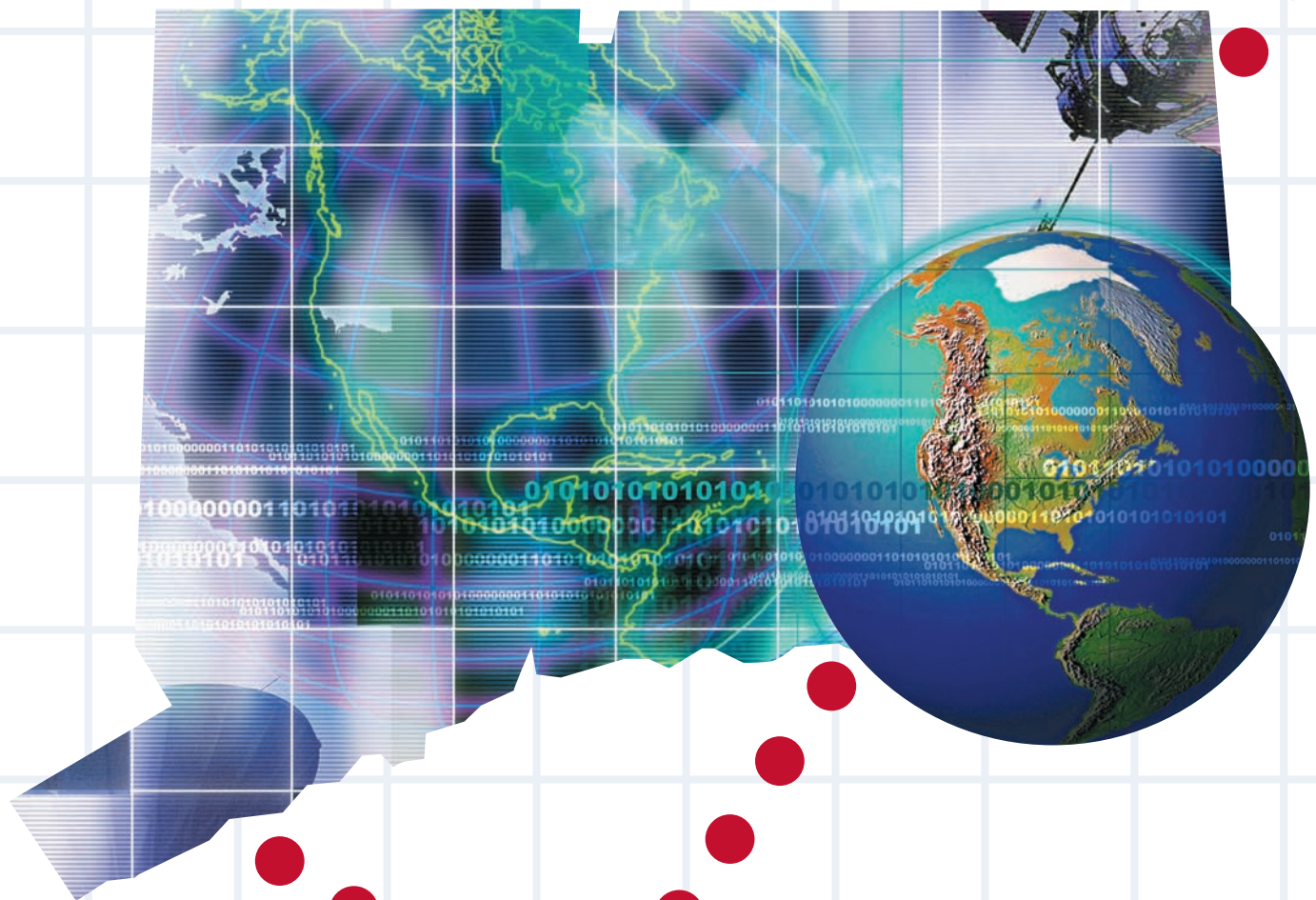


BENCHMARKING CONNECTICUT 2006

Metrics



The 2005 *Benchmarks* report compared metrics for all 50 states that focused on aspects of the innovation economy. Five categories were identified for measuring key attributes among states:

- Technology (six indicators)
- Financing (five indicators)
- Entrepreneurial and Business Vitality (nine indicators)
- Human Capital (seven indicators)
- Global Links (eight indicators)

Altogether there are 35 indicators grouped into the five categories. For each indicator, two separate scores are calculated: one highlights each state's average annual growth, while the other focuses on the current level or concentration. In total there are 70 scores for each state, reflecting 35 measures of a state's level or concentration and 35 measures of growth.

