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ABSTRACT

A study of the impact of independent colleges and universities on Connecticut's economy, workforce, quality of life, and future found a state economy in the 1990s very different from that of the past, one requiring increased educational attainment among the citizenry. Both higher high school graduation rates and increased college attendance and completion are seen as crucial. Better strategies for using the resources and strengths of the higher education system are needed, and the role of independent institutions is seen as significant. Collectively, independent institutions are the largest sector in the state's higher education system, enrolling 38 percent of all students attending college or university (national average 19 percent), and they award 48 percent of all degrees (41 percent of undergraduate, 64 percent of graduate) conferred in-state. These institutions also enroll 35 percent of all minority students and award 49 percent of all minority group degrees in-state. Cost to the state is low. Independent colleges' direct spending on operations and capital renewal, and direct spending of students and visitors, totaled $1.5 billion in fiscal year 1996. The colleges generate 51,000 jobs in the state, and 150,000 alumni live in Connecticut. Impact on labor force quality and quality of life are also significant. Recommendations for further planning are outlined. (MSE)

The Impact of Higher Education on Connecticut's Economy, Workforce, Quality of Life, and Future

Prepared by
Human Capital Research Corporation
for the
Connecticut Independent College and University
Institute for Research and Public Service

June 1997

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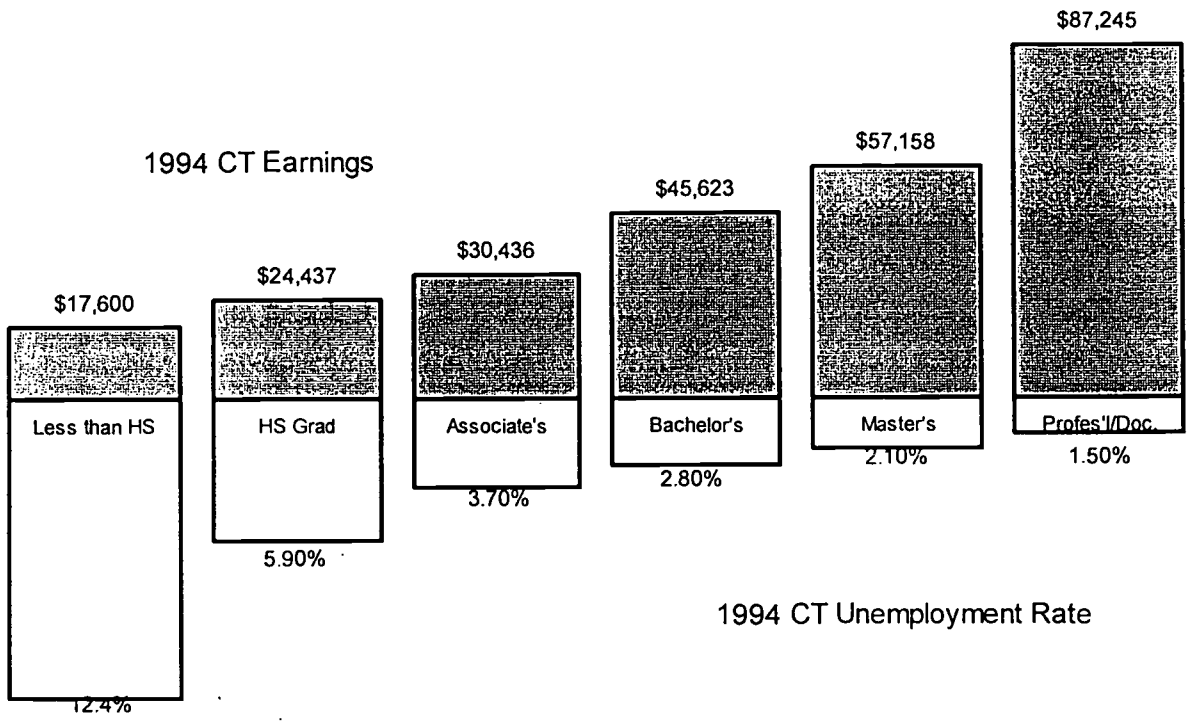
"Higher Education is the way out of the box."
George David, Chairman and President, United Technologies Corporation

Findings

Investment in human capital as a strategic economic development resource will, in large part, help determine Connecticut's ability to compete in the global economy of the 21st Century. Connecticut is poised for success in meeting this challenge if it builds on its position as the state with the most highly education population in the nation, and if it builds on the resources of its system of colleges and universities, particularly those in the independent sector.

Figure 1: Connecticut Earnings and Unemployment by Educational Attainment



Source: Census Bur. Public Use Microdata Sample, Dept. of Commerce Current Pop. Custom tabulation, Bur. Labor Stats. Market Labor Review

Tremendous economic benefits accrue to the state from a well educated citizenry and workforce. Conversely, low investment in higher education means that costs for government services and criminal justice rise, social involvement of citizens decreases, and prospects for breaking the poverty cycle of low income families become remote.

The Connecticut economy of the 1990's has changed dramatically, and permanently, from

the base economy which traditionally characterized the state. One result of this shift has been a decline in the median household income of state citizens through this decade. This trend will likely continue, especially for those workers with the lowest educational attainment in low wage jobs, unless there is an aggressive effort to raise the college-going rate and job training participation rate of the current workforce (85% of today's workers will still be in the state job force in 10 years, and 67% will still be in the job force in 20 years).

Increased educational attainment is particularly critical with respect to the state's future workforce. While much attention is paid to the number of high school graduates who leave the state to attend college, a significant loss of the state's future human capital occurs because of high drop-out rates from Connecticut high schools, particularly by students of color. One way to reduce the net outflow from Connecticut of students attending college is to increase the number of young people who graduate high school and attend in-state institutions.

Another result of the shift in the Connecticut economy is that the share of jobs requiring a college education is increasing.

As the state seeks to address the educational needs of its citizens and meet the workforce needs of employers, it must develop better strategies for utilizing the resources and strengths of its higher education system. Independent colleges and universities should play a crucial role in these new economic development strategies for three reasons: (1) they provide quality educational services to Connecticut in a very cost effective way for taxpayers, (2) they meet the needs of large numbers of students because of their enrollment capacities, and (3) they are highly productive in graduating those students who enroll.

Collectively, independent institutions represent the largest sector in Connecticut's system of higher education, enrolling 38% of all students attending a college or university in-state (compared to the national average of 19% enrollment in the independent sector). Based on enrollment share, Connecticut has the 7th largest independent sector of higher education in America.

Because of their strong graduation rates, independent institutions award 48% of all degrees conferred in-state (including 41% of undergraduate degrees and 64% of graduate/professional degrees).

With respect to the growing numbers of Black, Hispanic, and minority residents who will make up a large segment of the Connecticut workforce in the next century, a significant proportion are receiving their educations at independent colleges and universities. The institutions enroll 35% of all minority students and award 49% of all degrees received by students of color attending a college or university in state.

Because of the size of the independent sector, and the fact that the institutions receive no state support (other than for financial aid for needy residents who attend at the undergraduate

level), Connecticut is able to have a highly educated population at a very low cost to the taxpayer.

Independent colleges and universities are also a critical part of the overall economic base of the state. Their direct spending on operations and capital renewal, along with the direct spending of their nearly 60,000 students and 1.1 million annual campus visitors, totaled $1.5 Billion in FY 1996, resulting in a total impact on the Connecticut economy of $3.5 Billion.

Based on aggregate payroll, independent colleges and universities collectively are the 6th largest private industry in the state.

The economic activity generated by independent higher education creates a total of nearly 51,000 jobs in Connecticut (including 17,860 direct employees of the institutions and another 33,220 jobs in other sectors of the economy).

This total employment figure means that 1 out of every 30 people in Connecticut's private sector workforce have a job as a result of independent higher education. These workers earn $1.7 Billion annually and pay $144 Million in state and local taxes.

Every region and industry in Connecticut benefits from the economic activity and jobs created by these colleges and universities.

A total of 150,000 alumni of Connecticut independent institutions live in-state, earning $8.5 Billion annually and paying $924 Million in state and local taxes.

Independent higher education's contributions to the Connecticut economy extend beyond its role as a generator of spending and jobs. As educational institutions, independent colleges and universities provide the skilled labor force needed by business and industry around the state. Recent graduates of the institutions provide a talented and knowledgeable pool of entry level employees. For currently employed workers, the institutions offer opportunities for career growth through advanced education at the graduate and professional levels.

In addition, independent colleges and universities are engaged in providing a wide variety of services, partnerships, and outreach programs to business and industry across the state.

The quality of life in Connecticut is integral to the future economic competitiveness of the state. This is because vibrant communities allow Connecticut to attract and retain highly skilled workers and help the state build a sound future for the young people. Moreover, "college towns" make great places to live, offering a host of resources and amenities that many larger communities without such institutions cannot match,

Independent colleges and universities are an integral part of the state's communities, and are a contributing source to their high quality of life. For example, institutions in the

independent sector make more than 175 campus facilities available to at least one million Connecticut citizens annually, contribute to the well being of their local cities and towns through the many volunteer services provided by students and members of campus communities, and provide collaborative and cooperative services to local elementary/secondary schools which help enrich the educations of thousands of children across the state.

Recommendations

As job skill requirements continue to accelerate, Connecticut could face a shortage of skilled workers by the beginning of the next century. Unless employers, educators, and state policy makers move aggressively to expand the state's investment in the current and future work force, Connecticut will become increasingly reliant on skilled labor imported from other states and nations, and at the same time will face an oversupply of low-skilled and no-skilled workers (with accompanying increases in social costs such as welfare and criminal justice).

The state's economic future is not ordained by fate and demographics -- it is shaped by public policies which establish a framework for, and help direct, the change that will come.

In this context, the state should take full advantage of -- and build on -- its existing higher education resources. Toward this end, the following policies are recommended (1) to help strengthen Connecticut's system of higher education to meet future work force needs and (2) to help maintain the standard and quality of life in the state.

1. Create an interdepartmental strategic plan for utilizing higher education as an integral part of state economic development efforts.

2. Establish a higher education/business roundtable to identify possible areas of economic development partnership between colleges/universities and business/industry.

3. Use existing programs to increase state investment in higher education, and create new programs as investment vehicles, to meet future work force needs and improve collaboration between colleges/universities and business/industry.

4. Initiate new state programs utilizing higher education in the effort to reduce high school drop out rates, for the purpose of helping meet future work force needs.

5. Better utilize higher education resources to achieve community development goals.

Introduction

This study was conducted to help Connecticut's leadership better understand the mechanisms and directions of change within the state's economy and the role of higher education as a formative tool of state economic growth. While the research demonstrates clearly the multiple linkages between state economic growth, social well-being, and the presence of a robust independent higher education sector, significant opportunities remain to foster stronger ties between post-secondary education and the processes of economic development.

