to the source data. For example, the Texas Higher Education Coordinating Board provided revised data for the science and engineering graduate and post-graduate enrollment and degrees award figures since 2002.

- *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 underscores the last trend point. For example, the most recent 'final' figures for research and development expenditures are for 2004. It has been reported that the availability of certain types of federal and state funding has continued to decrease in the interim.

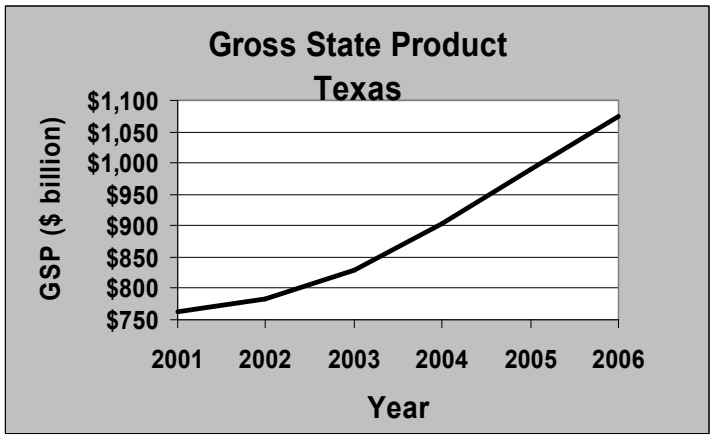
Base level data for state population and Gross State Product (GSP) is provided below.

- *Population base level data* – The population count is increasing, rising from 21.3 million in 2001 to 23.5 million in 2006.[2] Over the same period, the nation's population has increased from 285.2 million to 299.4 million. October 2006 projections from the Texas State Data Center indicate that the state's population is expected to exceed 35.8 million people by 2040, a 71.3% increase from 2000.

  Several key changes are expected in population composition: increase in Hispanic population (currently 36%); substantial aging; and variable growth rates for regional and metropolitan areas.



SOURCE: U.S. Census Bureau



SOURCE: Texas Comptroller

- *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).

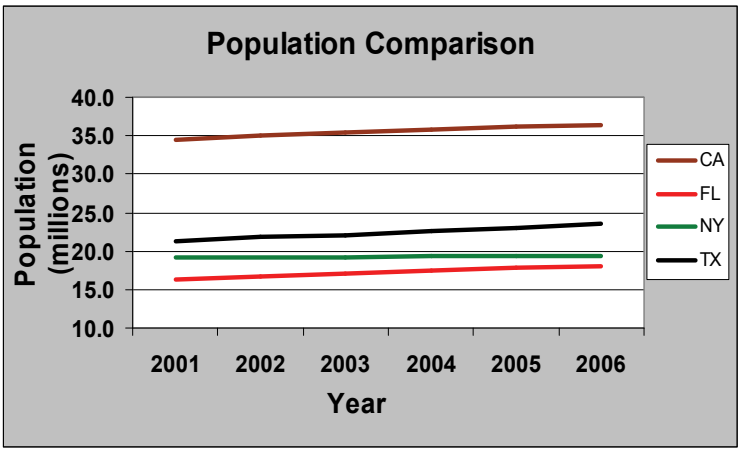
[2] Population figures have been revised based on updated data from the Census Bureau.

Based on updated figures from the Texas Comptroller, Texas' GSP increased significantly in recent years, rising from $762.25 billion in 2001 to $1,074.75 billion in 2006 in current dollars. During the same period, the nation's gross domestic product (GDP) rose from $10,128.0 million to $13,194.7 million. Current dollar GSP figures released by the U.S. Department of Commerce – Bureau of Economic Analysis (BEA) in June 2007 rank Texas as second nationally, behind California and just ahead of New York.

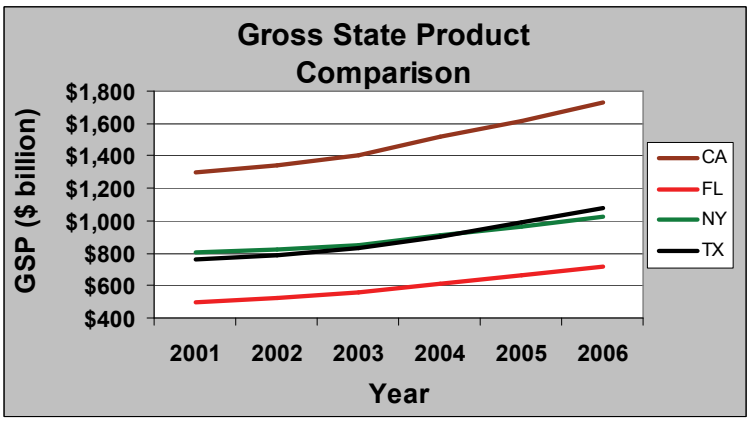
- *Source information* – Sources for the data sets in the tables and graphs included in this publication are noted. Detailed data tables, methodologies and accompanying documentation are retained at the Council's office.

- *Comparisons* – Data from other states, along with national figures, are provided throughout the *Index* to highlight Texas' comparative performance. The states chosen for comparison represent those states with similar populations and economies to Texas. California, Florida, New York, and Texas combined are home to 97.4 million people, representing 34.2% of the nation's gross domestic product and employing more than 46.1 million workers. National figures are often included as well to provide additional benchmark comparisons of Texas vs. United States performance in some indicators.

- *Graphs* – When comparative data is available, charts are provided with trend lines indicated for each of the comparable states as well as the United States.



SOURCE: U.S. Census Bureau



SOURCE: Texas Comptroller & U.S. Bureau of Economic Analysis

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Domain 1 – Training and Education

The Training and Education domain includes ten 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 split for the last available reporting cycle, with four of the ten indicators (40%) experiencing a positive change and four no significant change. Two indicators have not been updated since last release. One indicator related to high school diploma rates has been flagged with a 'watch alert' for the third consecutive year.

Domain 1 Summary			
Number of Indicators - 10			
		No.	%
↑	Positive change in last reporting cycle	4	40%
→	No significant change in last reporting cycle	4	40%
↓	Negative change in last reporting cycle	0	0%
●	Data unavailable	2	20%
⚑	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's Degrees Granted as a Percent of the 18-24 Year Old Population	17	-	↑
Bachelor's Degrees Granted as a Percent of the 18-24 Year Old Population	17	-	↑
Percent of Bachelor's Degrees Granted in Science and Engineering	20	-	↑
Science and Engineering Graduate and Post-Graduate Students	20	-	↑
Percent of Graduate Degrees Granted in Science and Engineering	20	-	→
National Assessment of Educational Progress (NAEP) Test Scores – Math	22	-	●
National Assessment of Educational Progress (NAEP) Test Scores – Science	22	-	●

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 2007 demonstrate the value of a college education; for example, workers 18 and over with a bachelor's degree earn an average of

$54,689 a year, while those with a high school diploma earn about $29,448. Workers with an advanced degree make an average of $79,946 a year, and those without a high school diploma average $19,915.

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.

As the AeA stated in its recent report, *We are Still Losing the Competitive Advantage* (March 2007), in the period 1995-2005, nationally the cost of a higher education at a four-year public university rose by 42% while the median family income adjusted for inflation only rose by 7%. The AeA report indicates that nationally during 2000-2005, median family income declined by 3% while college costs rose by 28%.

"Published tuition and fee charges at four-year public colleges average $5,836 in 2006-07. There was a $344 increase over last year, which represents 6.3 percent, or 2.4 percent after adjusting for inflation....Published tuition and fee charges at two-year public colleges average $2,272, $90 more than last year. The 4.1 percent increase is less than one-half of one percentage point above the rate of inflation."

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

Institution	2006-07	2005-06	Increase
Two-Year	$1,604	$1,507	6%
Four-Year	$5,940	$5,479	8%

- The College Board, *Trends in College Pricing 2006* (October 2006)

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:

- *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 influence 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 (i.e., associate's, 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.

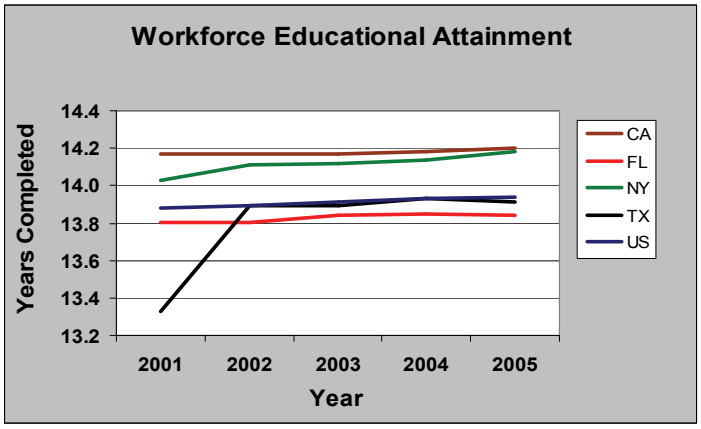
The importance of an educated workforce is noted throughout this domain. From the business side, the availability of a more educated workforce tends to correlate with higher productivity levels and increased innovation. Additionally, individuals with higher levels of education are more geographically 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. In Texas, the average number of years of education varied little during the recent five-year period:

- 2001 – 13.33
- 2002 – 13.89
- 2003 – 13.89
- 2004 – 13.93
- 2005 – 13.91



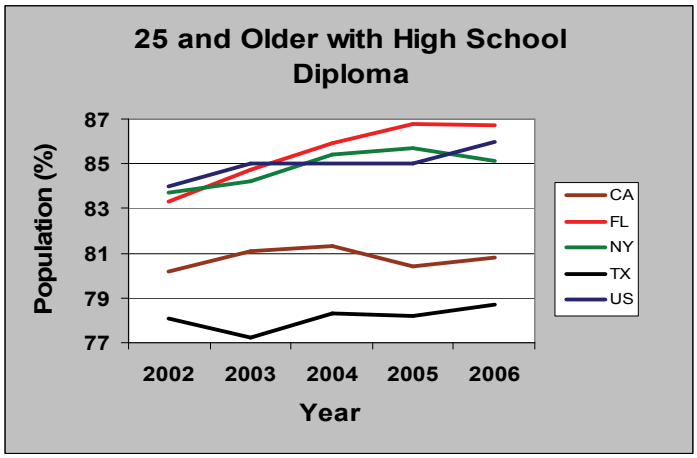
SOURCE: U.S. Census Bureau

In 2005, the Texas average was slightly below the national average of 13.94 as well as below the average of California (14.20) and New York (14.18). Texas was somewhat above Florida's average of 13.84.

Increasing the overall education level of the workforce is essential to ensuring economic growth. Texas must maintain its ability to compete in a global marketplace with other countries which often have higher levels of overall educational attainment. Without improvement in this indicator, the state is also faced with the possibility of a generation of workers who are not as well-educated as the generation preceding it. As an increasing number of jobs require higher education levels and advanced technological skills, it is critical that a large, well-educated labor force 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

Once again, Texas' high school diploma rate remained below the 80% level from 2002-2006 and significantly below those of similar states, remaining almost flat at 78.7% in 2006, practically unchanged from 78.2% in 2005, after slightly increasing from the low of 77.2% in 2003. This indicator has been updated with two years of data since the release of last year's *Index.*

For the reasons indicated below, this indicator has again been flagged with a '- watch alert' for the next reporting cycle.

- *Lowest level nationwide* – For the 25 and older population, Texas had the lowest rate in the United States for the entire five-year period. In 2006, Texas was well below the national rate of 86%; California's rate of 80.8%; Florida's of 86.7%; and New York's of 85.1%.
- *Hispanic achievement rate* – This segment of the population is continuing to experience rapid growth and will comprise an increasingly larger proportion of the workforce in future years. In 2006, the high school rate for individuals 25 and older was 54.2%, significantly lower than all other race/origin categories.

High School Attainment Rates 2006[3]	
18 to 24 years	73.5%
25 to 44 years	80.2%
45 to 64 years	81.1%
65 years and over	69.5%
White alone	77.9%
Black alone	82.6%
Asian alone	89.0%
Hispanic (of any race)	54.2%
Non-Hispanic White alone	91.5%

- *Rates for younger population segments* – Nationally, higher success rates have been reported for the younger population segments. Texas' performance was counter to this trend in 2006, with the highest credential achievement rate (81.1%) reported for the 45-64 year old age group.

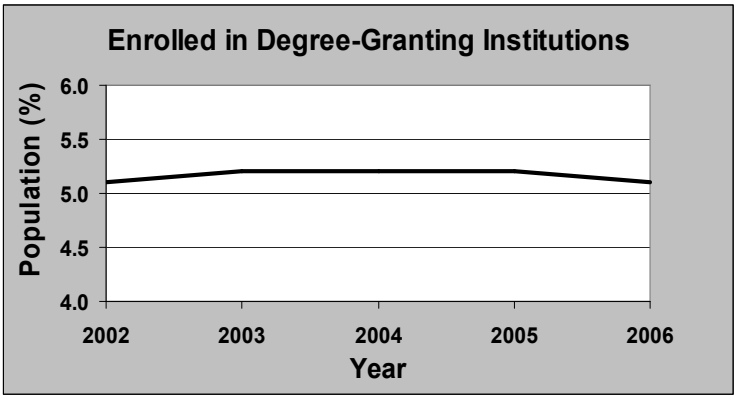
As social and economic trends pressure the education system, it will remain important for employers and policy makers to encourage those adults who have not done so to complete their high school education. This will involve adapting the traditional high school education model to adult learners, by considering such issues as the accessibility of existing programs to adults who are already working full-time, in addition to making these programs affordable to low-wage workers.

[3]Race/origin data is for individuals 25 and over; these are rates for Texas.

➲ 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 2002-2006 was established in 2002 with a rate of 5.1%. Although total enrollment increased somewhat each year, the rate in 2006 was again 5.1%, practically unchanged from the high of 5.2% reached in 2003 through 2005. In 2006, the total enrollment population did increase to almost 1.2 million, up more than 15,000 from the 2005 level.