The following provides overviews of how Connecticut is performing relative to the other states in terms of concentration and growth. For each variable, the growth period encompasses the first and last year, while the concentration score is based on data for the most recent year.

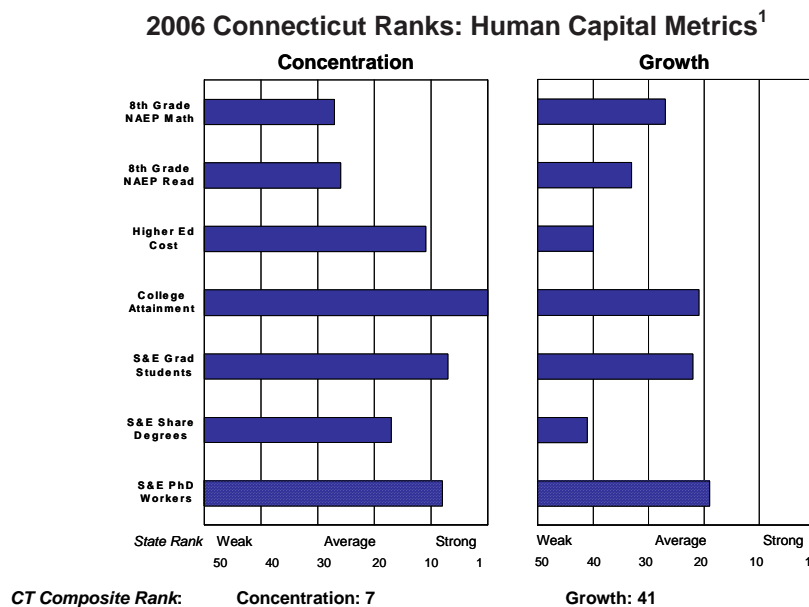
Human Capital Resources

This category focuses on the academic success of students and residents, relative to the other states. The Human Capital category of metrics includes:

- Percent of public eighth-grade students who achieved at or above basic level on National Assessment of Educational Progress (NAEP) exams, 1992-2005 (math), 1998-2005 (reading)
- Average annual cost of public, in-state, degree-granting, four-year higher education institutions as a share of median family income, 1991-2004
- Percent of population over 25 years of age with at least a bachelor's degree, 1991-2005
- Science and engineering graduate students per 1 million people, 1992-2003
- Science and engineering share of higher education degrees, 1990-2003
- Doctoral scientists and engineers per 1,000 workers, 1993-2001

As a whole, Connecticut appears to have an edge in terms of concentration. Connecticut's composite score on the eight variables that make up this category place it 7th in the nation, which is compelling evidence of the state's strengths in this area, although the concentration rank for this category last year was 5th. Between the 2005 and 2006 analyses, Connecticut saw improvements in its rank in the higher education cost (although absolute costs increased) and college attainment metrics (relative and absolute improvements).

Connecticut's performance on the growth dimension has not been as strong, placing 41st for overall growth in this category, down from 35th last year. Between the last two years of data, the state saw absolute declines in the number of science and engineering graduate students and doctoral scientists and engineers in the workforce. Connecticut also lost ground in NAEP math and reading scores.



¹ The doctoral scientists and engineers metric is not updated from last year because the data were not available.