To realize in full the potential contribution of Connecticut's colleges and universities and to maximize the state's overall return on its educational investment will require, foremost, a more coordinated effort between the many public and private agents of economic growth and consideration of new vehicles of investment to strengthen the state's education market. This effort will require the creation of an interagency master plan to establish a shared vision of lifelong learning as a state development resource and to build joint ownership and shared responsibility for its implementation.

Higher Education and the Connecticut Economy

Following the 1982-83 recession, while the nation began an eight-year economic expansion, Connecticut began a major restructuring of its core economic sectors. In the intervening years, Connecticut has ranked among the nation's slowest growing economies, losing more than 6,000 jobs in construction, 1,200 in wholesale trade, 128,000 in manufacturing and 6,000 in the military. Significantly, much of that loss has come from the state's major sources of high-wage employment.

While Connecticut's core industries of the 1970's, including defense, insurance, and banking remain large economic sectors, the markets they serve, their processes of production, and correspondingly their staffing, skill requirements and patterns of compensation represent a significant departure from the past. At the same time, more than 100,000 new jobs have emerged in such sectors as management consulting, software, health care, engineering services and education. In new and old industries alike, Connecticut jobs today are markedly different in content from their predecessors. In 1989-90, 38 percent of all new jobs required a Bachelor's degree or higher, while in 1994-95, 60 percent of all new jobs were at the Bachelor's level or higher.

Table 1: Connecticut Net Job Change By Industry: 1984-1994

Industry	1984	1994	Job Change
Mining	3,111	2,103	(1,008)
Construction	87,366	81,031	(6,335)
Manufacturing	421,868	293,376	(128,492)
Transportation and public utilities	71,275	76,631	5,356
Wholesale trade	84,691	83,463	(1,228)
Retail trade	291,274	303,662	12,388
Finance, insurance, and real estate	184,378	206,163	21,785
Services	445,609	598,294	152,685
Government and government enterprises	212,375	226,663	14,288

Source: Regional Economic Information System: 1994

If the information age reveals anything, it is that the comparative economic advantage of states is dictated less by proximity to markets, natural resource endowments, or physical infrastructure and more by the intellectual capacity of their citizenry. Education attainment has emerged as the common denominator of competitive economies in the 21st Century.

Despite a resounding message that education is the driving force behind sustained and high-wage employment, investment in human capital is not widely utilized as a strategic economic development resource at a state level. Rather, it is treated within the fabric of social infrastructure investment.

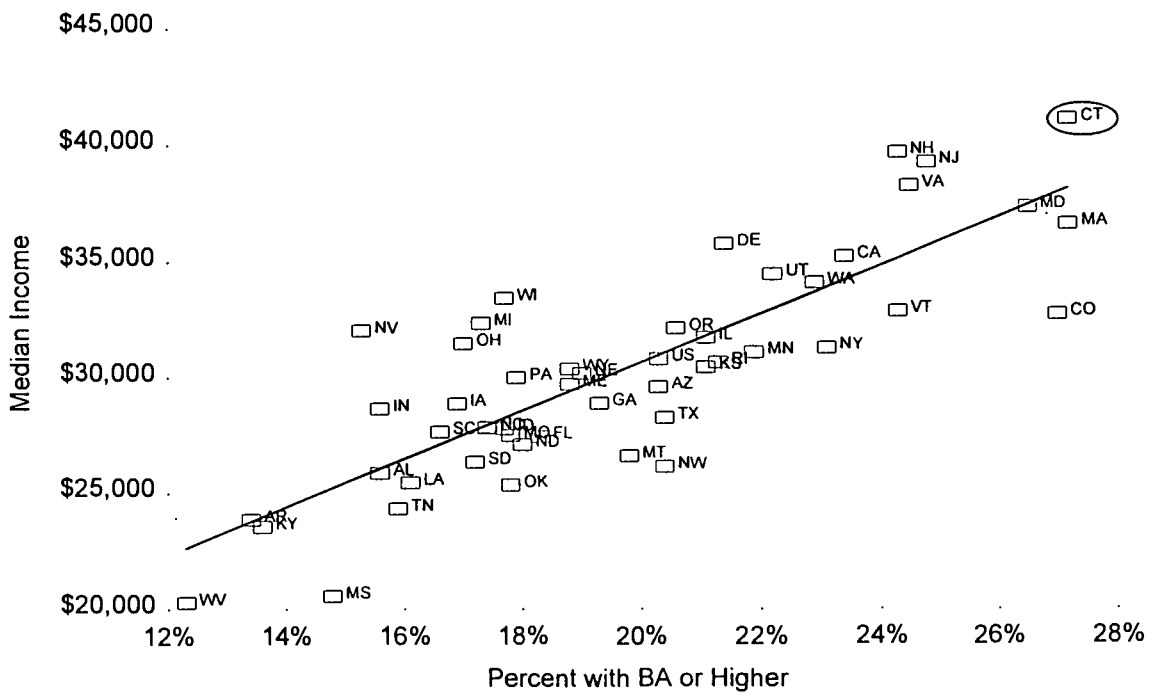
Meeting the diverse and dynamic education and training needs of every citizen will require a robust investment in human capital. In turn, to guarantee a smoothly functioning market with a healthy competitive environment, there must be adequate capitalization, prudent distribution of public investment, and willing customers and capable providers. Sufficient information and cooperation is necessary to help ensure that customers and providers can make informed decisions to meet these challenges, as no one sector or agency can unilaterally provide for all of these conditions. Fully leveraging Connecticut's education and development resource will require the coordinated efforts of the state's many agents of economic growth and human service.

While a well developed education and training market requires the engagement of hundreds of individual agents and organizations, colleges and universities (by virtue of their mission, their capacity and their reach) are Connecticut's foundation for investing in workforce development. At the core of this enterprise is the provision of formal instruction and credentialing to individuals. However, the scope of services colleges and universities provide goes well beyond the classroom. Postsecondary education enhances the competitive position of individual companies through a range of programs and initiatives, from technical assistance for small business development to contract research. These efforts are complemented by an extensive array of community services that places colleges and universities on par with the best corporate citizens. Finally, colleges and universities are a substantial industry and a major source

of employment and income in their own right, representing one of the state's largest economic sectors.

Of the many characteristics that distinguish Connecticut from other state economies, none is more significant than its high level of family and per capita income. For decades, Connecticut has ranked among the wealthiest states in the nation. While Connecticut's wealth is the result of many factors, including its industry mix and demographics, education attainment stands out as the underlying source of that wealth. According to the Decennial Census, Connecticut ranked with Massachusetts in the proportion of adults holding a baccalaureate degree or higher, first in the proportion of adults holding a Master's degree or higher, and first in median household income. This level of attainment accounts for Connecticut's high labor force participation rates (Connecticut ranks third nationally), its high concentration of executive, managerial, professional and technical employment and its comparatively high levels of employee compensation.

Figure 2: Relationship Between Education Attainment and Median Income



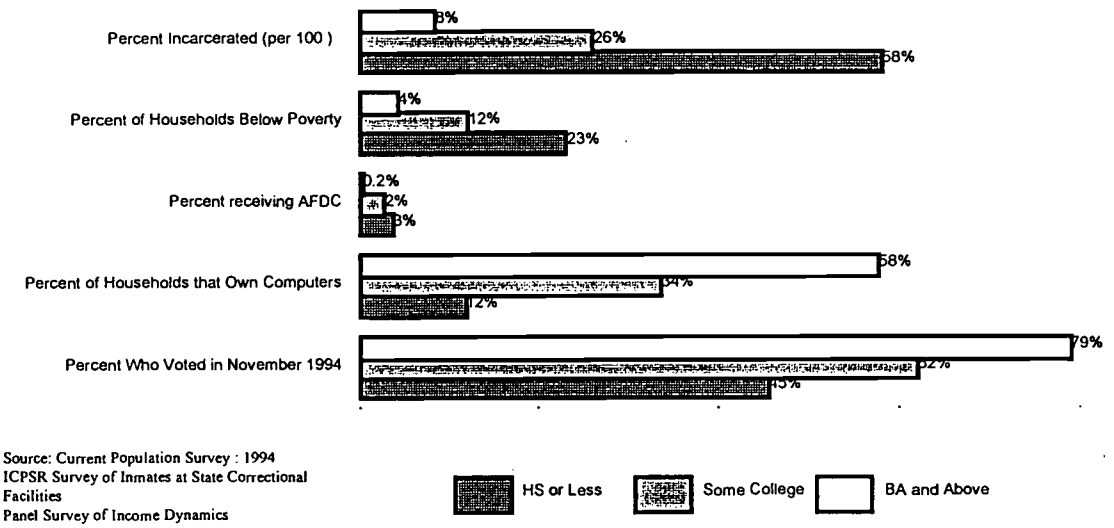
Source: U.S. Department of Commerce Current Population Reports: Money Income of Households, Families, and Persons in the United States: 1992

The significance of Connecticut's high level of education attainment, however, goes beyond family income and represents an integral element behind the state's high quality of life. Higher levels of education attainment exert a strong influence on personal consumption patterns, savings and investment behavior, voluntary, social and civic contributions and family formation. These effects benefit not only the individual but contribute to the well-being and stability of

Connecticut's individual communities and the state as a whole. Moreover, these impacts accrue throughout one's lifetime and transfer from one generation to the next, and as such provide an economic annuity.

To the extent that a state has higher levels of educational attainment, it will avoid or reduce innumerable social costs including the incidence and duration of unemployment, the need for public assistance (welfare and food stamps), and likelihood of committing a crime and the associated costs of incarceration. From both an economic and social standpoint, Connecticut's high levels of education attainment serve as fundamental civic building blocks.

Figure 3: Selected Measures of Well-Being By Educational Attainment



Source: Current Population Survey : 1994
ICPSR Survey of Inmates at State Correctional Facilities
Panel Survey of Income Dynamics

For Connecticut, the sustained benefits of its well-educated populous are complemented by a rich endowment of small town environments. Overall, more than half of the state's population live in communities of fewer than 16,000 people. To Connecticut's advantage, these communities provide a range of amenities and characteristics that enhance the quality of life. In turn, these attributes strengthen the state's capacity to retain and attract high skilled workers who tend to compete in national labor markets and, thereby, reinforce the cycles of economic growth and social development. No community can reasonably expect to meet all of its skill needs through an internal system of education, training and development. In this respect, Connecticut is more dependent on its surrounding neighbors than most states.

High levels of education attainment and wealth, coupled with a community scale of living, a diversifying economic base, and close proximity to major markets and population centers, constitute Connecticut's primary economic endowment. As more industries and occupations become "footloose" and less location and size dependent, quality of life will become an even more important aspect for sustaining a high skill workforce. In all these respects,

Connecticut is well poised to meet the economic challenges of the next century.