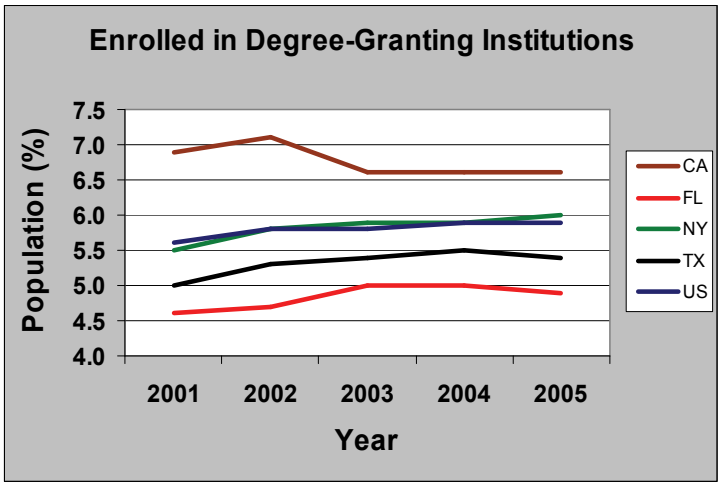


SOURCES: U.S. Census Bureau and Texas Higher Education Coordinating Board
[Includes non-residents]

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 by 500,000 more students by 2015. In 2005, the goal was revised to increase the participation rate by 630,000 more students by 2015. In *Closing the Gaps by 2015: 2007 Progress Report* (July 2007), mixed results were reported against the interim targets established for 2006. The sixth annual progress report reflected data for the period 2000-2006:

- *Interim targets* – 2006 targets were exceeded for total enrollment, as well as African-American and Caucasian enrollment, but the rate of growth is slowing.
- *Hispanic enrollment* – The 2006 Hispanic enrollment target was not met. An increase of 54.5% was needed over the reporting period to meet the goal but only a 40.7% increase was attained, although this was the highest rate of growth of any racial/ethnic group. Hispanic participation will need to increase by 41.9% in the next four years to reach the target for 2010.
- *Post-high school enrollment* – The percentage of recent high school graduates who enter college is not increasing. The higher education enrollment rate among recent high school graduates is about 55%.

Calculation of this enrollment rate using another set of data provided by the National Center for Education Statistics at the U.S. Department of Education (NCES) shows Texas in 2005 with a rate of 5.4%, below the national rate of 5.9%. The Texas rate is also below California's rate of 6.6%, and New York's rate of 6%, but above Florida's rate of 4.9%.



SOURCES: U.S. Census Bureau and National Center for Education Statistics

Associate's 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, including preparation for advanced education.

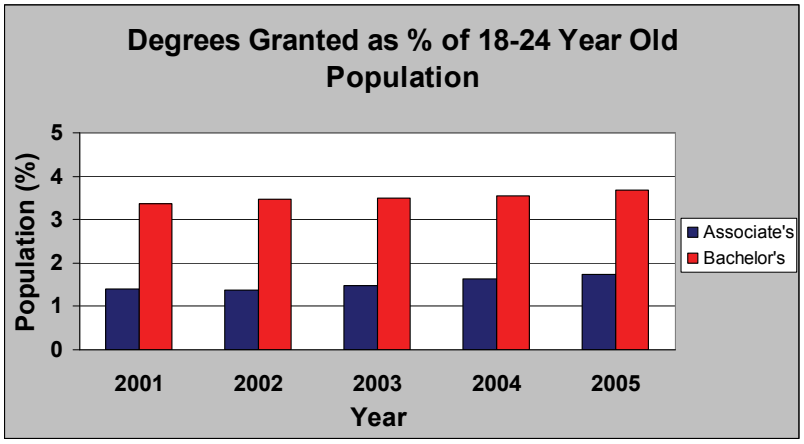
Obtaining an associate's degree is often the first step taken beyond the high school diploma, with some individuals continuing to the bachelor's level. Other individuals seek the bachelor's degree as their first postsecondary credential. Bachelor's degree requirements may encompass most, if not all,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

The National Center for Education Statistics (NCES) provides degree granted information. It is 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's 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's* – The percentage has increased slightly from a low of 1.38% in 2002 to 1.73% in 2005.
- *Bachelor's* – After hitting a five-year low of 3.36% in 2001, the percentage rose slightly each year, reaching 3.67% in 2005.



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

Texas' base numbers for both degree types increased in 2005, rising 6.3% for associate's degrees and 3.8% for bachelor's degrees. In

Area	Type	2005	2004	% Change
Texas	Associate's	41,778	39,302	+6.3
	Bachelor's	88,757	85,539	+3.8
U.S.	Associate's	696,660	665,301	+4.7
	Bachelor's	1,439,264	1,399,542	+2.8

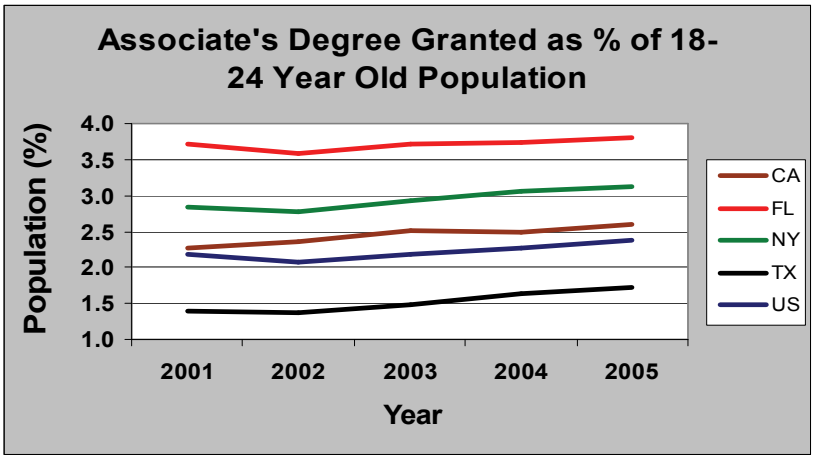
SOURCE: National Center for Education Statistics

[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.

comparison to national figures, Texas' rate of increase for degrees granted was higher for associate's degrees as well as for bachelor's degrees.

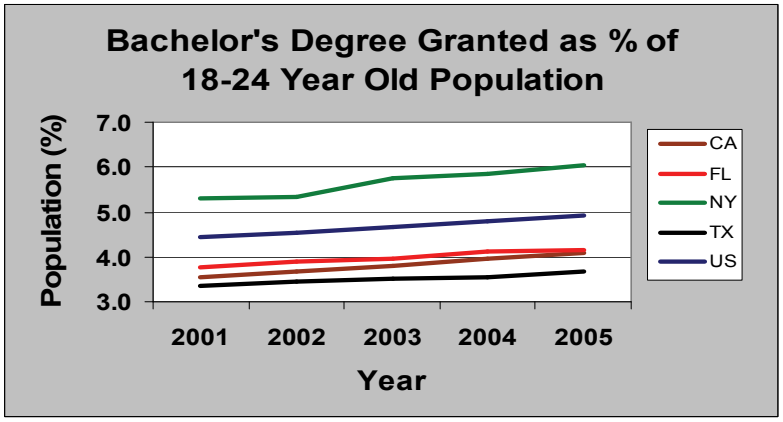
For degrees granted, Texas does lag behind the national rate as well as those of comparable states. The percentages in 2005 for the United States and other states are below with percentages for associate's and bachelor's degrees listed respectively:

- United States: 2.38%, 4.91
- California: 2.59%, 4.1%
- Florida: 3.8%, 4.14%
- New York: 3.13%, 6.04%



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

Despite Texas' slight improvement in these two indicators, the state's rates in 2005 were well below the national rate of 2.38% for associate's degrees and 4.91% for bachelor's degrees. Texas also lagged behind California's rates of 2.59% for associate's and 4.1% for bachelor's degrees awarded.



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

One of four major goals contained in *Closing the Gaps* – The Texas Higher Education Plan is to increase success rates. By 2015, award 210,000 undergraduate degrees, certificates, and other identifiable student successes from high quality programs. In *Closing the Gaps by 2015: 2007 Progress Report* (July 2007), positive results were reported against the interim targets established for 2006. The sixth annual progress report reflected data for the period 2000-2006:

- *Credentials awarded* – The number of academic credentials (i.e., certificates, associate's and bachelor's degrees) awarded exceeded the 2006 target by more than 4%, although the number of bachelor's degrees fell below its goal by 220 awards.

- *Interim target* – The 2006 target of 31,080 for associate's degrees was exceeded by 6,116 awards.[5]

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

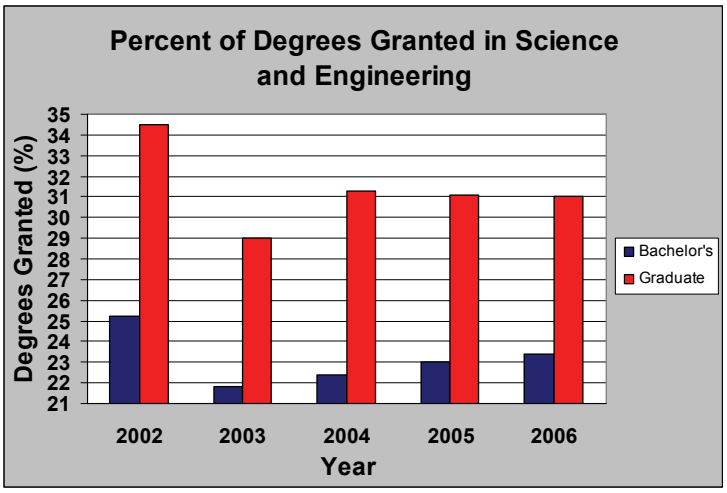
To address concerns about Texas not meeting its targets in the number of bachelor's degrees and technology-related degrees awarded, the 80th Texas Legislature passed a resolution requesting the creation of a select commission to draft a Texas Compact to create a plan to achieve certain goals by 2020. The commission is to submit a report, with recommendations, by November 1, 2008. The 80th Legislature also funded a new scholarship program in an effort to attract more students to pursue engineering degrees at Texas universities.

❶ Percent of Bachelor's Degrees Granted in Science and Engineering
❶ 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

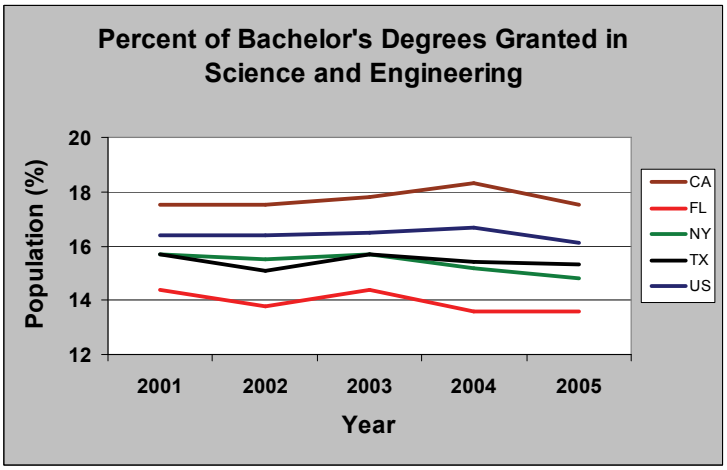


SOURCE: Texas Higher Education Coordinating Board [Includes non-residents]

Based on data revised by the source, the percentage of bachelor's degrees granted in S&E fields declined to a low of 21.8 in 2003 before increasing each year thereafter, reaching 23.4 in 2006. The percentage of graduate degrees declined to a low of 29 in 2003, and after reaching 31.3 in 2004 remained almost flat at 31.1 in 2005 and 31 in 2006.

Calculation of the percent of bachelor's degrees using NCES data shows Texas in 2005 with a rate of 15.3%. This rate is also below the national rate of 16.1% and California's rate of 17.5%, but above New York's rate of 14.8% and Florida's rate of 13.6%.

From 2002-2006, the Texas Higher Education Coordinating Board (THECB) reported a steady increase in the enrollment numbers of public-institution science and engineering graduate and post-graduate students, from 26,385 to 34,484. Based on figures compiled by the National Science Foundation (NSF),



SOURCE: National Center for Education Statistics [Includes non-residents]

Texas ranks third in total enrollment behind California and New York, although Texas ranks 27th by rate of recent enrollment increase.

According to additional data compiled by THECB for 2006, 69.5% of recent science and engineering graduates with a bachelor's degree were employed in Texas, and 55.5.% of those with a graduate degree were employed in the state.

● 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 reading and math assessments for fourth and eighth graders.[6] 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 again been included in the *Index*. These tests were not scheduled for 2006, so no trend is indicated for this edition.

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.

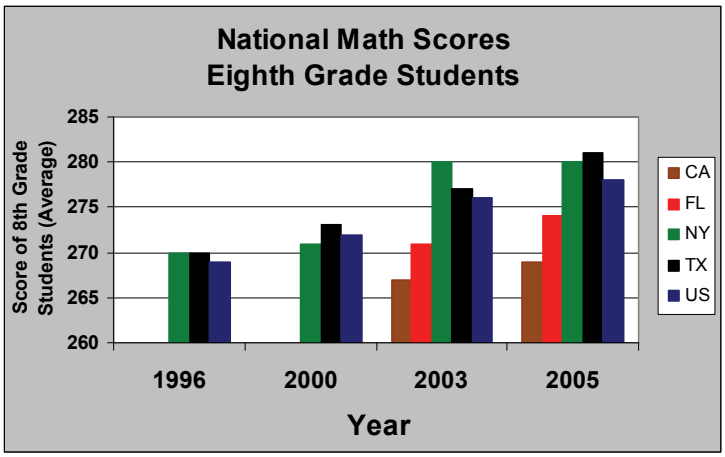
> *"The education of a knowledge workforce starts with K-12. Without a strong background in math and science at the K-12 level, students will struggle to earn degrees in scientific and technical fields, and will be unable to compete for high paying technology jobs. But even more fundamentally, in the information economy of the 21st century, most jobs --- not just those specifically in high tech --- will require a solid grounding in math and science.*
>
> *Over the last several years the proficiency of 4th and 8th grade American students has, for the most part, improved, but the numbers are still unacceptably low….More troubling still is that American 12th graders perform considerably worse."*
>
> - AeA, *We Are Still Losing the Competitive Advantage* (March 2007)

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).