Finance and Capital Resources

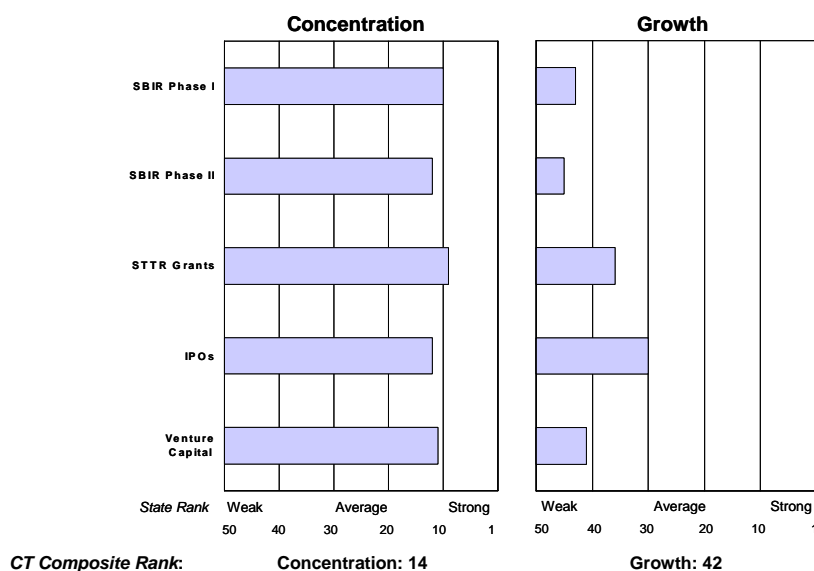
The variables that comprise the Finance category include:

- Small Business Innovation Research (SBIR) Phase I awards per worker, 1997-2004
- SBIR Phase II awards per worker, 1997-2004
- Small Business Technology Transfer Program (STTR) awards per worker, 1994-2004
- Initial public offerings (IPOs) per 10,000 employer firms, 1999-2005
- Venture capital per worker, 1990-2005

On a relative basis, Connecticut is strong in its current concentration of these Finance metrics, however, the overall concentration rank for this category slipped from 13th to 14th.

Between the 2005 and 2006 reports, the current concentration of these metrics all increased in absolute terms. And in relative terms, Connecticut's concentration ranks improved for SBIR Phase II, STTR grants and IPOs. However, Connecticut's rank dropped for SBIR Phase I and venture capital. This means that even though Connecticut improved, other states improved faster. In terms of growth, Connecticut's overall score improved from 45th to 42nd, with slight improvements in all of the variables, in terms of absolutes and ranks.

2006 Connecticut Ranks: Finance and Capital Resources Metrics²



Entrepreneurial and Business Vitality

The variables in this category include:

- Technology³ gazelles⁴ as a share of total gazelles filing with the Securities & Exchange Commission (SEC), 1999-2003
- Gazelle companies (filing with the SEC) per 1 million nonfarm establishments, 1999-2003
- Business churn: business formations and terminations as a share of total firms, 1990-2004
- Small business (<100 employees) share of total employment, 1992-2003
- Nonfarm proprietors per 1,000 people, 1990-2004
- Federal Research & Development (R&D) expenditures as a share of state gross domestic product (GDP), 1993-2003
- Industry R&D expenditures as a share of state GDP, 1993-2003
- University R&D expenditures as share of state GDP, 1993-2003
- Patents awarded per 1 million people, 1992-2004

Connecticut ranks 11th among all states in terms of its composite concentration score for this set of variables, down from 9th last year. Connecticut ranked in the top 10 in the industry R&D (4th), gazelles (7th) and patents (9th) metrics. Connecticut does not perform well in terms of federal R&D (43rd) and business churn (44th).

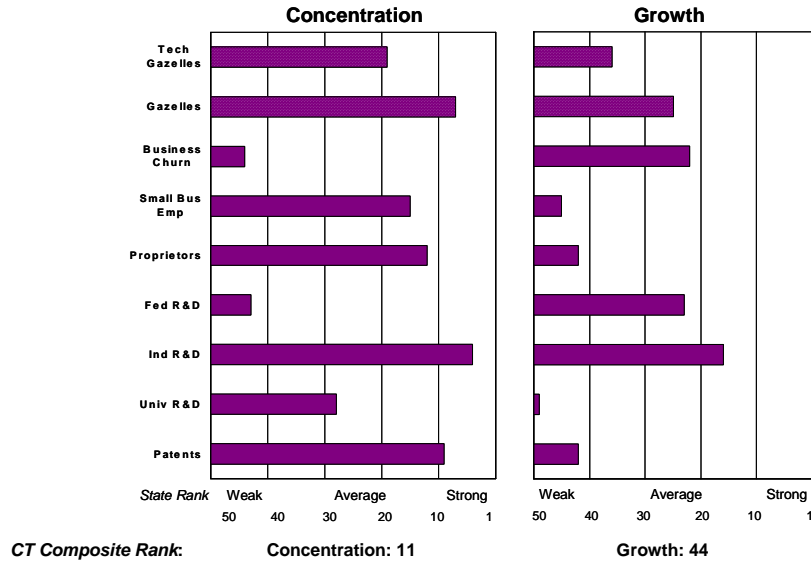
² The households with computers and households with internet access metrics were not updated this year because the data were not available.