Table 2
Social Economic Profile By Region

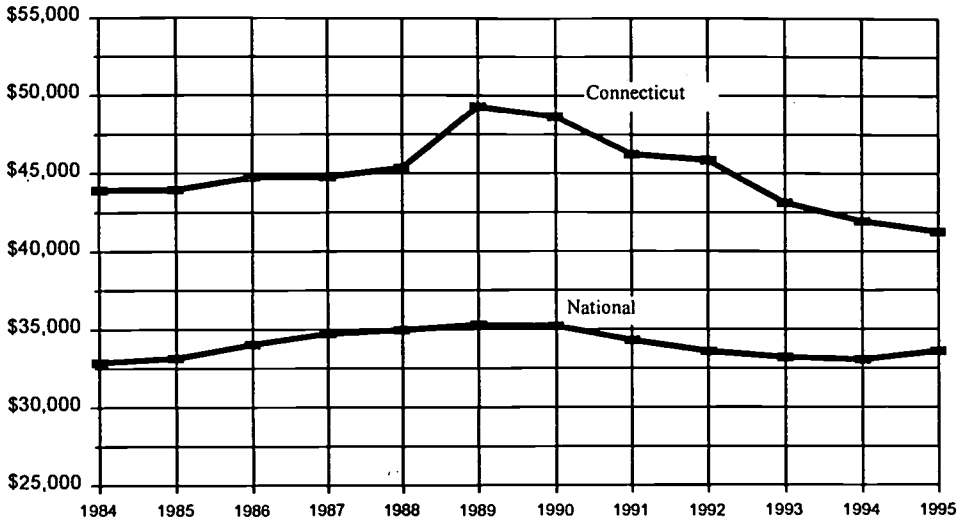
Region	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham
Population (1995)	828,220	844,280	177,570	145,090	806,600	254,890	129,200	103,240
Percent HS Grad Age 25+	81.0%	77.7%	80.9%	82.6%	77.5%	80.9%	84.7%	71.1%
Percent with BA Age 25+	34.2%	25.2%	25.0%	28.2%	24.2%	21.8%	29.2%	16.8%
Median Income	$57,990	$48,008	$49,061	$50,891	$46,058	$43,256	$51,436	$39,333
Poverty rate	4.5%	6.0%	2.4%	2.6%	6.0%	4.7%	2.7%	6.0%
Unemployment Rate	4.9%	6.1%	5.2%	5.3%	5.9%	5.3%	4.9%	6.7%

Source: County City Data Book: 1994, Connecticut Department of Economic and Community Development: 1996

Despite the state's high quality of life, Connecticut's median family income has been falling since 1989 at an average rate of nearly 3 percent -- which is significantly faster than the national rate of decline. While the underlying sources of this decline are complex and highly debated, its manifestations are clear and related to three broad trends. The first is the replacement of higher wage jobs in the goods producing sectors with lower wage jobs in the service sector. The loss of Connecticut manufacturing since the early 1980's is nothing less than stunning. From its peak of 447,000 jobs in 1980 to a low of 293,000 today, this loss represents more than $6.4 billion in average annual earnings. While service employment has more than offset the loss in numbers of manufacturing jobs, the average service sector job pays at a rate of two-thirds its goods producing counterpart.

The second trend is a stagnation in earnings that has prevailed across a number of occupations, but particularly in those positions that require little or no college. Between 1992 and 1995, the average earnings of all workers nationally with less than a Bachelor's degree fell by 8.2 percent after inflation, compared with a 2 percent increase for those with a Bachelor's degree or higher. As a result, even in industries that have historically paid high average wages, there has been a polarization in earnings with less educated workers seeing their standard of living decline while those with a baccalaureate continue to make economic strides.

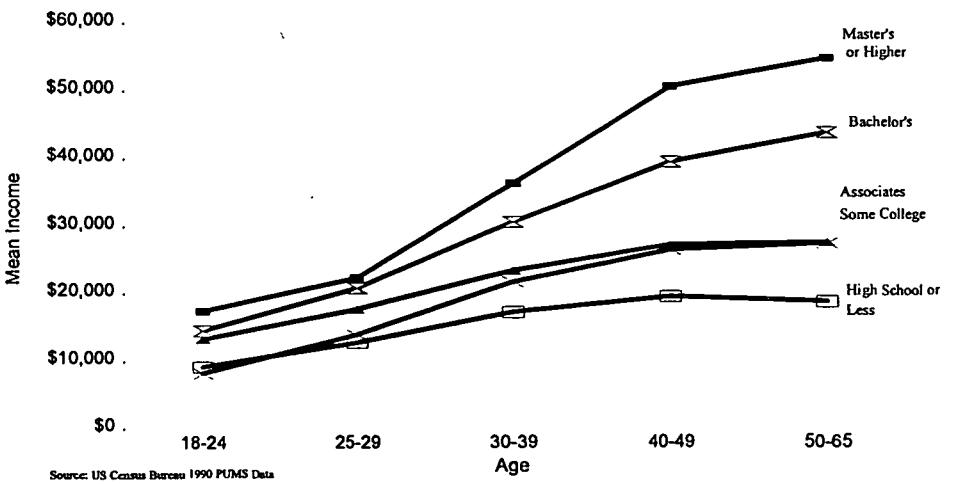
Figure 4: Median Family Income
1995 Constant Dollars



Source: Survey of Current Population, Department of Commerce, 1994

This emerging disparity speaks directly to the economic returns of a college education and its significance as a tool of economic development. After controlling for a worker's age, sex, race and labor force experience, there remain sizable differences in earning levels of Connecticut residents by level of education attainment. In 1994, a Connecticut resident holding a bachelor's degree earned an average of $21,000 more per year than a high school graduate, while an individual with a Master's degree earned nearly $33,000 more. Because, the average earnings of those with less than a baccalaureate remain relatively flat as workers approach their later years, the differential tends to grow, raising the lifetime differential to more than $1 million in additional earnings between a bachelor's degree and a high school diploma.

Figure 5: Connecticut Age Earnings Profile By Educational Attainment



Source: US Census Bureau 1990 PUMS Data

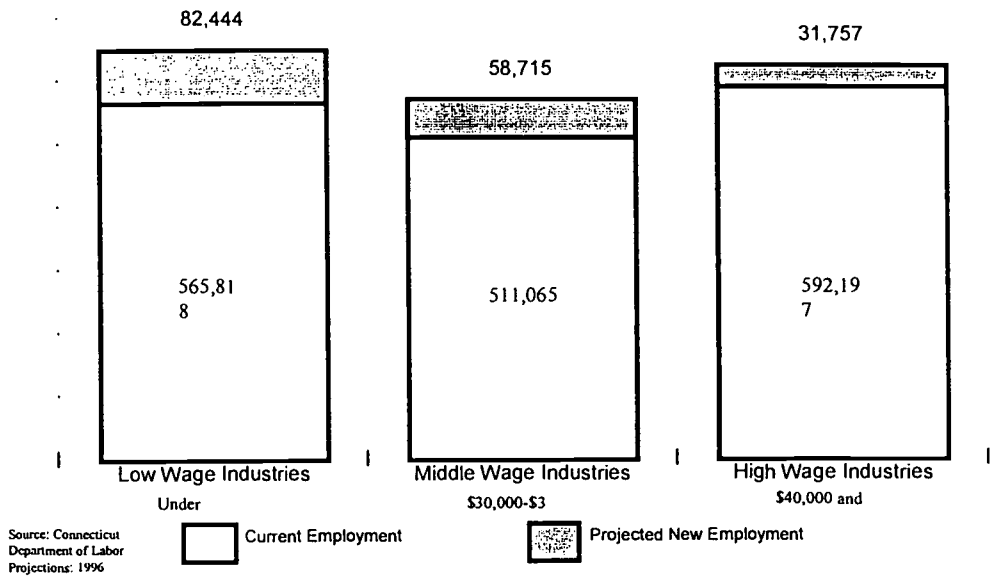
The third trend has been a dramatic slowdown in labor force participation rates. During the 1970's and 1980's, the nation and Connecticut alike experienced dramatic growth in the number of women entering the labor force. This contributed substantially to the total hours Connecticut residents worked and to aggregate income. Since the late 1980's, however, growth in female labor force participation rates has leveled off while male participation rates have actually declined. Because the vast majority of adults who are not working have lower levels of education attainment, even if labor participation rates were to move upward, the contribution to aggregate earnings would be modest unless education attainment levels were to rise as well.

The decline in median household income represents the most formidable issue facing Connecticut's economic future because it points to a rising economic disparity between those with and without a college education. Despite the decline in median income, Connecticut's average earnings have continued to rise, implying a growing wage differential between Connecticut's highest and lowest wage earners. For half of Connecticut's working population, the state's economic transformation has represented an uphill climb--if not a declining standard of living. While Connecticut can expect employment growth in high and low skill industries alike, the opportunities for high wage employment will remain concentrated in occupations requiring a college education. The days of adding $30,000 a year jobs to the economy for individuals with a high school diploma are over.

Meeting Connecticut's Future Education and Training Needs

While one in three Connecticut workers are employed in an industry with average annual wages of $40,000 or more, according to the state's most recent employment forecast, these same industries will provide less than one-fifth of all new jobs during the next decade. At the same time, just under half of all new employment will come from industries with average annual earnings of less than $30,000, and nearly one-fourth will come from industries with earnings of less than $18,000-- a figure just above the poverty threshold for a family of four ($16,029).

Figure 6: Connecticut Projected Job Growth By Industry Type
1995-2005



Assuming that average earnings by industry remain constant over time (i.e keep pace with inflation), the average wage of Connecticut workers will decline by about six percent as a result of changes in industry mix. At the same time, the distribution of earnings will become more skewed. In fact, even if average wages continue to climb, a growing number of Connecticut workers are likely to see their earnings lose to inflation, reinforcing a disparity that has been drawn sharply across lines of sex, race and place of residence. While raising the levels of education attainment for such workers is not a guarantee for overcoming this disparity, for most it is an absolutely necessary first step in that direction.

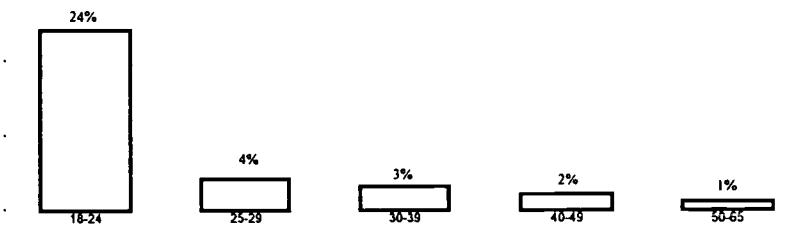
During the next ten years, Connecticut can expect rising levels of education attainment simply as a result of changing demographics. Based on current levels of education attainment by age, the proportion of workers with only a high school degree is expected to decline at a rate of about one-half a percentage point per year as older workers retire, younger better educated workers enter the labor force, and higher educated workers advance in their careers. In other words, assuming college participation rates by age remain constant, the proportion of Connecticut workers with a high school diploma or less is expected to drop from a current level of about 30 percent to 25 percent by the year 2005, while the proportion holding at least a baccalaureate will rise from the current 27 percent to 31 percent. At the same time, the median age of Connecticut workers is expected to increase from 38 today to 41 by 2005. While these demographic shifts will have a positive effect on income, they are not sufficient to raise the earnings of all workers.