[6] 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.

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. (These assessment tests are not administered every year).

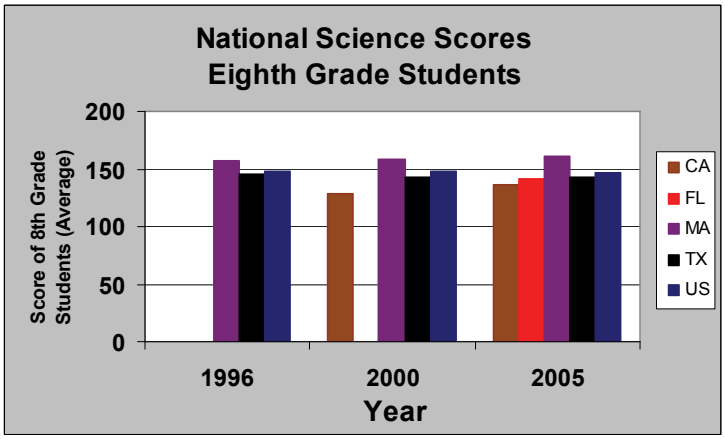
- *Math – Grade 8*. The figures in the graph represent the average scale score for participating eighth grade students in Texas, compared to the national average scale score of the Nation's public schools, as well as those of other large states. In 2005, the state's performance was significantly higher than the national average of 278 and above California's of 269, Florida's of 274 and New York's of 280.



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, and for other comparable states are presented in the graph below; the science assessment was not conducted in 2003. Texas' average score of 143 was below the national average of 147 in 2005 and Massachusetts average score of 161, but above California's 136 and Florida's 141. New York did not participate during these assessment years so the score results of Massachusetts students are provided instead.



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 ten.

In 2007, the average composite score of high school seniors who took the ACT college admissions test was the highest ever of 20.5 on a scale of one to 36. This is a positive trend which shows the value of taking more college-prep courses in high school. Nevertheless, Texas was behind the national average composite score which was 21.2. This was in part due to the score of Texas Hispanics trailing the national Hispanic average by .6 points.

Recently, various initiatives have been undertaken in Texas to improve the educational system. One of these is the P-16 Council which is composed of the executive heads of the Texas Education Agency, the Texas Higher Education Coordinating Board, the Texas Workforce Commission, and the Texas Department of Assistive and Rehabilitative Services. The purpose of the Council is to coordinate policy efforts between public and higher education entities, as well as to help strengthen partnerships among the various stakeholders.

Additionally, the Legislature included various education reforms in legislation passed in the special session of 2005. These reforms included:

- A $2,000 pay raise for teachers.
- The requirement for high school students to take 4 years of math, science, English and social studies (beginning with 9th graders in 2007). Texas will be one of a few, if not the only, states with this as the standard curriculum for high school students.
- A uniform school start date, no earlier than the fourth Monday of August (effective for the 2007-2008 school year).
- The requirement that every high school provide a minimum of 12 hours of dual credit courses, i.e. college level courses.
- Additional funding for low-performing high schools, including drop-out prevention programs.
- The creation of education centers by the Commissioner of Education and the Commissioner of Higher Education to research methods to improve educational performance.
- The requirement that every public school must maintain an electronic system for student records, in order to facilitate transferring records from one school to another.

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 again had the highest incidence of negative change in the last reporting cycle with 6 of 11 indicators (55%) declining. This domain did see improvement in two additional indicators since last year's report. Although alerts were removed from three indicators, alerts were added to four other indicators.

Domain 2 Summary Number of Indicators - 11			
		No.	%
↑	Positive change in last reporting cycle	5	45%
→	No significant change in last reporting cycle	0	0%
↓	Negative change in last reporting cycle	6	55%
●	Data unavailable	0	0%
⚑	Watch alert	4	36%

Indicator	Page	Alert	Trend
Number of Patents	27	-	↓
Patents per Capita	27	-	↓
Venture Capital per Capita	29	-	↑
Venture Capital Invested as a Percent of Gross State Product	29	-	↑
Venture Capital Invested per $1000 of Gross State Product	29	-	↑
Total R&D Expenditure per $1000 of Gross State Product	32	⚑	↓
Industry R&D Expenditure per $1000 of Gross State Product	32	⚑	↓
Academic-Performed R&D Expenditure per $1000 of Gross State Product	32	⚑	↓
National Institutes of Health (NIH) Support to Texas Institutions per Capita	35	⚑	↓
National Science Foundation (NSF) Funding per Capita	36	-	↑
Average Annual Amount of Small Business Investment Companies (SBIC) Funds Dispersed per $1000 of Gross State Product	37	-	↑

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 2004. All three declined in 2004 when viewed per $1000 of Gross State Product

(GSP). Only academic R&D showed an increase in actual dollar expenditures.

The National Institutes of Health (NIH) received a 2.4% budget increase for FY 2007 above the FY 2006 level, while the National Science Foundation (NSF) received a 6% budget increase for FY 2007 over FY 2006.

The Texas Higher Education Coordinating (THECB) board has reported[7] that after showing strong increases, federal support in Texas for R&D decreased in FY2004 and was the only state among the top ten where this happened. Texas is ranked fifth in total federal R&D obligations behind, in descending order, California, New York, Pennsylvania, and Maryland.

At the state level, the 79th Legislature in 2005 approved a new $200 million Texas Emerging Technology Fund (TETF). A 17-member advisory committee of high-tech leaders, entrepreneurs and research experts reviews potential TETF projects and recommends funding for projects to the Governor, Lieutenant Governor and Speaker of the House. The TETF has allocated $89.1 million in grant funds to Texas companies and universities in order to:

- Increase research collaboration between public and private sector entities through new Regional Centers of Innovation and Commercialization where the seeds of an idea can take root in a university lab and eventually grow into a new product marketed by a new or expanding firm;
- Match research grants provided by both federal and private sponsors to help innovators acquire the capital they need to bring their ideas to life; and
- Attract 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.

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. Data for Massachusetts is included among the comparisons, since that state is home to a high concentration of technology-related industries and research projects.

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 affect the economy.[8]

While data regarding both types of research is 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 influence 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: namely, the importance of applied research, and the dollars invested in activity, to the overall health of the Texas economy. Thus a state goal is to increase the percentage of all federal funding Texas academic institutions receive to support their R&D efforts.

[7] THECB, "Closing the Gaps by 2015: 2007 Progress Report", July 2007.
[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.

Number of Patents
Patents per Capita

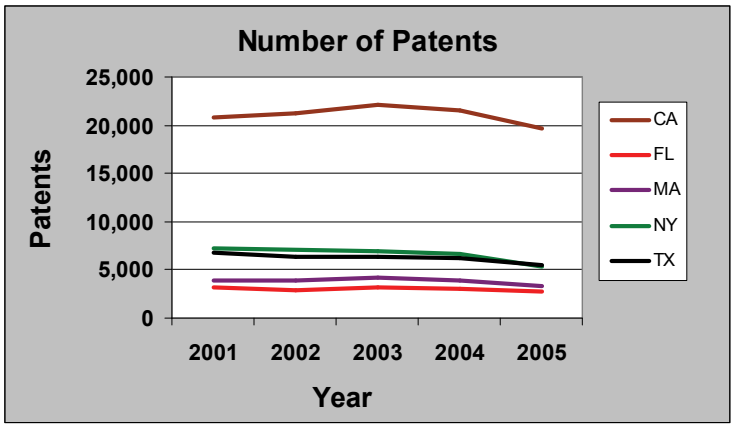
Both indicators are calculated based on the number of patents[9] and statutory invention registrations[10] filed by Texas entities. The origin of a patent is determined by residence of the first-named inventor.

> *"The number of international patent applications continues to rise with impressive growth from north east Asian countries….Innovation has been traditionally dominated by Europe and North America. New centers of innovation - in particular in northeast Asia - are emerging and this is transforming both the geography of the patent system and of future global economic growth."*
>
> - World Intellectual Property Organization, February 2007

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 in the Governor's Industry Cluster Initiative, noted in the Introduction.

- *Number of Patents* – Over the past five years, Texas' patent count has been declining from 6,764 in 2001 to a new low of 5,526 in 2005. In 2005, nationally 82,585 patents were issued. Texas ranked second, behind California's 19,662 and ahead of New York's 5,306; and Florida's count of 2,707.



SOURCE: U.S. Patent and Trademark Office

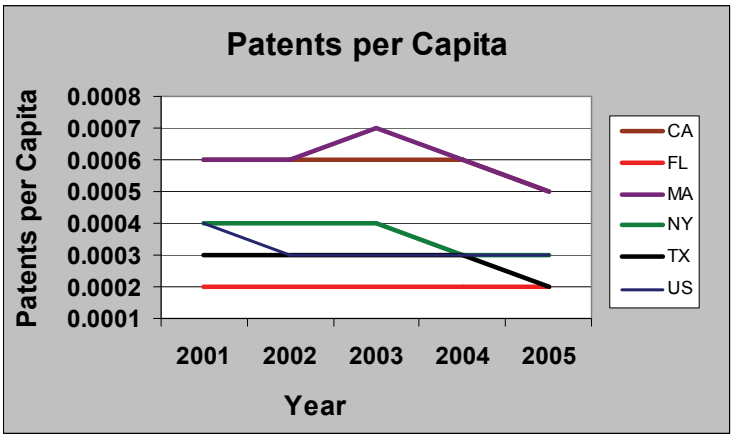
Total Number of Patents, United States				
2001	**2002**	**2003**	**2004**	**2005**
98,666	97,135	98,598	94,129	82,585

SOURCE: U.S. Patent and Trademark Office

[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]

- *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 a slight decrease in the last year. Based on data from the U.S. Census Bureau and the U.S. Patent and Trademark Office, the rate dropped slightly to 0.0002 in 2005 from a fairly steady 0.0003 per year during 2001-2004.



SOURCE: U.S. Patent and Trademark Office

Nationally this rate in 2005 was 0.0003, while California's rate was 0.0005, New York's 0.0003, and Florida's 0.0002. This rate and the total number of patents have been generally decreasing nationally and in most states in the last few years.

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 backed companies outperformed their non-ventured counterparts in job creation and revenue growth. Employment in venture backed companies jumped by 4.1%, while national employment grew by just 1.3%, between 2003 and 2005. At the same time, venture capital backed company sales grew by more than 11%, compared to an overall rise in U.S. company sales of 8.5% during the same period."

- Global Insight, *Venture Impact 2007* (March 2007)

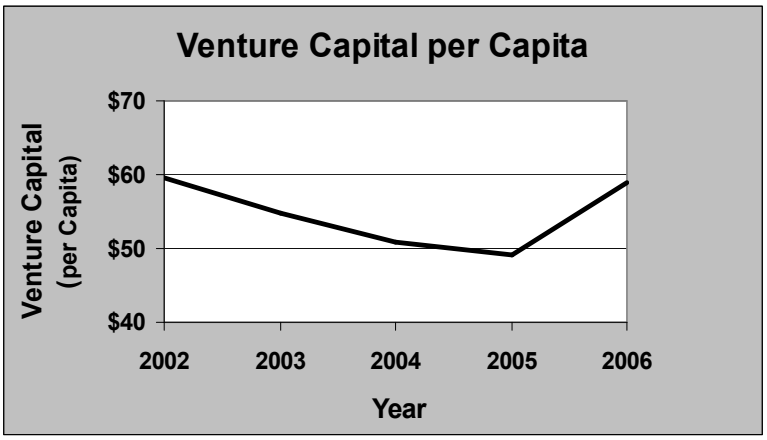
Data is presented in three ways, with the two GSP data sets merged for the period 2002-2006, in an effort to facilitate cross-indicator review with indicators in this, and other domains:

- *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 total amounts (revised data) of venture capital invested in Texas were (in millions):

- 2002 – $1,295
- 2003 – $1,214
- 2004 – $1,145
- 2005 – $1,126
- 2006 – $1,387

The five-year high for the per capita rate was set in 2002 with a rate of $59.51. Since that time, the rate declined annually until reversing the trend by turning back up to $59.00 in 2006.



SOURCES: U.S. Census Bureau and PricewaterhouseCoopers

Texas lagged behind the corresponding 2006 rates for the United States at $87.14, California at $345.00, Massachusetts at $446.47, and New York at $66.56, but ahead of Florida at $17.52. Total venture capital invested decreased significantly in 2002 from 2001 in Texas as well as across the United States.

Region	2002	2003	2004	2005	2006
United States	$75.79	$67.77	$75.58	$76.99	$87.14
California	$270.73	$241.13	$287.96	$297.00	$345.00
Florida	$23.56	$18.14	$19.41	$19.23	$17.52
Massachusetts	$393.08	$423.63	$458.36	$392.95	$446.47
New York	$42.94	$34.87	$38.41	$55.86	$66.56
Texas	$59.51	$54.85	$50.85	$49.11	$59.00

Venture Capital per Capita, Source: U.S. Census Bureau and PricewaterhouseCoopers

As noted previously, graphs are 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.

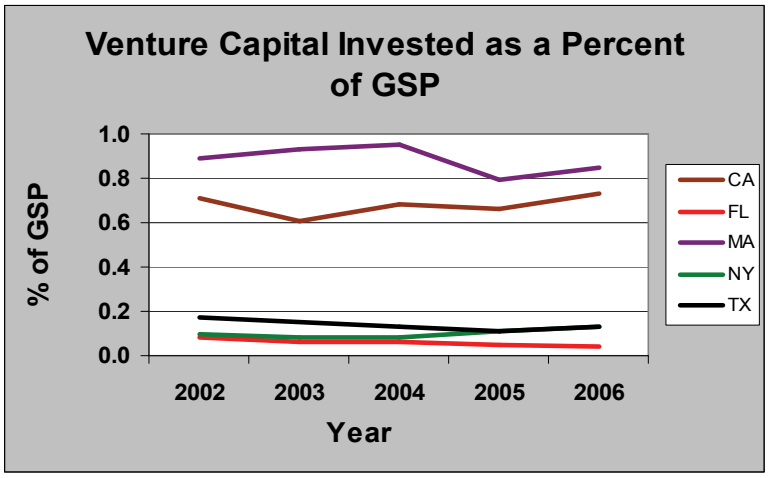
- *Percent of GSP* – When viewed as a percentage of GSP, the rate was at a high of 0.17% in 2002 and was falling until increasing slightly in the last year to 0.13%.