³ In 1999, the U.S. Bureau of Labor Statistics (BLS) identified 32 high-technology industries based on high levels of scientific and technical occupational employment, and research and development. This BLS definition is based on the Standard Industrial Classification (SIC) system, which has now been replaced by the North American Industry Classification System (NAICS). CERC created a bridge between the two systems, based on the BLS definition.

⁴ Gazelles are companies (filing with the Securities & Exchange Commission) with at least \$1 million in sales revenue for initial year and average annual revenue growth of 20 percent or more for four consecutive years.

On the growth dimension the state was above average on three variables: industry R&D, where Connecticut ranked 16th; business churn, ranking 22nd; and federal R&D, with a rank of 23rd. The composite growth score across these measures ranked the state 44th, down from 42nd last year. Of particular concern is university R&D, where Connecticut had the second slowest average annual growth rate of the states between 1993 and 2003.

2006 Connecticut Ranks: Entrepreneurial and Business Vitality Metrics⁵

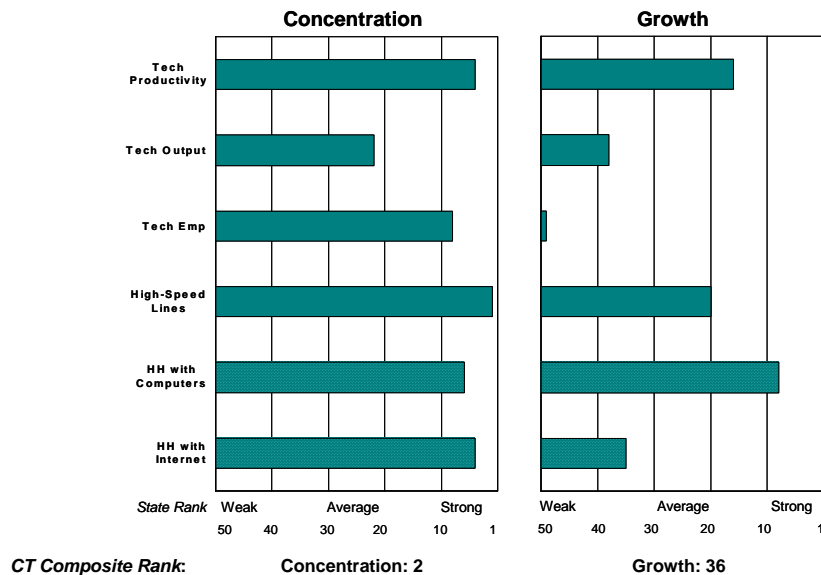


Technology

Technology is an integral part of life and work today. Businesses, researchers, workers, and residents all utilize technologies to streamline processes, make discoveries, process data and communicate. The variables in this category include:

- Worker productivity (output per worker) in technology industries, 1990-2004
- Technology share of state GDP, 1990-2004
- Technology share of total nonfarm employment, 1990-2004
- High-speed lines (ADSL, wireline, fiber, satellite and fixed wireless lines) per 1 million people, 1999-2004
- Percent of households with computers, 1997-2003
- Percent of households with Internet access, 1998-2003

2006 Connecticut Ranks: Technology Metrics



⁵ The technology gazelles and gazelles metrics were not updated this year because the data were not available.