Ensuring real growth in median income will require changes in the demand for postsecondary education and training for the majority of workers now employed. Under current population projections and labor force participation rates, Connecticut can expect about 52,000

job openings a year between now and 2005. Over this horizon, it is estimated that more than 85 percent of the state's current labor force will still be working in 2005 and more than two-thirds will still be employed in 2015. Investing in the skill-upgrading of Connecticut's existing workers is therefore critical for sustained economic growth. It is also clearly the future direction of the postsecondary education market. Whether this demand is met through a more active investment on the part of employers or by individuals acting on their own, college going rates and training participation rates among individuals of all ages must increase if Connecticut's median family income is to rise.

For the experienced and well educated members of Connecticut's workforce, the prospects for lifelong learning are already strong, as employers are far more likely to provide training or tuition reimbursement for those who already have a college education and because these same individuals have sufficient resources to invest on their own. The need for education, however, is more critical for those with little or no college. At the same time, engaging this population tends to be more difficult, requiring more public support, intervention or outreach. In general, if a person has not had any exposure to college by age 30, the likelihood of subsequently attending is less than twenty-five to one. Effectively serving this population, (which constitutes about 16 percent of Connecticut's current work force) represents one the state's greatest economic challenges and opportunities -- and by failing to do so, one of its greatest economic risks.

Figure 7: Connecticut College Going Rates of High School Graduates by Age (Percent of Age Group Enrolled)

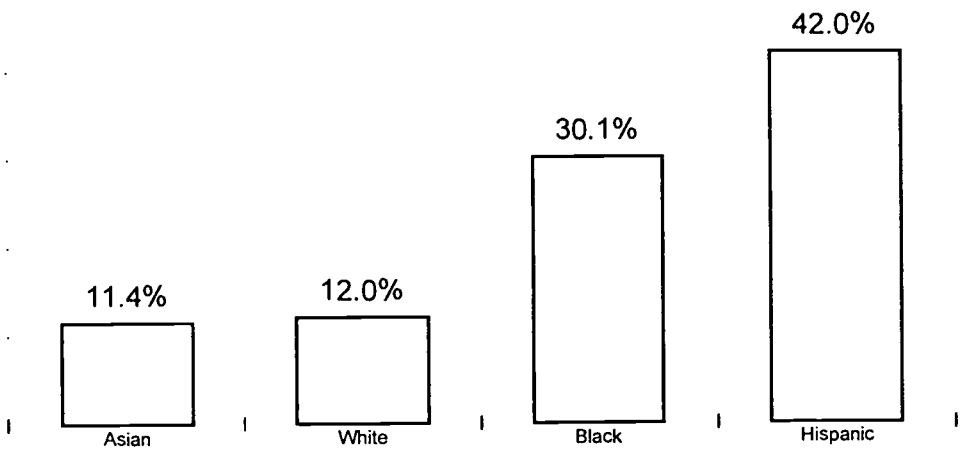


Source: Bureau of Census: Pums, 1990

While Connecticut must continue to upgrade the skills and capabilities of its experienced labor force, the state will also need to address the skills of its new entrants. Between now and the year 2005, Connecticut's labor force will see about 370,000 new entrants. The skills new workers will bring and their capacities to further their development will depend, foremost, on the foundations they acquire at the K-12 level. This applies to the college bound, but it is perhaps of even greater importance for those individuals who choose not to go on to college.

Currently, about one in six Connecticut students drop out of high school. As family income decreases, however, the likelihood of dropping out goes up. While Connecticut has among the lowest high school drop-out rates in the nation, and while the rate has remained relatively steady over the past five years, there is a notable disparity by race.

Figure 8: Cumulative High School Dropout Rate By Race: 1991-1994



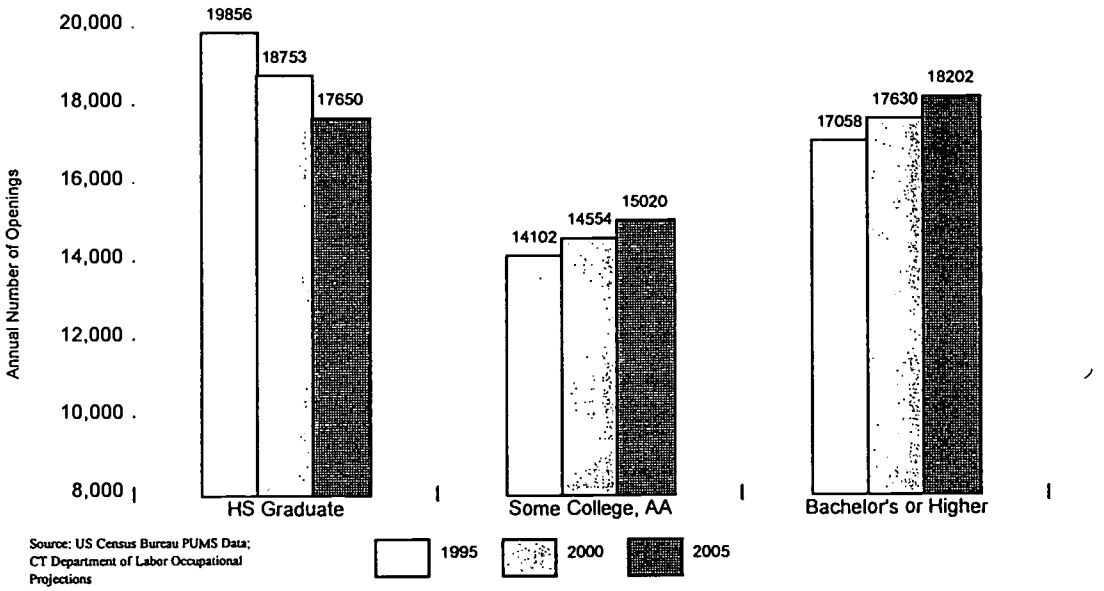
Source: Connecticut Department of Education: 1997

During the next decade, college going rates for both the traditionally aged and adult students are expected to increase. Based on a conservative increase of the current participation rate (less than 2 percent per year), Connecticut can expect up to an additional 30,000 college students by the year 2005--an increase of nearly 19 percent.

Based on the state's most recent occupational forecast, and the trend towards higher levels of attainment, a challenging picture emerges concerning Connecticut's capacity to meet the future education and training needs of its labor force. It is estimated that more than 34 percent of annual job openings from the years 1995 through 2005 will require at least a baccalaureate degree. This level of demand surpasses Connecticut's current level of baccalaureate degree production, but only slightly.

Should job skill requirements and hence the requirement for higher attainment levels accelerate, Connecticut could face a shortage of skilled workers by the beginning of the next century. Under a scenario in which college participation rates increase, unless employers, educators and the state move aggressively to expand educational capacity and achieve a greater investment in the existing and emerging labor force, Connecticut will become even more reliant on the importation of skilled labor -- largely from surrounding states -- and at the same time face an over supply of lower-skilled workers (and the concomitant social costs).

Figure 9: Projected Number of Annual Job Openings in Connecticut
By Level of Educational Attainment: 1995-2005



The Case for a Comprehensive Strategy - Utilizing Connecticut's Independent Higher Education Sector

The fact that Connecticut's emerging economic disparity is tied so closely to differences in education attainment points to the role of the education sector as a driver of long-term state economic growth. A sustained investment in the skills and capabilities of all residents, however, will not happen purely through demographic shifts or market forces alone, it will require greater public and private involvement.

To help shape a comprehensive plan that can leverage government and private resources necessary to ensure that the competitive skill needs of Connecticut are met, it is instructive to consider the role of independent higher education. The basis for focusing on Connecticut's independent sector stems from several facets. First, independent colleges and universities represent Connecticut's largest sector of postsecondary education, enrolling 38 percent of all students attending a college or university (followed by Community / Technical Colleges at 27 percent, Connecticut State University at 21 percent, and the University of Connecticut at 14 percent). The independent sector's 38 percent share of Connecticut college enrollments compares to a national average of 19 percent. Based on enrollment share, Connecticut has the 7th largest independent sector of higher education in America. The seventeen not-for-profit institutions which are members of the Institute for Research and Public Service, have an expansive capacity and history of serving the full spectrum of Connecticut's educational and training needs.

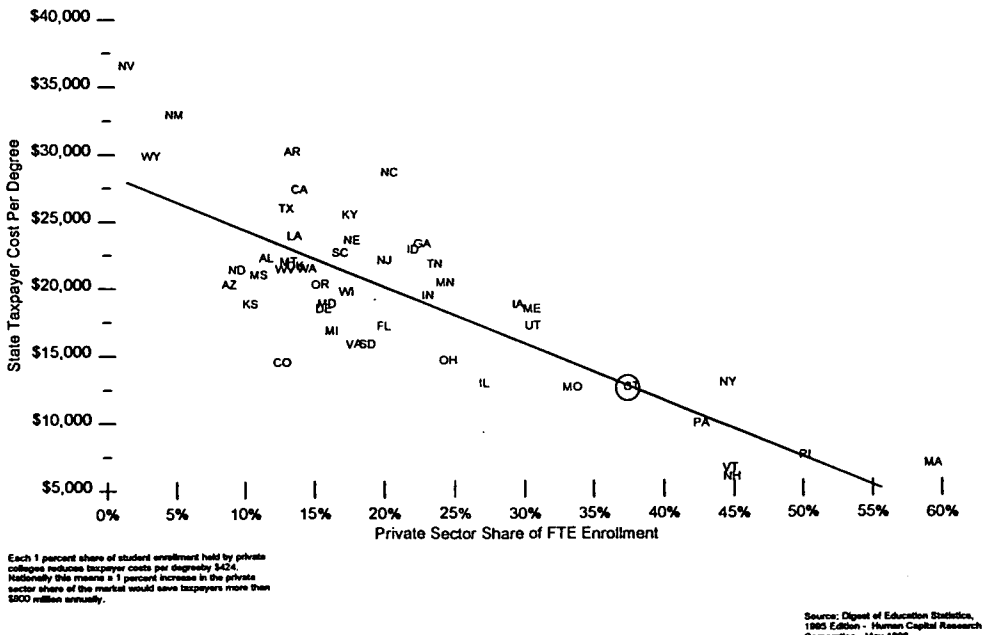
Second, from a taxpayer's perspective, independent higher education is a very cost effective form of public investment. Based on the national pattern of postsecondary enrollment

and state higher education appropriations, each additional one percent share of independent sector enrollment reduces the taxpayer cost nationally more than $900 million. For Connecticut, it is estimated that a five percent increase in the independent sector's share of the state's total higher education market would save more than $75 million in avoided taxpayer subsidies. In 1991, the report of the Thomas Commission recognized the cost savings realized by the State from educational opportunities provided by independent colleges and Universities:

> "Connecticut's large independent sector represents a significant savings to the state's taxpayers.
> The extra higher education costs to the State of Connecticut would be over $165 million per year in operating expense if the 25,000 Connecticut residents enrolled in independent institutions [calculated on a full-time-equivalent basis] were in enrolled in the State's public institutions.
> Additionally, the state would have to spend another $350 million on facilities and equipment."