- *Per $1000 of GSP* – Similarly, the rate per $1000 of GSP was declining from $1.65 in 2002 until reversing the trend by turning up to $1.29 in 2006.

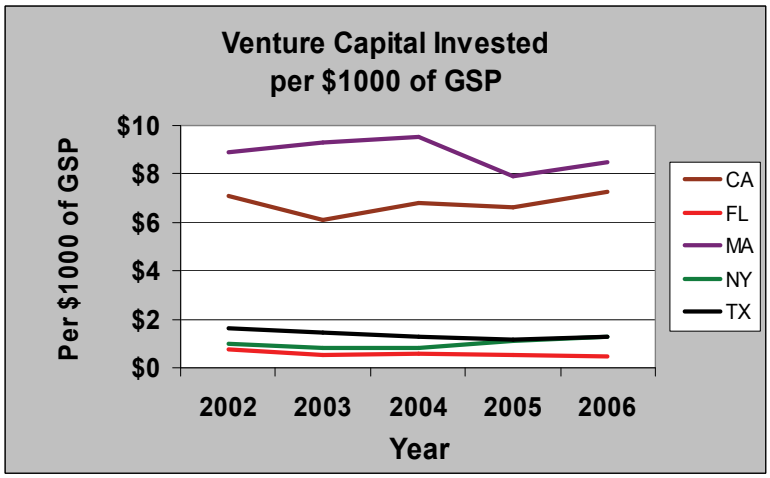
Again, Texas was below the corresponding 2006 national rates of 0.2% and $1.98. Texas' rates were also below those of California at 0.73% and $7.28, and those of Massachusetts at 0.85% and $8.51. Texas' rates were about equal to those of New York at 0.13% and $1.26, and above Florida's at 0.04% and $0.44.

Data from PricewaterhouseCoopers did show an increase in Texas' investment levels and the number of deals made:[11]

- *Number of deals* – 179 in 2006, up from 162 in 2005.
- *Investment level* - $1,387 million in 2006, up from $1,126 million in 2005.



SOURCES: Texas Comptroller, U.S. Bureau of Economic Analysis, and PricewaterhouseCoopers



SOURCES: Texas Comptroller, U.S. Bureau of Economic Analysis, and PricewaterhouseCoopers

[11] Figures frequently revised by source.

As Texas experienced an increase per capita in venture capital investments for 2006, the national picture continued to improve as well. In the past three years, national annual investment rose from a low of $22.19 billion in 2004. As reported by PricewaterhouseCoopers, the upward trend continued in 2006, as $26.1 billion was invested in 3,522 deals.

A March 2007 Global Insight report contained some additional positive data. Texas continued to be ranked second in both number of employees and amount of revenue at ventured-backed companies.

Rank for Jobs	Rank for Revenue	State	Jobs 2005	Revenues 2005	% increase from 2003 totals
1	1	California	2,285,200	$506.8	5% (Jobs); 28% (Revenues)
2	2	Texas	1,089,100	$274.0	15%; 25%
3	4	Pennsylvania	697,600	$112.8	31%; 22%
4	5	Massachusetts	639,900	$111.7	4%; 22%

SOURCE: Global Insight [Revenues in billions]

The National Association of Seed and Venture Funds reported in April 2006 that from 1995-2005, venture capital investments in the United States 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 2004 being the most recent year for which most 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.

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.

> *"In 1990, the United States enjoyed the distinction of having the world's most generous tax treatment for research and development. However, the generosity of the credit has been whittled away over the years, while other nations have forged ahead. By 2004, the U.S. had dropped to the 17th most generous. As a result, it is not surprising that corporate-funded R&D as a share of GDP fell in the United States by 7 percent between 1999 and 2003, while it grew 3 percent in Europe and 9 percent in Japan."*
>
> - The Information Technology & Innovation Foundation, *The 2007 State New Economy Index* (February 2007)

Each of the three indicators declined in the last reporting cycle and so have been flagged with a '⚑ - watch alert' for the next reporting cycle:

- *Total* – Down to $15.8 in 2004, from $17.85 in 2003.
- *Industry* – Down to $12.17 in 2004, from $13.34 in 2003.
- *Academic* – Down to $3.19 in 2004 and $3.11 in 2005, from the previous high of $3.34 in 2003.

Comparative 2004 national and state figures are:

Region	Total R&D	Industry R&D	Academic R&D
United States	$24.26	$17.21	$3.67
California	$39.33	$30.76	$3.77
Florida	$8.91	$5.75	$2.15
Massachusetts	$51.66	$38.19	$6.46
New York	$14.44	$9.68	$3.71
Texas	$15.80	$12.17	$3.19

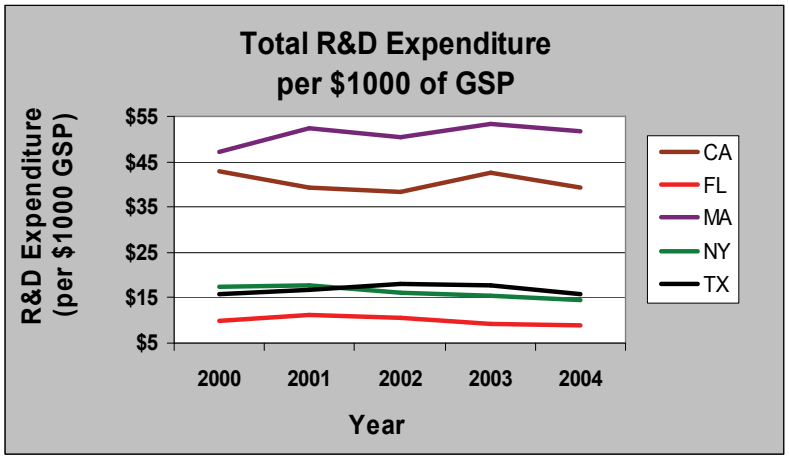
Federal funding of academic R&D performed in the United States reached $29.2 billion in 2005, which accounted for 64% of all academic R&D support. According to an NSF *InfoBrief* released in January 2007, funding increased 5.6% from 2004 levels, indicating a slow down from the double-digit growth levels of the previous three years.

Federal funds traditionally account for the majority of academic R&D expenditures. In 2005, U.S. academic institutions spent $45.8 billion on R&D, including $29.2 billion in federal dollars. Three agencies were responsible for about 75% of the federal expenditures: Health and Human Services (54%); NSF (12%); and Department of Defense (9%).[12]

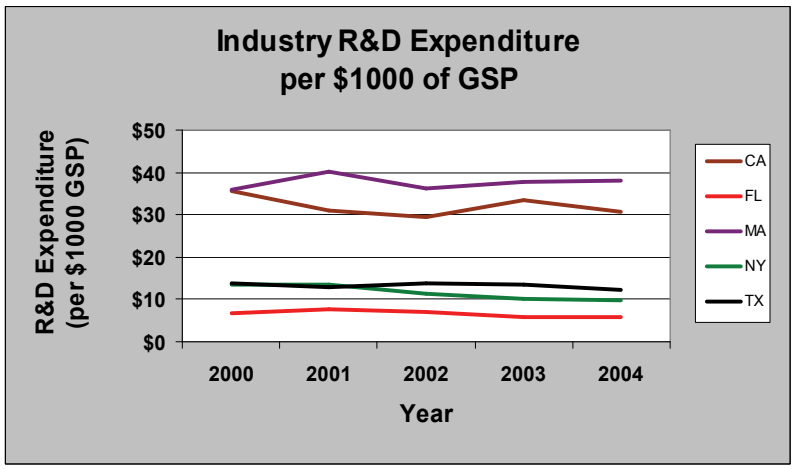
While a number of Texas institutions are successful in receiving large R&D grants from national institutes, in 2005 no Texas institution was ranked in the top twenty of leading institutions by R&D expenditures, although there were six in California, two in New York, and one in Florida.[13]

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 FY 2006, federal funds accounted for 56.9% of the research funds expended, a decrease from 58.3% in FY 2005.

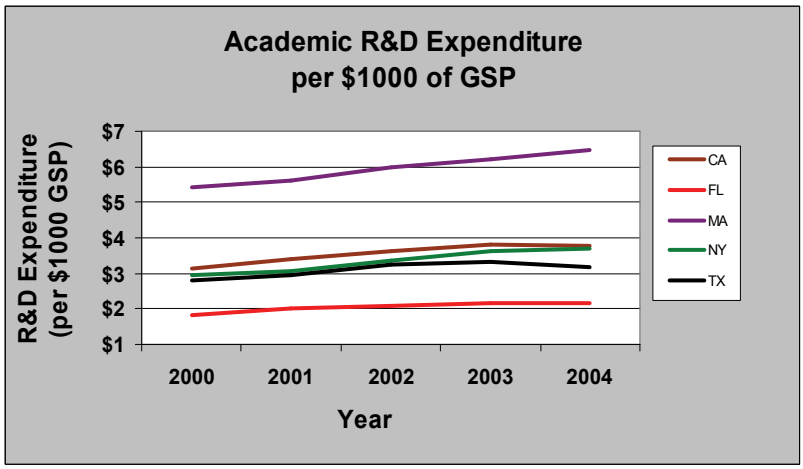
The TETF, created and funded at $200 million by the 79th Legislature and one of the Governor's economic development priorities, was established to expedite innovation and commercialization; increase higher education applied technology research capabilities; and attract, create, or expand private sector entities that will



SOURCES: National Science Foundation, Texas Comptroller and U.S. Bureau of Economic Analysis



SOURCES: National Science Foundation, Texas Comptroller and U.S. Bureau of Economic Analysis



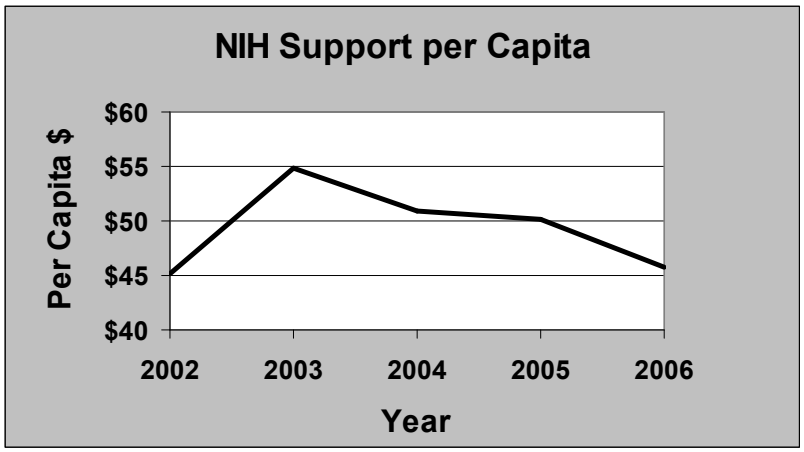
SOURCES: National Science Foundation, Texas Comptroller and U.S. Bureau of Economic Analysis

[12] NSF, *InfoBrief,* January 2007.
[13] Ibid.

promote a substantial increase in high-quality jobs. The 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 in the process. There have been 25 TETF grants so far, totaling more than $89 million. One such grant was the recent $6 million award to Texas A&M University to help attract researchers to a program developing advancements in biotechnology.

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

As a part of the U.S. Department of Health and Human Services, NIH is the primary federal agency for conducting and supporting medical research globally and nationally. It 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.



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

The graph 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 per capita NIH funding. In 2004, NIH funding began to decline, falling to a rate of $45.80 in 2006, thus initiating a '- watch alert'. Comparative national and state rates for support per capita are:

Region	2002	2003	2004	2005	2006
United States	$66.20	$75.20	$78.95	$76.99	$69.52
California	$82.92	$95.46	$100.99	$91.59	$86.20
Florida	$17.42	$18.75	$20.43	$20.95	$18.62
Massachusetts	$291.41	$342.87	$352.01	$353.26	$342.36
New York	$89.45	$98.04	$101.85	$104.64	$98.31
Texas	$45.08	$54.89	$50.98	$50.16	$45.80

Texas' rank increased from sixth to fifth in terms of total NIH dollars awarded for fiscal year 2006, with the top three again California, Massachusetts and New York. As a decline again occurred in 2006, in terms of per capita dollars, the number of awards in Texas decreased by 69 while the dollar amount decreased from the previous year by $73.4 million. The FY 2006 figures are presented in the table below:

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 to 6.5% of obligations to higher education institutions across the nation by 2015.

Rank	State	No. of Awards	Total Award Amount
1	California	7,235	$3,142,616,266
2	Massachusetts	5,012	$2,203,864,837
3	New York	4,746	$1,897,902,992
4	Pennsylvania	3,475	$1,392,276,239
5	Texas	2,761	$1,076,631,203
6	Maryland	2,239	$998,692,033

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

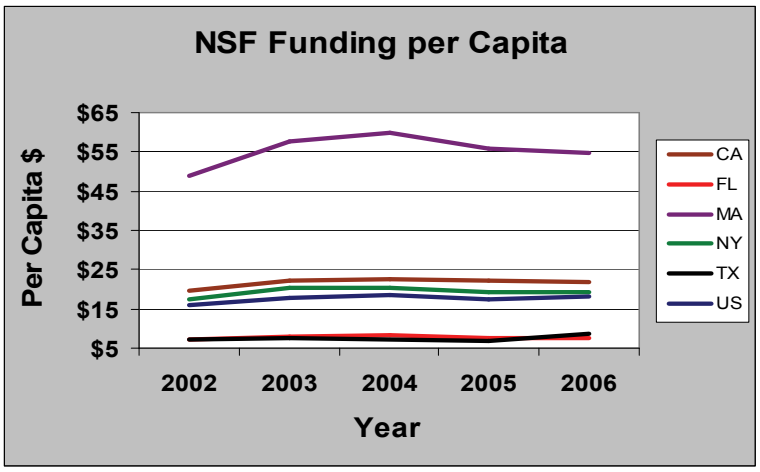
Notably, NIH funds accounted for 64% of federal research support (federal dollars account for about 60% of all research funds expended) for science and engineering R&D to Texas higher education institutions in FY 2004. California receives about 14% of all federal science and engineering R&D expenditures and New York about 8% while Texas and Pennsylvania receive about 6%.