Connecticut's overall performance in technology concentration is superior: Connecticut ranked 2nd among all states on its composite technology concentration score. The state's performance in each of these indicators was uniformly strong. The growth dimension of this category showed mixed results. Connecticut ranked 36th among the states based on its composite growth score. Some indicators posted very strong growth while others were noticeably weak.

Global Links

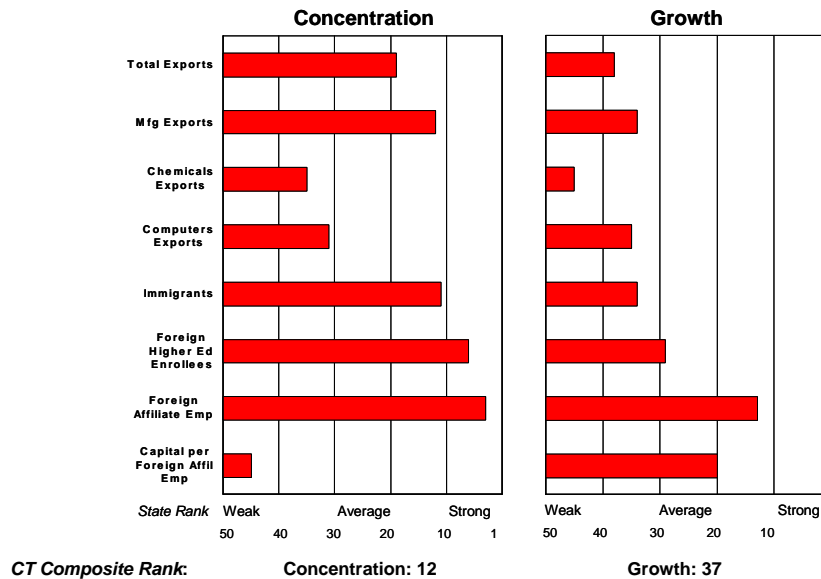
Globalization includes more than just the trading of goods and services; it includes the sharing of ideas and cultures as well. Technological improvements, especially in telecommunications infrastructure, have opened the way for people, ideas, goods and services to move more freely among cities, regions and countries. Every community is part of the global economy. The variables in this category include:

- Commodity exports per worker
- Manufacturing export sales as a share of total manufacturing shipments
- Chemicals' (NAICS 325) share of total exports
- Computers and electronics' (NAICS 334) share of total exports
- Immigrants admitted by state of intended residence per 1 million people
- Foreign enrollees as a share of total higher education enrollees
- Foreign affiliate employment as a share of total nonfarm employment
- Capital investments of foreign affiliated firms per foreign affiliated worker

Overall, Connecticut does well in terms of its level or concentration of the Global Links metrics. It ranks 12th among all states in its composite concentration score, down from 7th last year. Connecticut's performance ranges from strong (foreign affiliate employment and foreign students) to weak (foreign capital investment per foreign affiliate worker).

Connecticut's growth indicators are less impressive than its concentration indicators. Connecticut ranked 37th among the states on its overall growth score, down from last year's rank of 29. The state posted a strong performance in the growth of foreign affiliate employment.

2006 Connecticut Ranks: Global Links Metrics



Composite Scores: 2005-2006

In terms of concentration ranks, Connecticut's relative rank deteriorated in all of the categories except for Technology Strengths, where the rank held steady. As for the growth metrics, three categories saw declines in the relative ranks (Entrepreneurial and Business Vitality, Human Capital Resources and Global Links), Technology Strengths remained the same, and Financial and Capital Resources improved slightly.

The overall trends are the same: Connecticut has current strengths in a number of metrics, but the growth trends are weak. Connecticut's overall concentration rank is still high this year, ranking 8th, but slipped from last year's 7th. Connecticut also declined slightly overall with growth, from 43rd last year to 44th this year.

Connecticut's Concentration and Growth Benchmark Ranks: 2005-2006

	Concentration		Growth	
	2005	2006	2005	2006
Entrepreneurial & Business Vitality	9	11	42	44
Financial & Capital Resources	13	14	45	42
Technology Strengths	2	2	36	36
Human Capital Resources	5	7	35	41
Global Links	7	12	29	37
OVERALL	7	8	43	44