In FY 1996 dollars, the impact of these additional expenses to the state would be approximately $193 million in annual operating costs and $350 million in Capital costs. The future of independent higher education and a smoothly functioning higher education system will depend on a continuing sound structure of state support.

Figure 10: Relationship Between Private Sector Share of College Enrollment and Taxpayer Cost Per Degree Conferred: Fiscal 1993



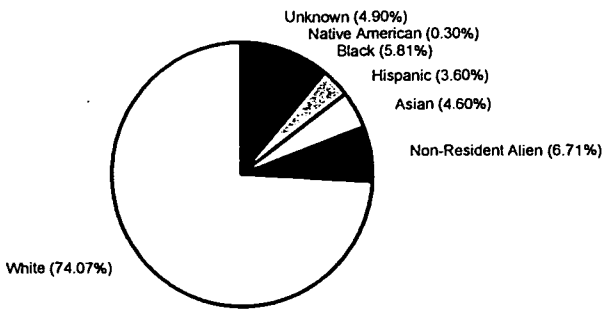
Third, the structure of independent higher education is a model of investment not only for all of higher education, but for investing in other human services as well. It combines the features of a rigorous needs analysis, user fees, public-private partnerships and collaborations, and a strong competitive market orientation that emphasizes customer choice. Simply stated, independent higher education comes closer to striking a balance in fairly distributing the costs and benefits of service among its constituents than almost any other funding model that utilizes public support. As new education providers enter the education market and as existing providers adapt to new market needs, independent higher education will increasingly serve as the primary point of reference.

Examining the management practices and institutional characteristic of Connecticut's independent colleges and universities, therefore helps to build an understanding of the mechanisms colleges deploy to drive economic growth and the changes in policy and practice that can further enhance the independent sector's contributions.

The central activity of all of Connecticut's independent colleges and universities concerns formal instruction. Underlying this mission is an abiding commitment to build equity and diversity. In other words, all academically qualified individuals of all backgrounds should be able to attend the college or university that best meets their needs. While this statement is widely embraced in principle, in practice it represents a difficult challenge. This challenge stems from the circumstances than enable individuals from all walks of life to think in terms of college and be prepared to do college level work, and the considerable resources, both human and financial, that are necessary to ensure matriculation.

In all, Connecticut's independent colleges and universities enroll nearly 40,000 undergraduates and nearly 18,000 graduate and professional students representing 50 percent of state wide enrollment at four-year institutions. Last year, 14 percent of the sector's enrollment was by students of color.

Figure 11: Distribution of Connecticut Independent College Enrollment by Race



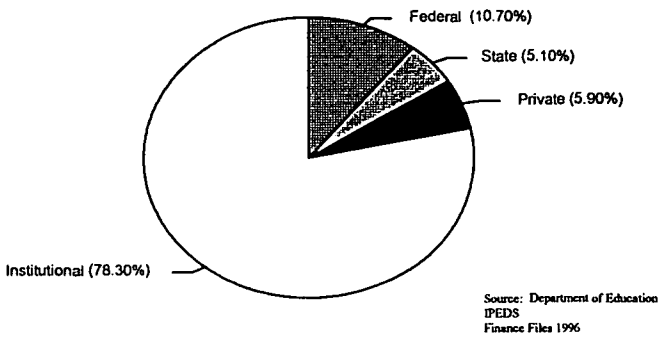
Source: IPEDs Enrollment Survey, US Department of Education, 1995

A key factor in building diversity in the independent sector has been assuring that all qualified students are financially able to attend the institution that best meets their academic and personal needs. Underlying this commitment is a major investment in financial aid. It is through need-based grant aid that both the state and the federal governments maintain their support to Connecticut's independent colleges and universities. Last year for example, almost 3350 state residents received some need-based aid from the state to attend an independent Connecticut college or university.

While state and federal aid are essential for building greater education opportunity, it is the institutions themselves that maintain the largest financial commitment to need-based grant aid. In fiscal 1996, Connecticut's independent colleges and universities provided just over $177 million in grant aid from institutional and private sources.

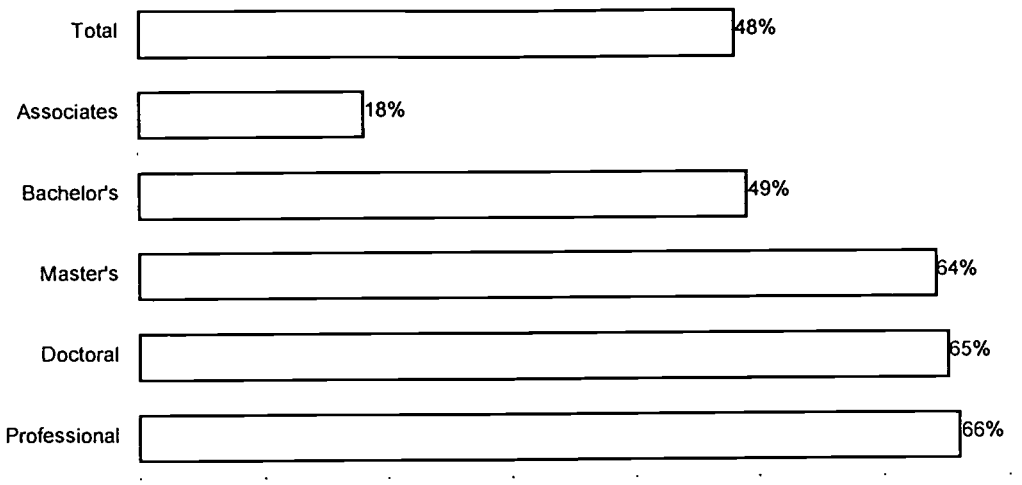
This investment reflects one of the most unique pricing structure of all industries, basing the price of attendance primarily on family ability to pay. The result of this policy is to help ensure maximum participation and a viable funding package that ultimately reduces post-college loan commitments, and enables alumni to invest in their future and base career decisions on factors other than financial considerations. At a broader policy level, this commitment represents a major charitable function for the colleges, transferring wealth from endowment, private gifts and operating income and tuition to subsidize the delivery of services to financially needy students.

Figure 12: Distribution of Grant Aid Allocation



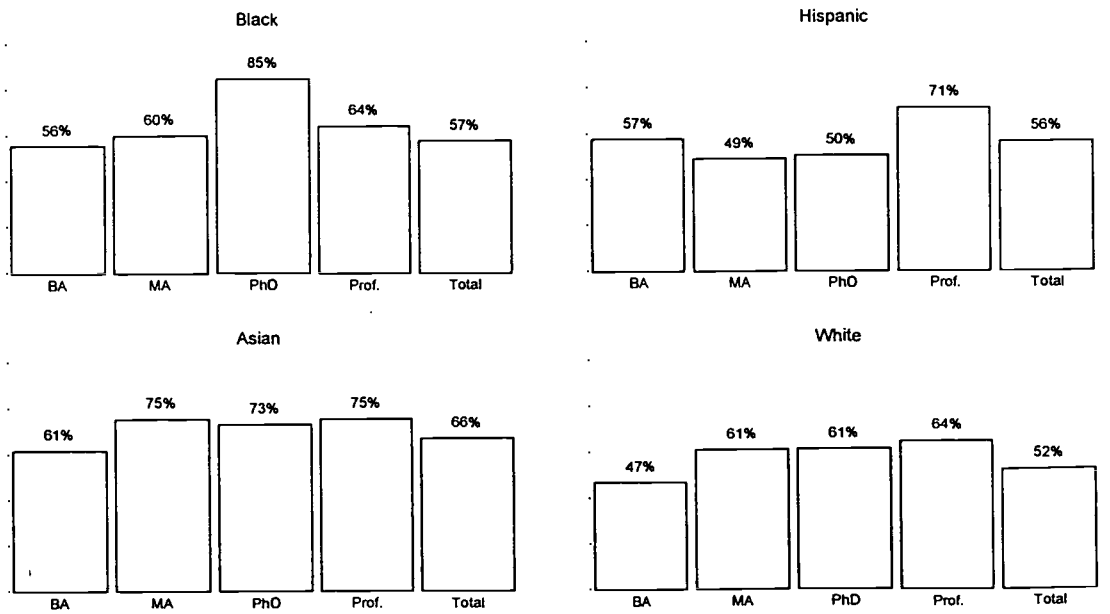
The capacity to enroll students from all social and demographic backgrounds is significant because it demonstrates the extent to which equal opportunity genuinely exists in Connecticut. At the same time, it is important to recognize that enrolling students is but a first step towards achieving educational success. Ultimately, students must graduate and do so with reasonable debt and in a field of relevance to the job market. Last year, Connecticut's independent colleges conferred more than 12,000 baccalaureate and graduate or advanced degrees.

Figure 13: Percent Share of Connecticut Degrees Awarded by Independent Institutions



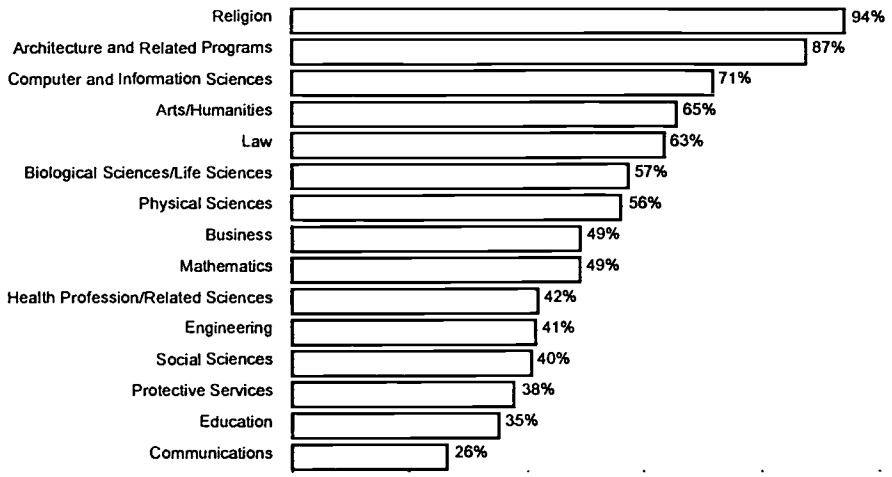
This output represents more than 48 percent of all degrees conferred in the state and it is an outcome shared by students from all backgrounds. Collectively, Connecticut's independent sector confers more than 49 percent of all the baccalaureates awarded to students of color in the state and more than 65 percent of all the graduate degrees conferred to students of color.