National Science Foundation (NSF) Funding per Capita

The 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. The agency 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 and 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. After two cycles of decline, the indicator reached a new high for the five-year period at $8.55 in 2006.



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

The national rate for 2006 was $18.12. The rates for other states were as follows: California - $21.85, Massachusetts - $54.91, New York - $19.09, Florida - $7.39.

Texas total funding increased from $153.8 million in 2005 to $200.9 in 2006. Texas was ranked eighth in terms of total NSF funding last year. The number of awards also increased from 885 in 2005 to 922 in 2006. Texas was ranked fifth.

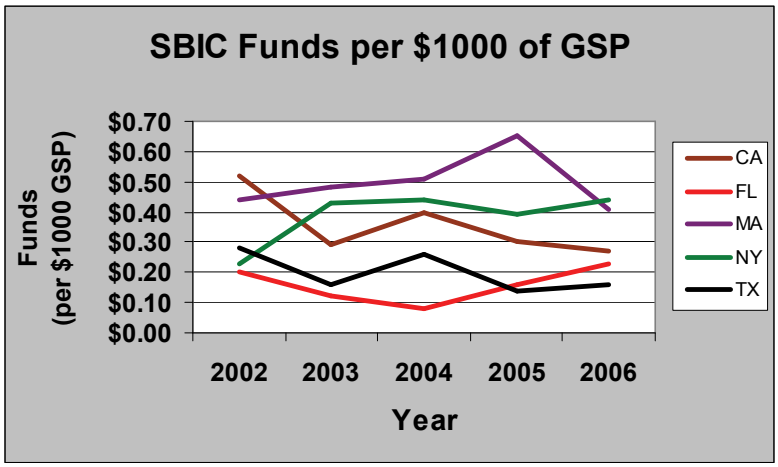
As noted previously, the NSF received a 6% budget increase in FY 2007 over FY 2006. Despite the increased level of funding in Texas, the state still compares unfavorably with the national per capita rate or the rates in comparable states. Interestingly, while Texas' per capita funding rate increased from the 2005 level, in the states listed above the rates decreased slightly although the national rate did increase.

❶ 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.

As a subset of the overall venture capital industry, SBIC investing 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).



SOURCES: U.S. Small Business Administration, Texas Comptroller and U.S. Bureau of Economic Analysis

The chart represents the fiscal year annual amount of SBIC funds dispersed in Texas, normalized per $1000 of Texas' GSP. This indicator has been updated with two years of data since last year's *Index.*

The five-year high for the rate was realized in 2002 at $0.28, and after a new five-year low in 2005 of $0.14, the rate returned to $0.16 in 2006. The state ranked fourth nationally in terms of number of licensees and third in terms of funding last year.

The national rate in 2006 was $0.22. Texas remains behind comparable states as well:

- California: $0.27
- Florida: $0.23
- Massachusetts: $0.41
- New York: $0.44

Year	No. of Licensees	Funding
2002	252	$222,844,305
2003	223	$130,923,164
2004	249	$229,932,391
2005	184	$142,584,386
2006	223	$167,493,034

SOURCE: U.S. Small Business Administration

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. Texas will need to improve its SBIC allotments in proportion to its share of national GSP to help support the positive effect of small businesses on the state's economy.

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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, nine (64%) of the fourteen indicators experienced a positive change. Two indicators have been flagged with a 'watch alert'.

Domain 3 Summary Number of Indicators - 14			
		No.	%
↑	Positive change in last reporting cycle	9	64%
→	No significant change in last reporting cycle	0	0%
↓	Negative change in last reporting cycle	5	36%
●	Data unavailable	0	0%
⚑	Watch alert	2	14%

Indicator	Page	Alert	Trend
Labor Force Participation Rate	41	⚑	↓
Average Annual Unemployment Rate	43	-	↑
Labor Productivity	44	-	↑
Average Annual Pay per Worker	45	-	↑
Employer Firm Births	46	-	↑
Employer Firm Terminations	46	-	↓
Workers' Compensation Premiums Cost per Employee	47	-	↓
State Tax Revenue as a Percent of Gross State Product	48	-	↓
Texas Budget Surplus as a Percent of Gross State Product	49	-	↑
Gross State Product per Capita	50	-	↑
Exports per Capita	51	-	↑
Export Orientation	51	-	↑
Incoming Foreign Direct Investment per Capita	53	⚑	↓
Number of Technology Fast 500 Companies per 10,000 Business Establishments	54	-	↑

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 influence on 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 effect 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 possible decrease of 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.

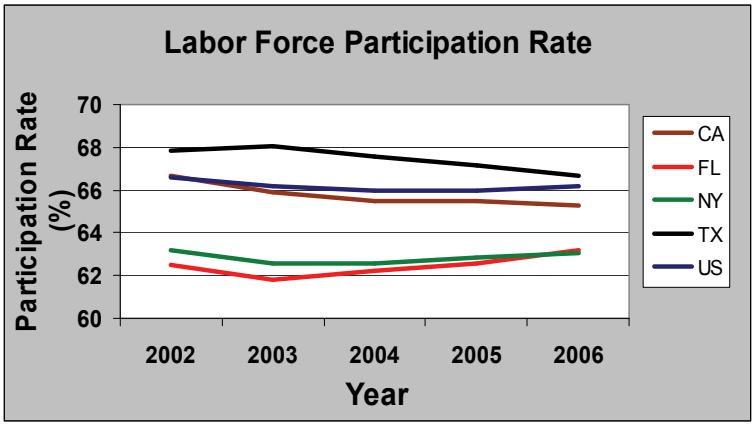
The 2007 State New Economy Index (The Information Technology and Innovation Foundation, February 2007) ranks Texas fourteenth, behind Massachusetts, California, and New York but ahead of Florida. The rankings take into account a variety of economic indicators, including several which are part of the *Texas Index*, such as workforce education, export orientation, foreign direct investment, business creation, patents, venture capital, broadband access, and industry investment in R&D.

Labor Force Participation Rate

The labor force participation rate is determined by calculating the civilian labor force as a percent of the civilian noninstitutional[14] 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 68.1% in 2003, the labor force participation rate declined every year to 66.7% in 2006. Although the rate continued to decline, Texas remained somewhat above the national average of 66.2% in 2006, which has remained almost flat in the last few years. As a result of Texas' decline in recent years, this indicator has been flagged with a '- watch alert' for the next reporting cycle.



SOURCE: U.S. Department of Labor

The rate in 2006 for California was 65.2%, for New York was 63%, and for Florida was 63.2%.

National projections through the year 2012[15] indicate that rate changes will continue to mirror population changes:

- *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. The 2006 national labor force participation rate for this age group was 83.1%.

- *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.

- *Mature workers* – The 2006 national labor force participation rate for adults over the age of 55 was 38.4%. Since 1994, the rate for this age group has risen 8.1%.

It is anticipated many older workers will desire to continue working past the traditional retirement age. Older workers will remain a knowledgeable and experienced part of the workforce that employers will continue to find an important resource for remaining productive and competitive.

[14] 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]
[15] U.S. Department of Labor, *Monthly Labor Review* (February 2004, June 2006, March 2007)

Nationally, the labor force participation rate peaked in the late 1990s and has been decreasing since in every age group except among adults 55 and older. Factors which have lead to this include changes in the age composition of the population, a rise in school enrollment, and changes in pension plans and Social Security. Particular noteworthy is the sharp decline in the participation rate among men with low levels of education.[16]

Usually in the short term, the labor force participation rate will rise or fall in cycle with corresponding economic expansions or contractions. However, job growth since the last recession in 2001 has been slower than in previous expansions.

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.[17] 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 changing 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 20th 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.[18]

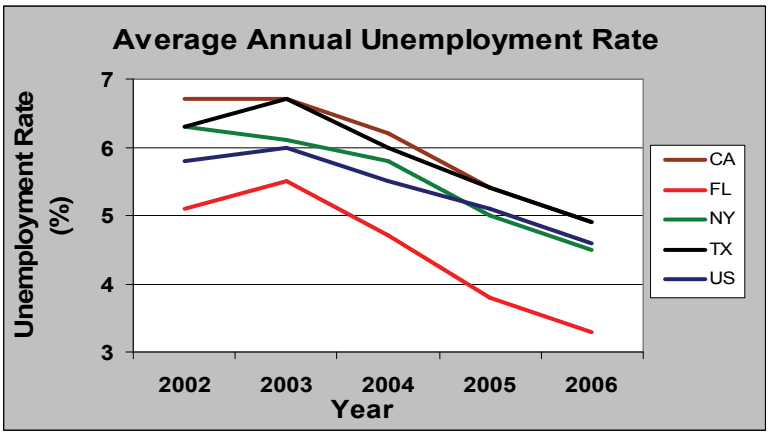
While the labor participation rate continued to decline, the labor productivity rate rose again, with another strong increase in 2006. These trends continue to point to a significant structural shift in both the state and national economies.

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.[19] 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.

[16] "Trends in Labor Force Participation in the Untied States" Abraham Mosisa and Steven Hipple. *Monthly Labor Review*, U.S. Department of Labor, October 2006.
[17] "The Trend Growth Rate of Employment: Past, Present, and Future" Todd E. Clark and Taisuke Nakata, Federal Reserve Bank of Kansas City, *Economic Review*, First Quarter 2006.
[18] Ibid.
[19]"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 a 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 4.9% in 2006. This was slightly higher than the national average, which was 4.6% in 2006. The rate in California was 4.9%, in New York 4.5%, and in Florida 3.3%.

Changes in the unemployment rate may influence 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 the negative effects of a higher rate, including:

- *Economic and social effects:* Rising unemployment has a direct effect on the economy. A higher rate is indicative of a loss of current jobs; decrease in job growth rates; and a decrease in discretionary spending. High rates may also contribute to problems such as crime, domestic violence and substance abuse.

- *Personal effects, 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*[20] – 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.[21]

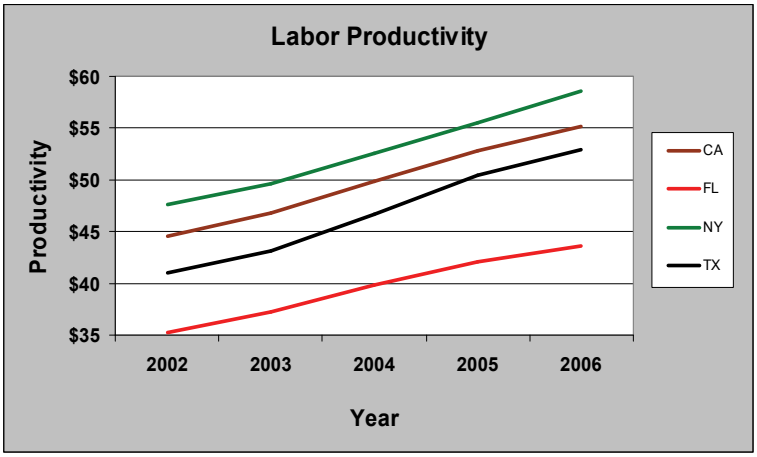
[20] No official government statistics are available on the total number of persons who might be viewed as underemployed. Difficulties include the development of an objective set of criteria and a means for quantifying associated economic loss. [U.S. Department of Labor - Bureau of Labor Statistics]
[21] 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, Texas Comptroller, and U.S. Bureau of Economic Analysis

The Texas rate increased annually over the five-year period 2002-2006, rising to a high of $52.92 in 2006, a 29% increase since 2002. Two years of data have been added to this indicator since last year's *Index.* The corresponding national and other states rates are: United States - $47.67; California - $55.12; New York - $58.58; and Florida - $43.59.

The increased revenue improves the "bottom line" of both employers and the state. 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 2006, there were an estimated 276,500[22] jobs added in the state.

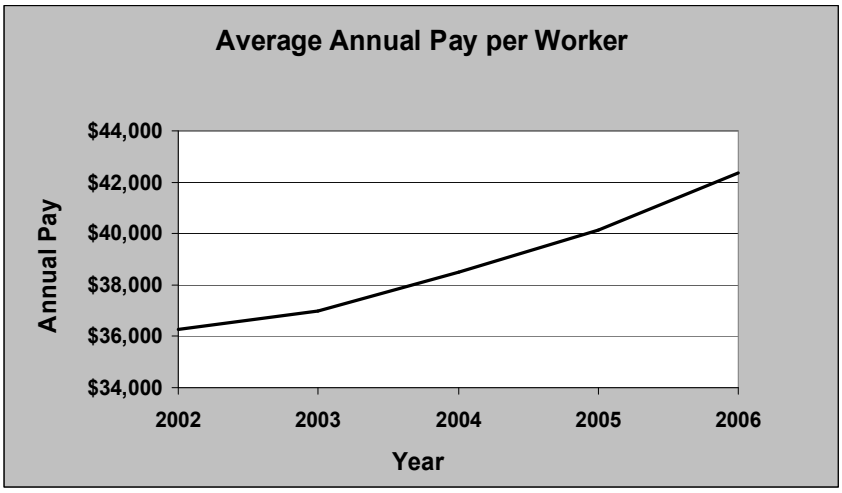
Research indicates that recent increases in labor productivity have not translated into income gains across the entire workforce especially in the lower income brackets. In addition, changes in productivity only partially account for income growth at the higher income levels. Technological advances causing greater demand for high-skilled workers, as well as rapidly rising compensation for chief executives are among the factors leading to this disparity.[23]

[22] 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.
[23] "What Happened to the Gains from Strong Productivity Growth?" Jonathan Willis and Julie Wroblewski, Federal Reserve Bank of Kansas City, *Economic Review*, First Quarter 2007.

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.

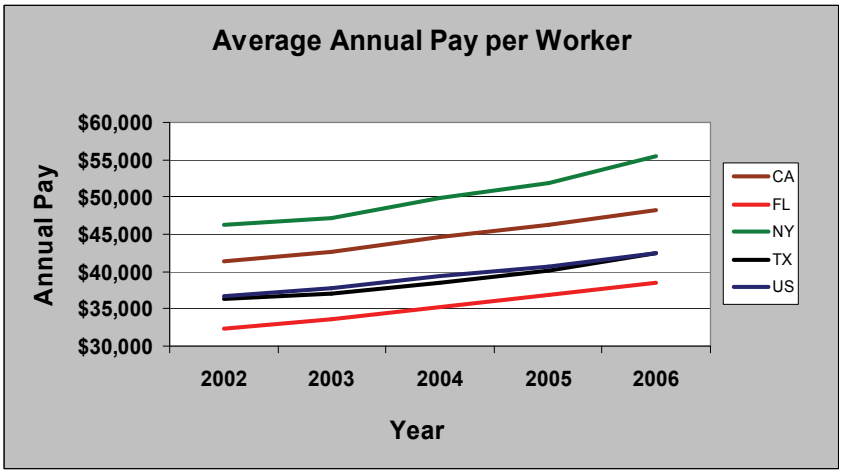
The chart displays annualized average weekly wage rates for Texas employees. The rate rose annually over the five-year period, climbing to a new high of $42,380 in 2006.



SOURCE: Texas Workforce Commission

Calculation of this rate using another set of data from the U.S. Department of Labor, gives Texas a 2006 average pay rate of $42,433 below the national rate of $42,521. This is also below California's rate of $48,339 and New York's rate of $55,431, but above Florida's rate of $38,484. Cost of living rates would perhaps account for some of these differences.

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.



SOURCE: U.S. Department of Labor

A 2007 study[24] by the Employee Benefit Research Institute (EBRI) reported that 62% of U.S. workers were covered by health benefits provided by their employers. This rate has usually ranged between 62% and 68% since the late 1980s.

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. This increase in consumption can improve GSP, economic growth, and job creation.

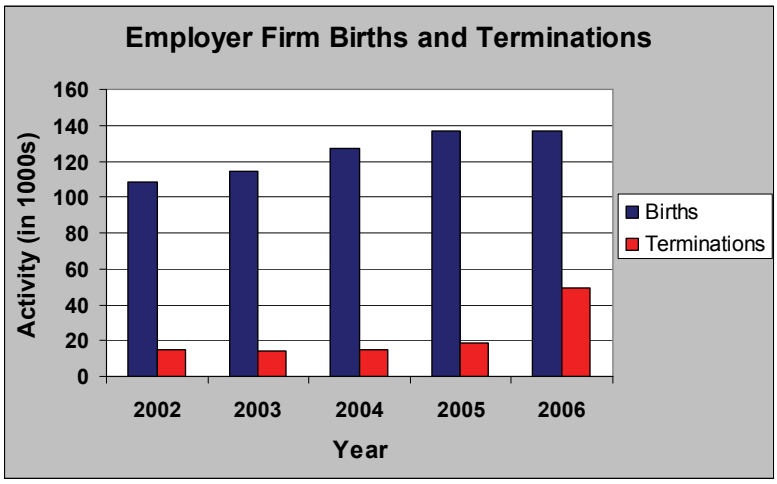
[24] EBRI Issue Brief #303, March 2007.

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 2002, reaching a new five-year high of 136,845 in 2006.

The number of terminations increased for the third year in a row, reaching a new five-year high of 49,423 in 2006.

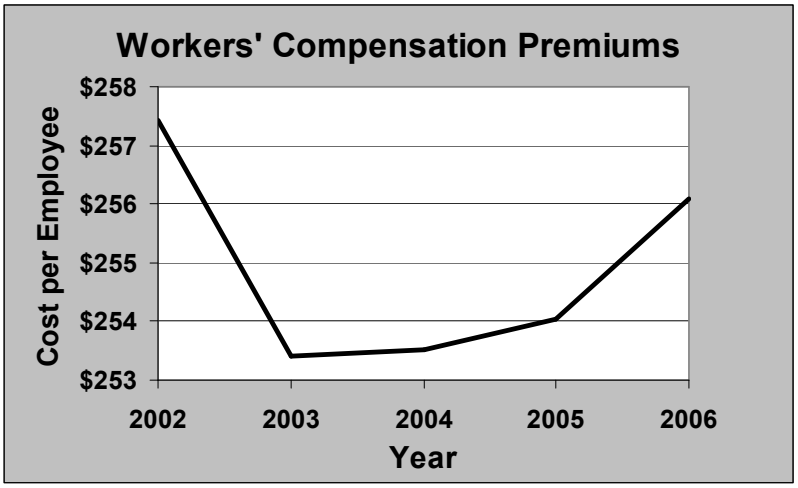
In order to make it easier to start a business, Texas has initiated a process to simplify state reporting and licensing requirements by providing a guide to starting a business in Texas. The Texas Business Portal website (www.business.texasonline.com) was launched in March 2005. The Office of the Governor has initiated Phase I of the Consolidated Business Application (CBA) project. Phase I involves the Retail/Convenience Store/Restaurant business type and went online May 1, 2007. 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.

The *2006 Kauffman Index of Entrepreneurial Activity* (Kauffman Foundation, May 2007) ranks Texas 20th among the states by the rate of business creation, behind such states as California, Massachusetts, Florida, and New York. The rate of business creation in Texas was slightly better than the national rate.

The *State Competitiveness Report 2006* (Beacon Hill Institute, December 2006) ranks Texas 22nd among the states by economic climate which promotes a high level of per capita income and its continued growth. Texas is ranked below Massachusetts and California, and above Florida and New York.

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 because there is a direct correlation between higher premium costs and higher business costs. Higher premium rates may influence employers to reduce costs by eliminating jobs, decreasing wages, or locating their businesses in other states.



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

Over the five-year period 2002-2006, 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 three years to $256.10 in 2006. While the total premium amount increased annually with the exception of 2003, the total employment count rose each year also. 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' workers' compensation system administration itself. As with any other operating expense, increasing workers' compensation premiums simply raises the cost of doing business in this state, ultimately reducing GSP.

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 percent beginning in 2006.
- 27 Workers' Compensation Health Care Networks have been certified. 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 and are highlighted in the adjoining table.

Such reforms improve the business climate and encourage employers to locate or expand 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.

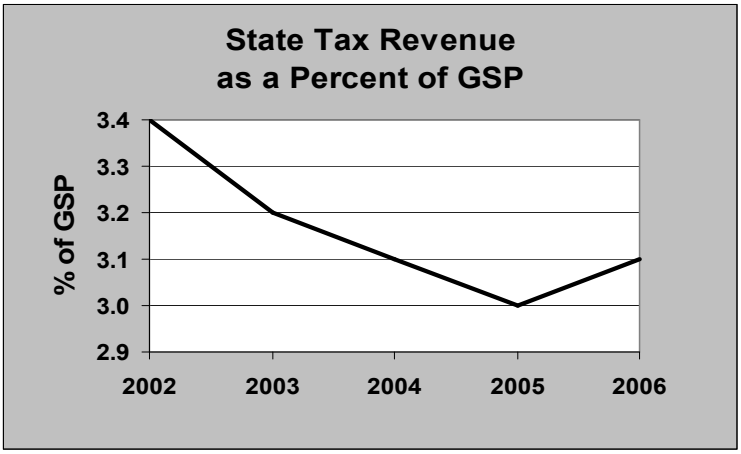
Higher state taxes make a state less attractive to both employers and workers, or for business location and expansion due to the inherently increased costs. However, tax collections are the main funding source for the state's general-revenue appropriations.[25]

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

Fiscal 2007 has been a year of stable financial conditions for the states. However, fiscal 2008 is expected to be a year of slower revenue growth and somewhat tighter fiscal conditions. While most states expect a steady fiscal 2008 with reasonable revenue growth, a handful of states are already seeing some significant slowing of their revenue. Overall, state finance officers are concerned about the future due to anticipated trends toward at least somewhat slower growth, as well as continued expenditure pressures in areas such as health care (primarily Medicaid), education, corrections, employee pension systems, and infrastructure.

- National Governors Association, *The Fiscal Survey of States* (June 2007)



SOURCE: Texas Comptroller

The 80th Legislature made revisions to the state's new franchise tax, thus modifying how the tax is calculated for the businesses at the minimum revenue levels. The first annual payments from this new business tax will be due in May 2008.

In FY 2006, taxes accounted for 46.3% of state revenue, with Sales Tax contributing the largest share of 25.2%. This equated to a 12.4% increase in total tax collections from FY2005.

When calculated as a percent of GSP, the indicator set a high mark of 3.4% in 2001. After a three-year decline[26], the value increased to 3.1% in 2006.

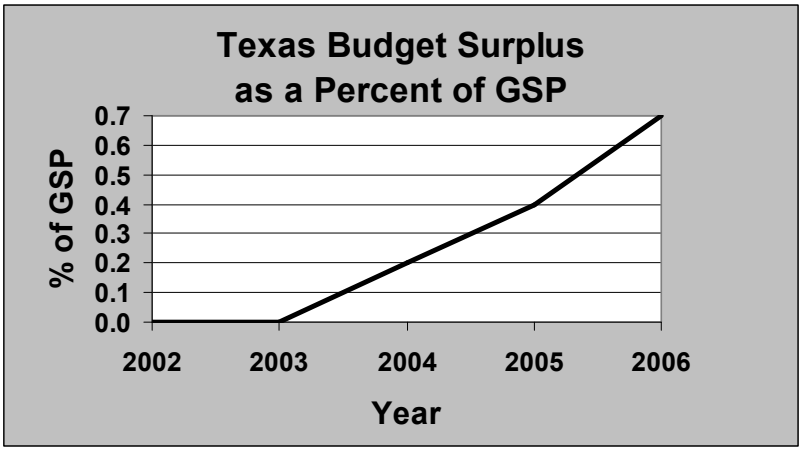
[25] Other general revenue funding sources include (1) non-tax receipts such as fees, lottery proceeds and interest and (2) the ending balance from the previous biennium. [Texas Comptroller]
[26] Revised GSP figures altered the trend reported in last year's *Index*.

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 2006 (in millions, method of determining revised):

- 2004 - $1,447.70
- 2005 - $3,738.74
- 2006 - $7,072.56



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 rose from 0.2% in 2004 to 0.7% in 2006[27].

Stabilization 'Rainy Day' Fund Facts

"Transfers from state oil production and natural gas tax collections to the ESF should total $3.7 billion over the three-year period 2007-09. In 2008, an additional transfer will be made to the ESF equal to one-half of the unencumbered 2007 general revenue ending balance—an estimated $597 million, yielding a total three-year transfer of $4.3 billion."

- Texas Comptroller (*Biennial Revenue Estimate, 2008-2009*)

Texas' Economic Stabilization Fund (ESF) was created by the Legislature in 1987[28].

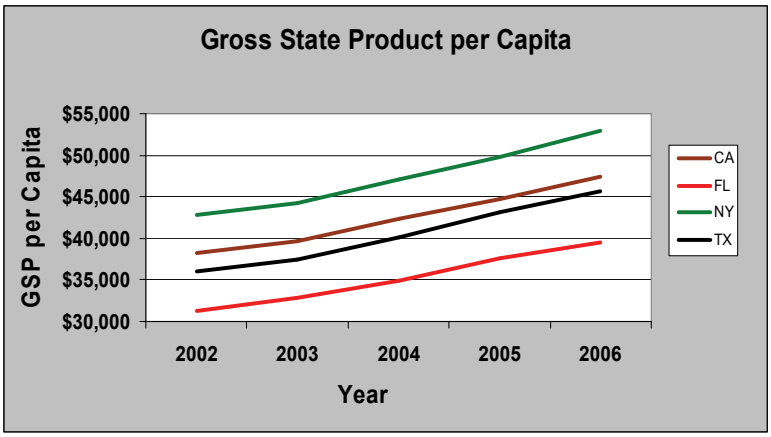
- The ESF is primarily funded with 75% of the amount by which oil and gas tax collections in any year exceed 1987 collections and half of any unencumbered general revenue surplus at the end of each biennium.
- It is capped at 10% of the general revenue income during the previous biennium.
- A three-fifths 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 Governor and the Legislature the opportunity to fund economic development innovation projects, like the Texas Emerging Technology Fund (TETF)[29]. The Comptroller reports that appropriations from the state's stabilization fund in FY 2007 are $792.4 million, leaving an ending balance of $1.2 billion, and by the end of FY 2009 this balance is estimated to be $4.3 billion.

[27] Revised data reversed the trend reported in last year's *Index*.
[28] Added to the Texas Constitution in 1988 as Article 3, Section 49-g. Action by the 70th Legislature in 1987 (HJR 2).
[29] House Bill 1765, enacted by the 79th Texas Legislature, Regular Session.

Gross State Product per Capita

Gross State Product (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[30]; and gross operating surplus[31]. For this indicator, GSP is presented on a per capita basis. Thus *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, Texas Comptroller and U.S. Bureau of Economic Analysis

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

Since 2002, the per capita rate increased annually – rising to a new high of $45,718.90 in 2006.[32]

In 2006, the national per capita rate was $44,070.7. For other large states it was:

- California: $47,380.04
- Florida: $39,442.48
- New York: $52,933.30

These rates have been generally increasing over the last few years.

Rapid GSP growth indicates a strong economy, while slow or declining growth rates would be indicative of economic downturn or recession. While an increase indicates economic growth, other factors that are not as readily available should be taken into consideration. For example:

- *Type of production* – The measure of 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.