Figure 14: Private Sector Share of Degrees Conferred by Race and Degree Type



All seventeen of Connecticut's independent colleges and universities included in this study maintain a liberal arts focus that ultimately reflects back to the skill sets that will drive Connecticut's emerging economy. The fields themselves cut across the full range of occupational needs within the state and represent a true cross-section of the areas of concentration that are integral to the state's economy. Nationally, majors in the liberal arts enter the full range of professional speciality, managerial, marketing and technical occupations.

Figure 15: Independent Sector Share of Degrees Conferred by Field



Source: Conecticut Department of Education, 1995.

Helping Build and Sustain Connecticut's Human Infrastructure

Connecticut's independent colleges and universities, because of the philosophical framework that guides their operations, make significant contributions to the people and communities of Connecticut. Beyond teaching and learning, which foster the growth and development of students, Connecticut's independent colleges and universities also share their knowledge, skills, and expertise outside the campus boundaries. These institutions have worked to build relationships and connections across the state and around the world. Annually, they serve tens of thousands of state residents and businesses through multiple and varied economic and human development outreach initiatives.

How Services Are Provided

At the core of these outreach programs and initiatives are the individuals who live, work and attend classes at independent colleges and universities. In all, more than 75,000 students, faculty, and staff are part of Connecticut's independent campus communities.

The organization and delivery of community services provided by Connecticut's independent colleges and universities occur through a varied set of arrangements. In many cases,

the community services these institutions provide are designed to leverage the knowledge, expertise, and resources of other local public, private, and nonprofit providers — enhancing and partnering with these organizations, rather than acting as the sole agent. In other cases, the institutions may represent the only provider of a critical local need. Regardless of the arrangement in which services are provided, at the heart of this delivery is a set of civic, ethical, and principled traditions that promote caring, service, and capacity building — engaging students, faculty, and staff as partners in helping to build and sustain the state's economic and human infrastructures.

Faculty, through their own development and in pursuit of academic excellence, make significant service and social contributions. On one level their efforts are independent; taken together, they constitute a canvas of community services and product innovations. Students, both through curricular and co-curricular activities, participate in internships, practical experiences, and as volunteers, often in concert with the hundreds of service organizations that operate on Connecticut's independent colleges and universities' 17 campuses. Staff frequently assume a central coordinating and leadership role in linking college resources with the community, sometimes through established programs as part of the institution's mission and sometimes independently as local residents.

Breadth and Depth of Community Reach

Connecticut's independent colleges and universities contribute to community quality of life on two important levels: (1) *Economic Development,* which includes business support services and partnerships, and product and service innovations; and, (2) *Human Development,* which includes the delivery of public services for operation of and access to institutional facilities (including libraries, auditoriums, sports arenas, museums, galleries, and theaters), public service programs and initiatives, and K-12 and life-long learning programs and partnerships.

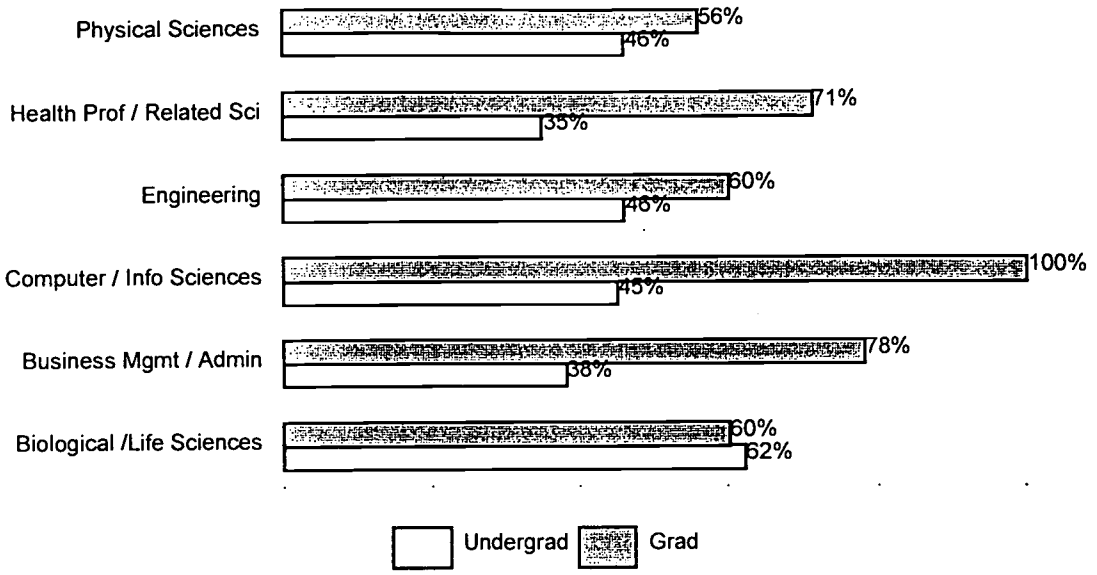
Economic Development

Business Support Services and Partnerships. Beyond the contributions to Connecticut's economic base presented in this report, Connecticut's independent colleges and universities have a long tradition of working with business and industry, and as such, play an important and critical role in revitalizing the state's business and industry sector.

As educational institutions, independent colleges and universities provide the skilled labor force needed by business and industry around the state. Recent graduates of the institutions provide a talented and knowledgeable pool of entry level employees. For currently employed workers, the institutions offer opportunities for career growth through advanced education at the graduate and professional levels.

Independent institutions offer degree programs in many of the fields critical to the future competitiveness of business and industry.

Figure 16: Percent Share of Business Related Degrees By Independent Institutions



Source: Connecticut Department of Education, 1995

Through numerous partnerships and programs that provide vital expertise, information and support, Connecticut's independent colleges and universities serve as a resource clearinghouse, contributing in myriad ways to addressing business and industry needs. Services are offered to all types of businesses and industries -- from the state's largest corporations to sole proprietorships, businesses that range from retail trade to environmental engineering, and businesses that think "locally" as well as "globally." The initiatives represented here are illustrative of and serve as "blueprints" for an integrated approach toward systemic economic development in Connecticut:

The Center for Global Competitiveness at Fairfield University serves firms of all sizes and products to understand and succeed in exporting in a global market. Services provided by the Center include export assistance, assistance with evaluating foreign markets and developing entry market strategies, and conducting industry studies for export potential.

Fairfield University also houses the **Culpeper Language Resource Center**, which provides translation assistance and language immersion programs to outside companies.

Yale University's ***Outreach Management Consulting Group***, provides free consulting services to local business and nonprofit organizations through its School of Management Program.

The University of New Haven's ***Small Business Institute*** seeks to aid small businesses and beginning business enterprises to build capacity by providing teams of students to work with business owners in the development of business plans and strategies.

The Center for Family Business, also at the University of New Haven, offers programs and services specifically targeted to Family Business members. The Center offers family business

owners an opportunity to learn from some of the country's leading experts through conferences, round tables, panel discussions, and small group meetings.

The University of Hartford's ***Engineering Applications Center*** is a resource providing industries with technical support to generate new technologies for their processes and products.

Teikyo Post University's ***Management Center*** is open to businesses and organizations statewide and offers several business courses and on-site customized training in management skills, strategy planning, team development and customer service.

Connecticut College's ***Center for Arts and Technology*** provides opportunities for corporate partners to research and develop uses of new technologies in artistic endeavors and apply artistic techniques to understanding scientific and medical data.

Wesleyan University helped to found the ***Zygo Corporation***, located in Middlefield, CT. Zygo's business centers on the measurement and manufacture of precision surfaces, with sales throughout the world.

The ***Faculty Advisory and Consulting Services*** at Saint Joseph College assist Connecticut business and industries through seminars, tax clinics, and publications.

Through Mitchell College's ***Foundations of Information and Technology (FIT)***, local companies and community organizations are provided with the information to stay up-to-date with technology changes. FIT provides opportunities to work with the latest technology and software available and to learn in a "simulated" work environment.

Sacred Heart University provides education and training programs to meet the needs of the region's businesses and industries through the ***Corporate Classroom Project***. This project provides complete degree programs as well as specialized courses.

The University of Bridgeport has a long partnership with business and industry in the community through the ***Center for Venture Management and Entrepreneurial Studies***, which includes: (1) the Business Development Institute; (2) the Bridgeport Foreign Trade Institute; (3) the Urban Management Institute; and (4) the Special Projects Unit.

The ***Connecticut Quality Council*** was formed in 1990 by The Hartford Graduate Center with the advice and collaboration of Connecticut business and industry leaders. It is a non-profit coalition of private and public organizations that fosters quality in manufacturing, the service sector, health care, government, and education.

Located at the University of Hartford, the ***Construction Institute*** is dedicated to promoting the health and advancement of the construction industry in Connecticut by improving the performance and effectiveness of those individuals and organizations who serve, supply, or are related to the construction industry. It accomplishes this task primarily through educational seminars, forums, conferences and meetings.

Quinnipiac College has collaborated with the Private Industry Council to provide ***Dislocated Worker Training*** to assist workers by offering a three-credit course at no cost to those who might benefit from college. The course serves as a "dry run" for the worker, who can then

determine, without incurring expense, whether returning to college is the right course of action for him or her.

Formed at Trinity College, the ***Engineering Advisory Council*** organizes professional awareness conferences for engineering majors and has developed a summer internship program for interested students.

Founded with Yale University's leadership, ***Science Park*** is a joint project of the University, the City of New Haven, and the State of Connecticut. Yale makes a wide array of services available to start-up and established companies within the Park, including the use of Yale's libraries, access to highly sophisticated scientific equipment and to purchasing services, financial assistance, and other support.

Albertus Magnus College offers ***Student Internships*** that place its students with local businesses and institutions, where they receive "real world" experience. Students receive college credit for their internships, and make valuable contacts. Businesses benefit from the labor of the interns, and are partners with the College in training a skilled work force.

Product and Service Innovations. Faculty are one of a college's most valuable resources and often represent one of the largest parts of an institution's operating budget. Faculty are the key agents of student learning, in the classroom and increasingly through outside interactions as well. The faculty also maintain principal responsibility for defining an institution's academic standards and for designing and evaluating college curricula. At most colleges, it is the faculty more than any other group who define the campus culture.

Faculty from across Connecticut's independent colleges and universities provide significant community and economic contributions through their own independent and coordinated efforts, sometimes under the auspices of the institution and sometimes independently. Faculty knowledge and expertise is an integral component to the numerous business support services and the above described programs. In addition, hundreds of faculty from across the institutions annually provide numerous hours consulting with businesses, K-12 schools and teachers, and non-profit organizations. The faculty also contribute to institutional advancement through their pursuit of institutionally supported and recognized research, and the often resulting product and service innovations.