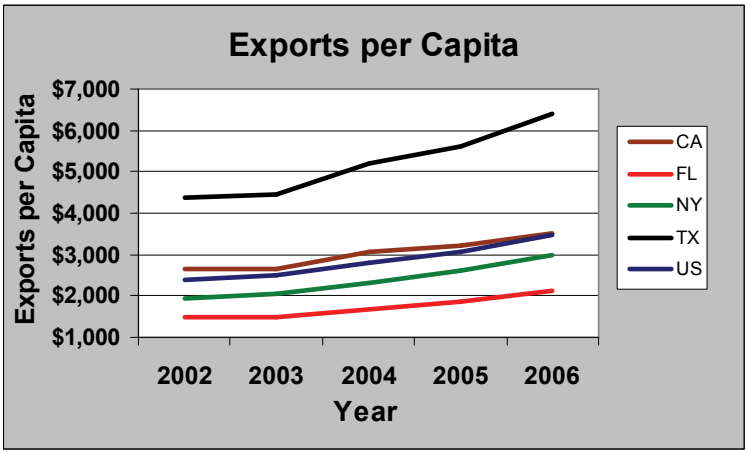
In 2006, growth in real U.S. GSP improved somewhat, with GSP growing in the District of Columbia and every state except, Michigan. The U.S. Department of Commerce - Bureau of Economic Analysis (BEA) released figures for 2006 which again ranked Texas third in real GSP, behind California and New York. The state's growth rate of 4.3% ranked tenth, up from sixteenth in 2005.

[30] 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)]
[31] 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]
[32] GSP figures are in current dollars. Texas GSP figures are provided by Comptroller. United States and other states data are from BEA.

Exports per Capita
Export Orientation

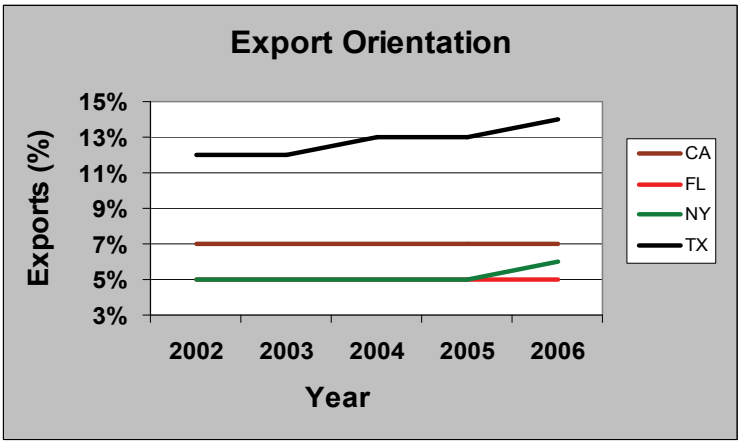
A strong export[33] sector is generally viewed as a favorable indication of the ability to compete in both national and global markets. Economies that are more 'open' tend to be more productive; and stronger exports are seen during robust economic times.

Export data is reported with two indicators: (1) a per capita basis; and (2) through export orientation as a percentage of Texas GSP.



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

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 14% in 2006, reaching a new five-year high of $6,418.73. Texas was well ahead of the national 2006 rate at $3,464.08; also that of California at $3,504.08; Florida at $2,130.47; and New York at $2,971.59.



SOURCES: Texas Comptroller, Texas Business and Industry Data Center and U.S. Bureau of Economic Analysis

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). Based on data from the Texas Business and Industry Data Center and the Texas Comptroller, the ratio rose slightly to 0.14 (also expressed as 14%) in 2006 after holding at 0.13 in 2004 and 2005 and at 0.12 in 2002 and 2003. (These ratios may also be interpreted in terms of dollars per GSP; for example, $0.14 of each dollar of GSP is attributable to exports.) Texas was again ahead of the corresponding 2006 rates for the nation and other states: United States - 0.08; California - 0.07; Florida - 0.05; and New York - 0.06.

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.

[33] 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]

Exports in technology-intensive industries are becoming increasingly more important in today's economy. Figures released by the AeA trade association in *Cyberstates 2007*™ indicated that Texas for the third year in a row ranked second in the United States in high-tech exports while experiencing an increase from the previous year. In 2006, high-tech exports again represented 26% of Texas' exports and totaled $38.6 billion, up from $34 billion in 2005.

Rank	State	Exports – Total Dollar Value				
		2002	2003	2004	2005	2006
1	Texas	$95.40	$98.85	$117.24	$128.76	$150.89
2	California	$92.21	$93.99	$109.97	$116.82	$127.75
3	New York	$36.98	$39.18	$44.40	$50.49	$57.37

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

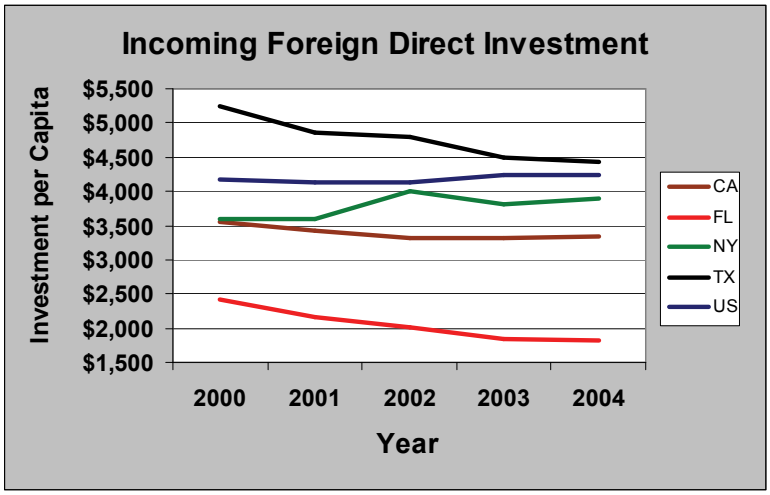
In 2006, for the fifth year in a row, Texas was ranked as the number one state by export revenues. Texas exports for 2006 totaled $150.89 billion, an increase of 17.2% from 2005.[34]

[34] Texas Business and Industry Data Center.

Incoming Foreign Direct Investment per Capita

Foreign direct investment (FDI)[35] 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 effect, 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 U.S. Bureau of Economic Analysis

This indicator has been flagged for '⚑ - watch alert' since again the rate declined in the recent reporting. The most recent data available for this indicator is for 2004. After a reaching a high of $5,251.66 in 2000, the per capita rate decreased 15.5% over the next four years to $4,435.49 in 2004. In the same year, the corresponding rates for the United States and other large states:

- United States: $4,235.57
- California: $3,342.94
- New York: $3,888.96
- Florida: $1827.13

> *"Outlays by foreign direct investors to acquire or to establish U.S. businesses were $161.5 billion in 2006, up substantially from $91.4 billion [revised] in 2005. Outlays in 2006 were the fourth largest recorded and the highest since 2000, when new investment outlays peaked at $335.6 billion."*
>
> - BEA, *Survey of Current Business* (June 2007)

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 United States as destinations for FDI in new plants and equipment, although growth has decreased for both states. The United States is both the world's leading source of FDI and destination for FDI.

Data from the BEA (*Survey of Current Business*, August 2006) indicates that foreign-owned companies employed 5.1 million workers in 2004. Of these, 547,000 were in California; 377,000 were in New York; 341,200 were in Texas; and 238,400 in Florida. These are the top four states ranked by foreign-owned company employment. For Texas, this represents a little over 4% of all private-sector employment.

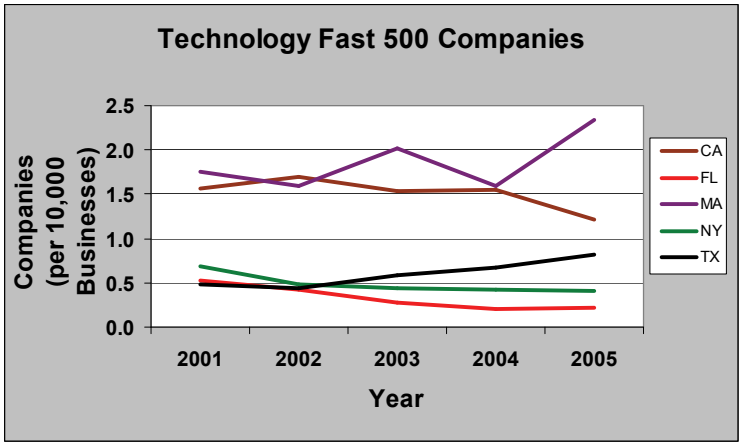
[35] FDI - Ownership or control, directly or indirectly, by one foreign person, or entity, of 10% or more of the voting securities of an incorporated enterprise or an equivalent interest in an unincorporated business enterprise. [BEA]

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

Other consideration factors are: (1) Companies must be headquartered in North America; (2) been in business a minimum of five years; and (3) base operating revenues must be at least $50,000 USD[36], with current-year operating revenues of at least $5 million USD.

Data is presented per 10,000 established businesses. Two years of data have been added to this indicator since the release of last year's *Index*. The indicator reached a new high for the five-year period at 0.82 in 2005. The corresponding rates for some of the other states were as follows: California - 1.22; Florida - 0.22; Massachusetts - 2.34; and New York - 0.41.

The rate could not be calculated for 2006 since 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 again increased last year. The state's new high of 46 businesses in 2006 was second only to California.

[36] U.S. Dollars.

Domain 4 – Participant Access and Contribution

The Participant Access and Contribution domain is comprised of seven (three of which are new with this release of the *Index*) indicators of citizens' economic status and self-sufficiency, including traditional income and poverty indicators. In addition, household access to computer technology is considered as well as the level of homeownership. Three of the indicators had a positive change in the last available reporting cycle. Three indicators were added to this domain since last year's release. One of these complements a previous indicator, one supplements two indicators which have not been updated, and the third one provides new data.

Domain 4 Summary			
Number of Indicators - 7			
		No.	%
↑	Positive change in last reporting cycle	3	43%
→	No significant change in last reporting cycle	1	14%
↓	Negative change in last reporting cycle	1	14%
●	Data unavailable	2	29%
⚑	Watch alert	0	0%

Indicator	Page	Alert	Trend
Per Capita Income	56	-	↑
Percent of Population Living Above the Federal Poverty Threshold	57	-	↑
Percent of Population Living Above 200% of the Federal Poverty Threshold	57	-	↓
Percent of Households with Computers	59	-	●
Percent of Households with Internet Access	59	-	●
Percent of Households with High-Speed Internet Access	59	-	↑
Homeownership Rate	61	-	→

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, and type of expenses, are not factored.

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 government assistance 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.

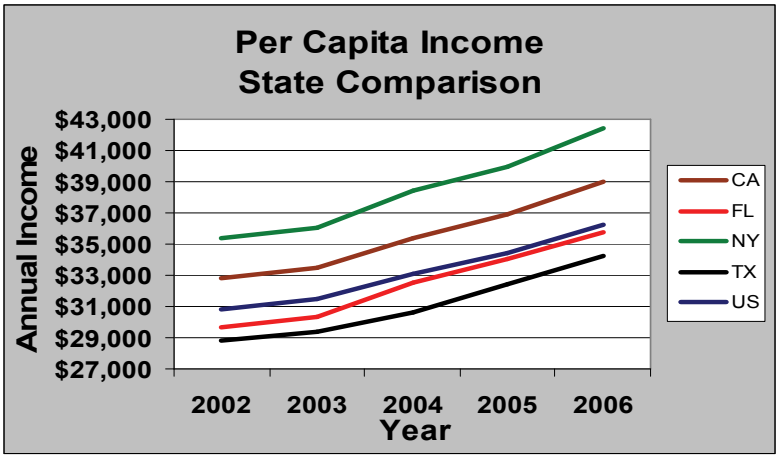
Homeownership usually indicates a certain amount of financial stability as well as being a measure of how widespread the benefits of economic growth have been distributed.

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 $34,190 in 2006, up almost 6% from $32,384 in 2005.

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 and U.S. Bureau of Economic Analysis

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.

Based on data from the U.S. Department of Commerce - Bureau of Economic Analysis (BEA), the United States figure for 2006 was $36,276. For other states, it was as follows: California - $38,956, Florida - $35,798, and New York - $42,392. BEA data provides a source for comparisons not otherwise readily available. This data source lists Texas per capita income for 2006 at $34,257.

The BEA data indicated a national per capita income growth rate of 6.3% in 2006, up from the 5.2% (revised) growth rate in the previous year.

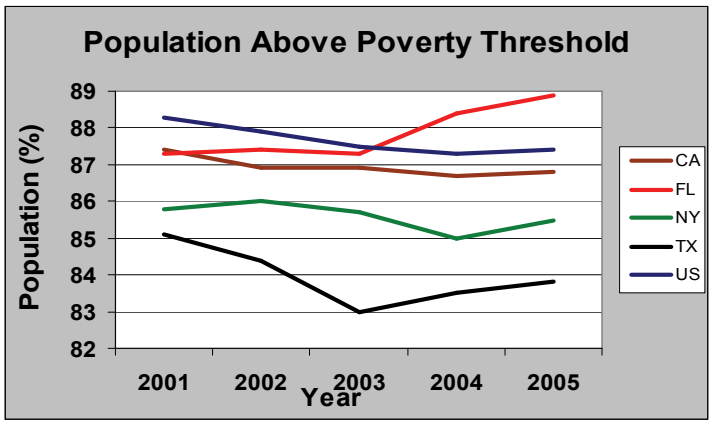
Based on the BEA figures, Texas experienced a growth rate of 5.5% in 2006. This ranked Texas fourteenth in the country by growth rate and twenty-fifth nationally in terms of per capita income. The BEA noted that for the third consecutive year, the Southwest region (Arizona, New Mexico, Oklahoma, and Texas) experienced the largest growth rate, in part due to a mining boom.

Percent of Population Living Above the Federal Poverty Threshold
Percent of Population Living Above 200% of the Federal Poverty Threshold

A basic measure of economic self-sufficiency, these indicators are calculated by setting the total Texas population as 100%, then subtracting the percentage of population living below the federal poverty threshold and then again at below 200% of the federal poverty.

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. Federal poverty sample thresholds for 2005, the most recent year for which data is available, include:

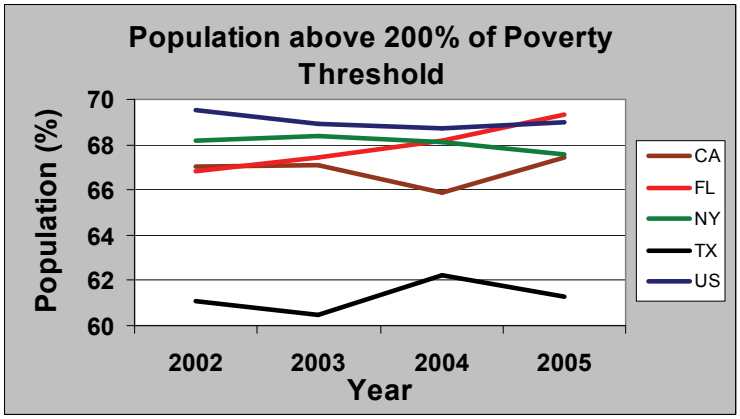
- $10,160 for one person under age 65.
- $19,874 for a four person household with three related children under 18 years of age.



SOURCE: U.S. Census Bureau

In 2005, 87.4% of the U.S. population was above the 100% poverty threshold – practically unchanged from the 2004 figure of 87.3%. In 2005, 36.95 million people lived in poverty nationwide, almost unchanged from nearly 37 million in 2004.

While below the national figures, in recent years Texas' performance has improved in the percent of population above the poverty threshold, falling from a high of 85.1% in 2001 before again showing improvement in 2005 at 83.8%, up from 83.5% in 2004. The corresponding figures for other states in 2005 were: 86.8% for California; 88.9% for Florida; and 85.5% for New York.



SOURCE: U.S. Census Bureau

A certain segment of the population is sometimes referred to as "working poor". These are individuals who while employed nevertheless have difficulty maintaining financial self-sufficiency. At an income level above 200% of the federal poverty level, most individuals no longer qualify for most types of government assistance.

In 2005, 69% of the U.S. population was above 200% of the poverty threshold – a slight increase from the 2004 figure of 68.7%. In 2005, 90.86 million people lived below this level nationwide, almost unchanged from 2004.

While below the national figures, Texas' performance showed improvement in the percent of population above 200% of the poverty threshold in recent years, before falling from a high of 62.2% in 2004 to 61.3% in 2005. The corresponding 2005 figures for other large states were: 67.4% for

California; 69.3% for Florida; and 67.6% for New York. Percentages from before 2002 are not available.

Notably, the recent 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 may still be struggling economically.

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

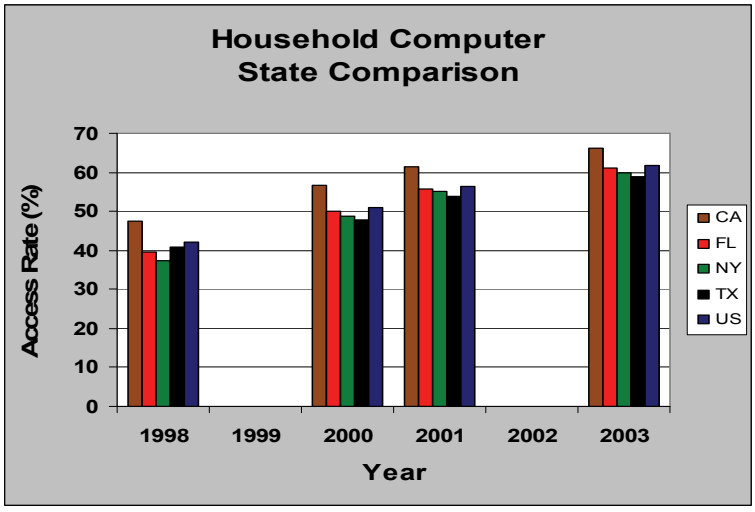
- Increased costs to and participation in the welfare system.
- Possible slowing of economic growth.
- Higher crime rates.
- Fewer health care benefits and service options.
- Lower educational participation and completion rates.

● Percent of Households with Computers
● Percent of Households with Internet Access
◐ Percent of Households with High-Speed Internet Access

Access to computers and the Internet is dramatically changing the way individuals work and live in today's society, thus significantly affecting the workforce system.

- *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.

The source for the first two indicators for computers and Internet access has not been updated since the last release of the *Index* and so no trend is indicated. These two indicators will no longer be included in future editions of the *Index*. A new indicator has been added as a proxy and is based on data obtained from the Federal Communications Commission (FCC). This indicator expresses as a percentage the number of households divided by the number of high-speed Internet lines deployed throughout the state.



SOURCE: U.S. Department of Commerce – NTIA

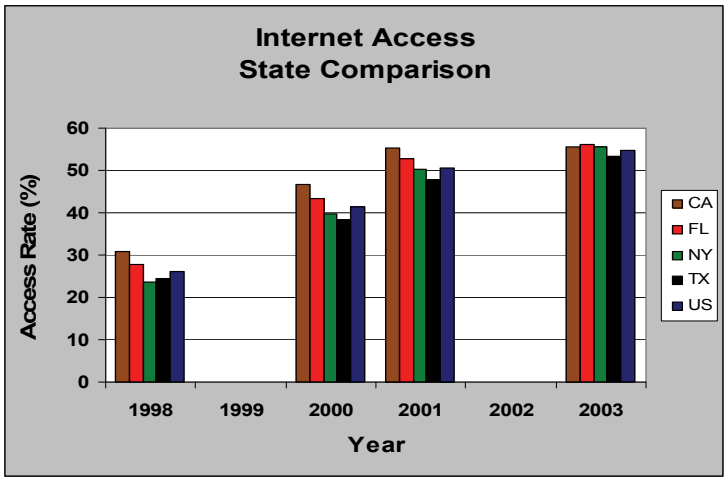
The National Telecommunications and Information Administration's (NTIA) *A Nation Online* series indicated steady growth in the percent of Texas households with computer and Internet access. While data is not available for every year, rates in 2003 reached:

- *Percent of Households with Computers* – 59%, up from the 2001 level of 53.7%. The corresponding 2003 national and other states figures were: United States - 61.8%; California - 66.3%; Florida - 61%; and New York - 60%.

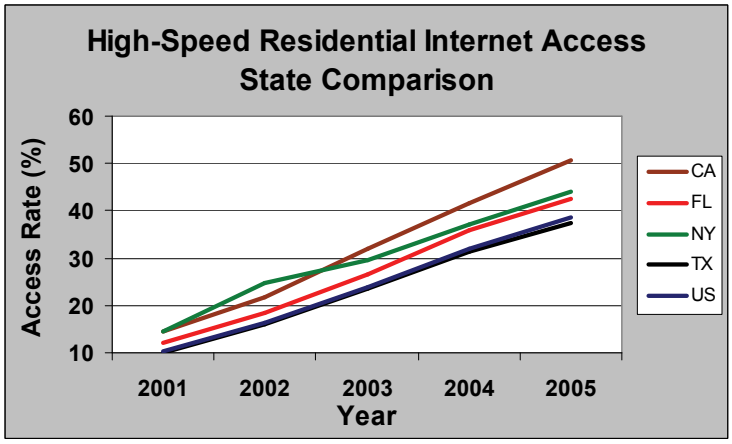
- *Percent of Households with Internet Access* – 53.2%, up from the 2001 level of 47.7%. The corresponding 2003 national and other states figures were: United States - 54.6%; California - 55.6%; Florida - 56.2%; and New York - 55.5%.

Twice a year, broadband providers are required to report to the FCC basic information about their service offerings and types of customers. Based on this data and occupied housing unit (i.e. residences such as houses, apartments, or mobile homes but excluding group quarters such as institutions or college dormitories) estimates from the Census Bureau's American Community Survey, in 2005 37.3% of residences in Texas were connected to a high-speed (as opposed to dial-up) Internet line, up each year from 10% in 2001.

The corresponding figures in 2005 for the nation and other comparable states were as follows: United States - 38.7%; California - 50.7%; Florida - 42.5%; and New York - 44%.



SOURCE: U.S. Department of Commerce – NTIA



SOURCE: FCC and U.S. Census Bureau

Preliminary data from the FCC's 2006 survey data show a 20% increase in the number of high-speed lines in Texas over 2005 levels.

High-speed Internet access allows for easier exchange of data over transmission lines and can provide important educational resources and other data tools to rural, as well as more populated, areas that might otherwise be underserved.

These percentages reflect household rather than individual access rates. Many individuals have access at work locations, libraries, educational institutions, and workforce centers across the state.

In *The 2007 State New Economy Index*, The Information Technology and Innovation Foundation highlights that "information technology is now the key technology driving the economy" and is being used "in virtually all sectors to boost productivity, quality and innovation."

In this 2007 report, Texas ranked fourth in the "E-Government" indicator, a measure of the utilization of digital technologies in state governments, following Michigan, Utah and Indiana. Using computer technology, services can be provided at a lower cost and be more readily accessible, such as the Texas Business Portal website described on page 48.

In July 2007, Brown University released the results of its eighth annual survey of e-government services in the United States. Various state agency websites are reviewed for online services, security, and accessibility and each state receives an overall rating. Texas ranked eighth down from first last year, although the state's overall rating only dropped .4 points. California was ranked 12th, Florida was 34th, and New York was 21st.

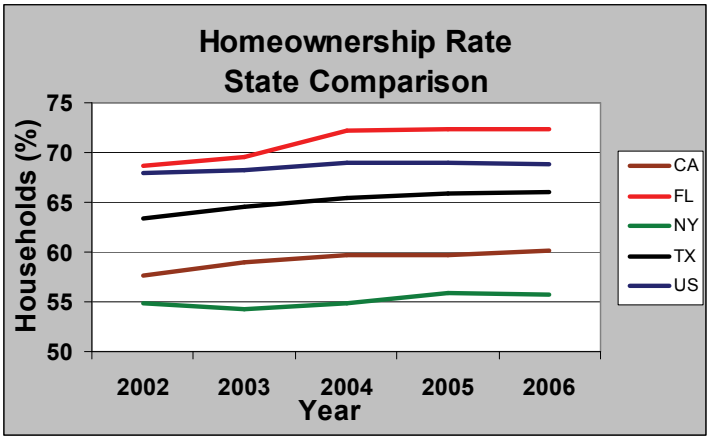
In 2007, the 80th Legislature passed two bills to improve technological access throughout the state. House Bill (HB) 2235 will fund technology centers in rural counties to provide instruction in computers and applied technology. In addition, HB 2864 will create a pilot distance learning program at middle and high schools in rural districts. Both bills were signed by the Governor and were effective immediately.

➲ Homeownership Rate

The homeownership rate is computed by dividing the number of households that are owners by the total number of households (occupied housing units) and expressed as a percentage. This rate is calculated each year by the Housing and Household Economic Statistics Division of the U.S. Census Bureau.

The figure for Texas increased annually over the five-year period, from 63.4% in 2002 to 65.9% in 2005 and 66% in 2006.

The corresponding 2006 national rate as well as those in other large states was: United States - 68.8%; California - 60.2%; Florida - 72.4%; and New York - 55.7%.



SOURCE: U.S. Census Bureau

Homeownership is an indicator of economic well-being. Qualifying for a home loan demonstrates a certain amount of financial strength. In addition, the homeowner is participating in an important investment and thus gains a valuable asset. Families who live in their own homes often exhibit stability and a connection to their neighborhoods, as well as a desire to see their communities thrive.

With the general increase over the last few years in the number of variable interest rate mortgages and the recent increase in foreclosures around the nation, homeownership rate will be important to track for an indication of overall economic growth.

A high rate of homeownership demonstrates that the benefits of economic growth are widespread. An environment which reflects an increase in this rate will likely indicate a workforce invested in the future as well as fully benefiting from the economic growth demonstrated in other indicators such as per capita income.

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Summary

The ***Texas Index*** 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 42 indicators showed the following changes in the most recent reporting cycle:

- *Positive change* – 21 of 42 indicators (50%)
- *No significant change* – 5 of 42 indicators (12%)
- *Negative change* – 12 of 42 indicators (29%)
- *Data unavailable* – 4 of 42 indicators (10%)

Texas continues to fare well in all four domains, with a majority of the indicators reflecting a positive change. However, with 29% of the indicators moving in a negative direction, it remains important to watch these critical trend lines in coming years.

Seven 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. Academic-Performed R&D Expenditure per $1000 of Gross State Product (GSP)
3. Industry R&D Expenditure per $1000 of GSP
4. Total R&D Expenditure per $1000 of GSP
5. National Institutes of Health Support to Texas Institutions per Capita
6. Labor Force Participation Rate
7. 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:

- All of the enrollment and credential indicators had a positive change or no change.
- Both per capita income and average pay rates again rose while 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 decreased slightly.
- Small Business Investment Companies funding continued its recent upward trend.

However, although some indicators reversed their downward trend from the previous reporting cycle, including venture capital, foreign direct investment and National Science Foundation funding, others such as National Institutes of Health research support continued to decline. A negative trend in research support may decrease the potential for innovation, entrepreneurship and economic growth. Additional funding and support for research and development, continued growth in venture capital investment and financing for business start-up and expansion will reverse these trends.

Compared to other large states along with the country as a whole, Texas' performance across the four domains is mixed. The state's rates are low in several indicators in the R&D domain, including venture capital per capita, all categories of R&D expenditures, and NSF funding per capita. As noted in the chapter on training and education, Texas' performance is low in high school diploma attainment. The number of Texans living in poverty or near poverty is relatively high as well. On the other hand, Texas does well in other indicators such as labor participation rate and labor productivity.

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 influence a number of the indicators in the coming years.

All system partners 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.

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

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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Community-Based Organization Representative
Sharla E. Hotchkiss, Consultant and Trainer (Vice Chair)

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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