During fiscal 1996, over ***600 books and journal articles*** written by Connecticut's independent colleges and universities' faculty were published. In addition, over ***500 presentations*** were made by faculty at local, regional and nationally conferences. In addition, faculty from across Connecticut's independent colleges and universities have contributed to the arts through such things as ***dance production and choreography, documentary film-making, gallery and museum exhibits, and the production of thousands of concerts and dramatic performances.***

Facilities Contributions. In large part, the capacity of Connecticut's independent colleges and universities to provide community services is made possible and augmented by an enormous and extraordinary array of facility resources encompassing thousands of acres and buildings. Significant as this asset is, it only partially reflects the value of resources available to the public. To operate these facilities and render value to the community requires considerable human resources and operational expenditures and, more significantly, the creation of programs purposefully designed and coordinated to meet local area needs.

In fiscal 1996, over 175 unique facility resources on Connecticut's independent colleges and universities' 17 campuses were made available to the public. Collectively, these resources were rendered to at least one million attendants, participants, or clients — and many resources were offered at no cost or at a cost subsidized by the institutions. Among the facilities rendered to the public for a nominal fee or in-kind include more than: twenty-eight **theaters**, ten **athletic centers or athletic facilities**, fifteen **museums and galleries**, nine **healthcare clinics**, thirteen **conference centers**, twenty **libraries** with over 15 million volumes, and sixteen **newspapers, television and radio stations**. Some of the more unique facilities and cultural programs open to the public include access to **recreation areas**, including an **arboretum and beaches** located on campus property, **cinemas**, and lecture series, luncheon series and speakers programs.

Public Service Contributions. In fiscal 1996, more than 13,000 students across Connecticut's independent colleges and universities spent more than 100,000 hours providing volunteer service to more than 50,000 community members. Given that there are about 37,000 full-time students across these institutions, over one-third of Connecticut's independent colleges and universities' full-time student population provided some form of volunteer service. This means that each volunteer served about 4 people, and provided an average of 7 ½ hours of service with a total market value of over $750,000 (based on an hourly rate of $7.50). This represents the equivalent of forty-eight full-time employees, or about three extra full-time service providers per institution.

The volunteer services provided by the students of Connecticut's independent colleges and universities represent more than 100 different outreach programs coordinated through a wide array of academic, administrative, and campus organizations. While volunteer programs are diverse and cut across all areas of contribution, a majority of these services promote and contribute to cultural and social diversity, and are designed to aid economically and socially disadvantaged persons and communities.

A large number of such activities occur in part because most of the colleges require campus organizations and clubs to commit to at least one such activity as a condition of their charter. In other cases, voluntary services are an ongoing and integral part of campus life or the curriculum, possibly involving fewer numbers of students but contributing many hours of service over an extended period. For example, at one university, students volunteer one hour a week over the course of the year at a soup kitchen in the local community.

While many students, staff, and faculty volunteer independent of any campus public

service efforts, numerous activities occur through purposeful outreach on the part of colleges. A sampling of outreach programs at some of the colleges includes:

- Homesteading subsidies paid by the institution to employees who purchase homes in the local municipality, with increased help for purchases in blighted neighborhoods

- Institutional directives to departments to purchase goods and services from local suppliers

- Collaborative partnerships with other non-profit institutions to implement comprehensive strategies to revitalize city neighborhoods

- Free dental care clinics in local schools and nursing homes

- Student volunteers for local projects and community efforts, including homeless shelters, Habitat for Humanity home building, fund raising for charities, Big Brothers and Big Sisters, annual food and clothing drives for the needy

- Health education, screenings, and counseling for local school children and adolescents

- Early childhood development programs that provide day care services for local communities

- Free tuition for members of local fire departments and half-tuition for teachers in local schools

- Tuition reductions for local high school graduates

- Faculty research and service to the community, memberships on boards, committees, and advisory groups for area agencies and institutions

- Symposiums, seminars, and lectures in the community

- Cultural, athletic, artistic, and entertainment activities on local communities

- Interns in medical technology work in clinical laboratories at area hospitals and medical centers

- Communications interns work for non-profit organizations

- Training programs provided for vocational facilities serving mentally challenged citizens

- Instruction of persons employed as companions of isolated or frail older adults

- Nursing students cooperate with local hospitals for substance-abuse prevention

K-12 School Contributions Understanding that it does indeed "take a village to raise a child,"

during fiscal 1996 Connecticut's independent colleges and universities were involved in multiple programs and partnerships with K-12 public schools and districts in their communities. These partnerships range from providing agreements for college students to intern at the local schools to full-blown collaborations in designing, opening and running charter and magnet schools. In fiscal 1996, over forty such formal K-12 partnerships existed. These partnerships strive not only to provide critical resources and expertise to some of the State's neediest schools, but also work to build a bridge between K-12 and postsecondary education -- in many cases creating an awareness of the educational possibilities open to students after high school.

- Magnet school programs on college campuses

- Summer computer camps for area elementary, middle, and secondary schools

- Students serve as teaching interns in schools

- Summer program in local public school for learning disabled elementary students

- Career Beginnings - consortial arrangements which brings public school students to campuses for summer session to strengthen academic preparation for college

- College participation in school reform efforts

- Math and science institute for students from disadvantaged backgrounds

- Bilingual/English as a Second Language training and technical assistance to educators and members of the community

While this study's analysis is built largely on a "snapshot" of activities during the 1995-96 academic year, Connecticut's independent colleges and universities have a long-standing history of community services that in many cases coincide with the establishment of the institutions themselves and represent a tradition of service as part and parcel with the mission of Connecticut independent higher education.

In comparison with other economic contributions made by Connecticut's independent colleges and universities, the dollar valuation of outreach services these institutions provide may seem comparatively small. However, at a more fundamental level, this particular form of contribution is among the most significant. It is through these services that the colleges come into the everyday lives of local residents, contributing to community culture and identity, and strengthening local quality of life in ways that are not readily quantifiable. The range of business support programs and services provided by these institutions create a strong foundation for and facilitate the establishment of closer working relationships between Connecticut's independent colleges and universities, state government, and public and private businesses and industries with respect to economic development projects and programs for the 21st century. In the decade ahead, the depth and breath of these partnerships and services is destined to expand -- meeting the mutual needs and objectives of students, institutions and communities alike.

The Impact of Independent Higher Education on Connecticut's Economy

Connecticut's independent colleges and universities represent one of the state's largest sources of employment and payroll. In 1994, for example, Connecticut's independent colleges and universities ranked sixth among private sector employers based on aggregate payroll.

Table 3:
Ranking of Connecticut's Largest Private Sector Employers
By Detailed Industry Group: Ranked by Payroll

Industry Name	*Number of* Establishments	*Aggregate Payroll* (millions)
Hospitals / Nursing Care Facilities	404	$2,937
Insurance	519	$2,821
Aircraft	117	$1,907
Offices of Physicians and Clinics	3056	$1,284
Restaurant	5009	$694
Independent Colleges and Universities	17	$668
Computer Software	1205	$591
Grocery Stores	1488	$565
Ship Building, Repair	9	$531
Commercial Banks	680	$519
Communication Services	157	$494
Motor Vehicle Dealers	367	$412
Trucking Services	911	$403
Temp Agencies	254	$382
Home Health Care	637	$326
Department Stores	130	$244
Savings Institutions	178	$213
Building Maintenance	796	$140

Source: County Business Patterns, IPEDS Staffing

While higher education has invested aggressively in the deployment of educational technology, it remains a highly labor intensive industry. Although the largest share of employment at independent colleges is accounted for by faculty, independent colleges rely on a full cross section of skills and occupations to meet their operational needs.

Labor's role at independent colleges and universities is reflected not only in the number of jobs the sector provides, but in the quality of its employment as well. Virtually all of the elements that constitute a "good job" including: a livable wage, job security, opportunities for advancement and professional development, job benefits such as health care and preparation for retirement, an enriching and challenging work culture and occupational safety, are prevalent in the independent sector. In fiscal 1996, the median annual wage of all full-time positions at Connecticut's independent colleges and universities was above $38,000. The independent sector

also provides substantial benefits including more than $150 million in health, tuition remission and retirement.

As with any industry, Connecticut's independent colleges and universities generate economic growth through the day-to-day business transactions necessary to bring their services to market. Without the state's public utilities, the colleges would be without electricity, phone service or gas; without construction companies, their physical plants would deteriorate; and, without accounting firms there would be no audited financial records. In turn, each of these transactions generate demand for other goods and services that ultimately engage every sector of the state's economy. Considering the Connecticut economy as a whole, or relative to the benefits that accrue through higher levels of individual educational attainment, or through community and business services, these inter-industry effects represent an ancillary aspect of the independent sector's contribution. Their influence on industry output, however, encompasses a sphere of economic activities that contribute to the state's overall wealth and economic growth.

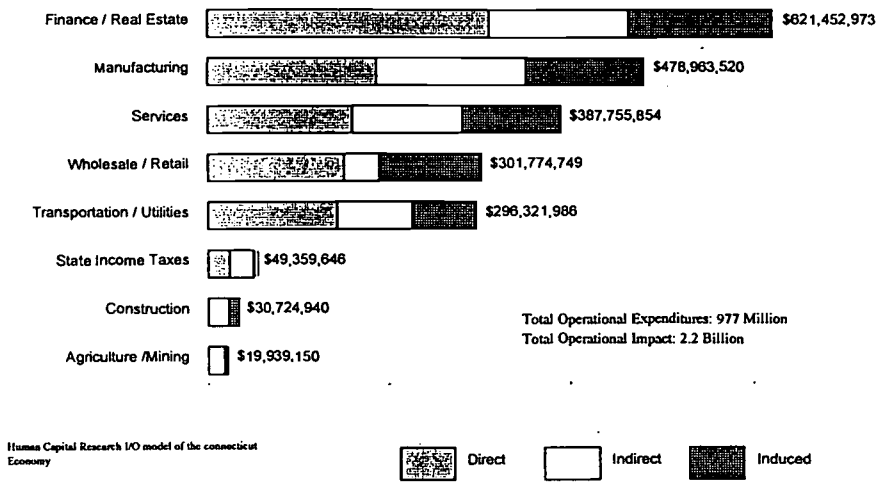
To understand better the economic linkages between the state's independent colleges and universities and the state's economy, a Connecticut input-output model was employed to estimate the total level of output and employment directly and indirectly associated with institutional expenditures. These estimates take into account the direct expenditures of the colleges and their students as well as a series of subsequent transactions (known as indirect and induced effects) that are integral to meeting this demand. These estimates reflect all educationally related expenditures, including direct operational expenditures, construction activity, independent operations, student expenditures and related tourism and other activities.

> The economic effects of institutions' business transactions for operational and capital needs, and transactions by staff, students, and visitors to the campuses are felt in three ways:
>
> Direct Effects -- Expenditures made directly for a good or service (such as purchasing electricity for campus buildings);
>
> Indirect Effects -- Economic activity associated with providing the good or service (such as the production of machinery used to produce electricity);
>
> Induced Effects -- The spending of compensation earned by employees of the businesses that provided the good or service (such as an employee of the utility company who purchases clothes for his/her family).

Operational Expenditures

In 1996, Connecticut independent college and universities spent more than $977 million in the direct delivery of educational services in Connecticut. These expenditures included almost $448 million for the direct purchase of such goods and services as computer software, books, utilities and professional services as well as compensation paid to the 17,864 full- and part-time college and university employees.

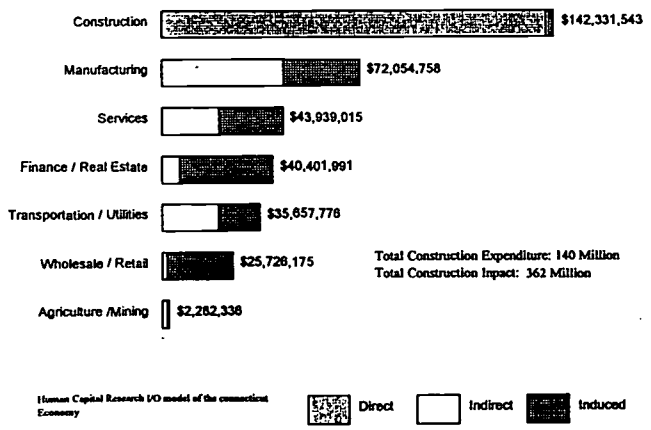
Figure 17: Connecticut Independent Colleges Operation Expenditures and Total Industry Impact



Construction Expenditures

In addition to direct expenditures from current operating income, Connecticut's independent colleges and universities make substantial annual capital investments in the maintenance and expansion of their physical plants, including classrooms, libraries, residence halls, sporting venues, research facilities and campus roads and grounds. Although the capital investment cycle of individual institutions varies (depending on condition of existing facilities, their capacity needs and economic resources), Connecticut's independent institutions have made significant construction expenditures totaling nearly $140 million during the 1996 fiscal year and more than $470 million since 1991.

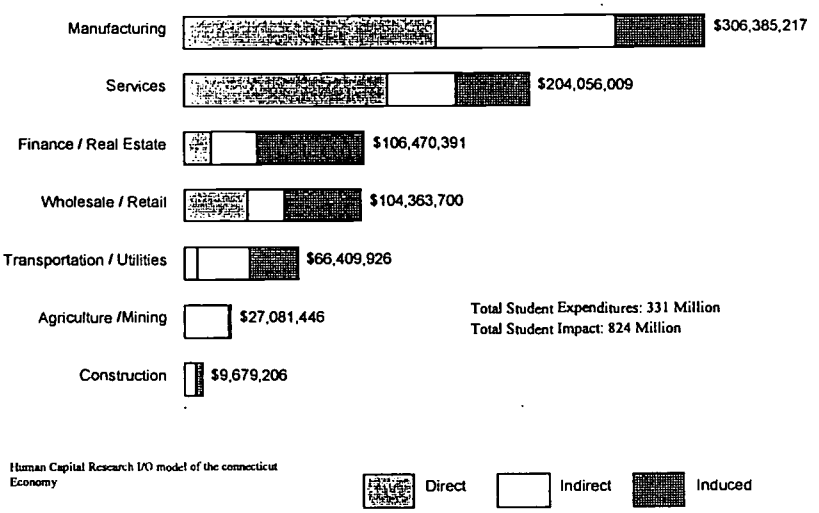
Figure 18: Connecticut Independent College's Construction Expenditure and Total Industry Impact



Student Living and Miscellaneous Expenditures

The economic activity of Connecticut's independent colleges and universities includes not only the direct delivery of services by institutions but a series of student and family expenditures that are an integral part of college participation. For most families, student living expenditures represent the largest educational expense after tuition. While living expenditures vary between students, surveys from several sources show a level of expenditure for student living that, on average, conform closely with what the colleges themselves set as an expense budget for determining financial need. Based on the attendance budgets, student living and miscellaneous expenses normally range from about $5,000 to $7,000 per student. In fiscal 1996, students attending Connecticut independent colleges and universities spent about $330 million on educationally related purchases including room and board, transportation, personal services, computers, books and supplies--in addition to campus operated dormitories and food services which are included under campus operations.

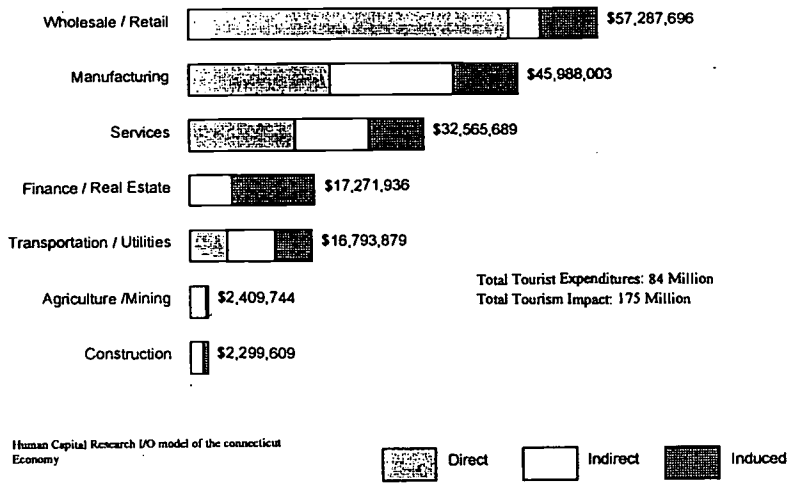
Figure 19: Connecticut Independent College's Direct Student Expenditures and Total Industry Impact



Tourism and Related Activity Expenditures

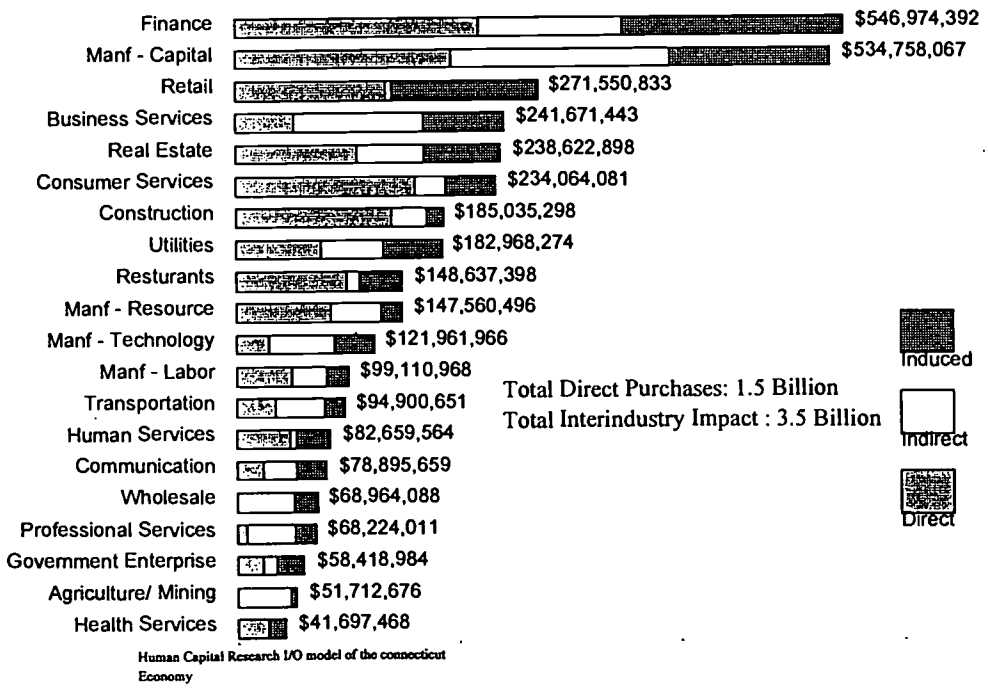
As an indirect part of the college's missions of instruction, research and service, Connecticut institutions induce considerable levels of tourism activity. Families of both prospective and enrolled students visit these institutions, alumni return to their alma mater, the colleges celebrate their commencements, visiting scholars come to the colleges and communities come to participate in campus activities that range from concerts to conferences to planning retreats and summer camps. Based on an institutional survey of the 17 member institutions, Connecticut independent colleges and universities collectively generated more than 1.1 million person visitor days in fiscal 1996, representing more than $84 million in direct additional travel and tourism related expenditures.

Figure 20: Connecticut Independent College's Direct Tourist Expenditures and Total Impact by Industry



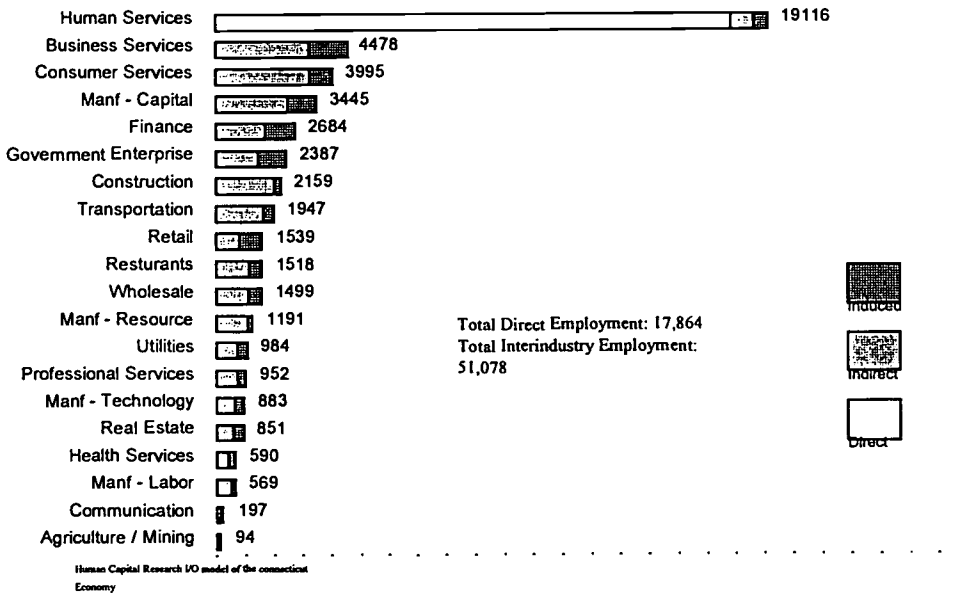
In total, the educational and related expenditures made by Connecticut's independent institutions, students and visitors represent nearly $1.5 billion of in-state direct purchases. After taking into account the sequence of indirect purchases necessary to meet this demand and its resultant increases in employee compensation, an additional $2 billion of in-state economic output, or more than $3.5 billion of total in-state activity can be traced back to Connecticut's independent sector.

Figure 21: Connecticut Independent College's Total Direct Purchases and Total Economic Impact by Industry



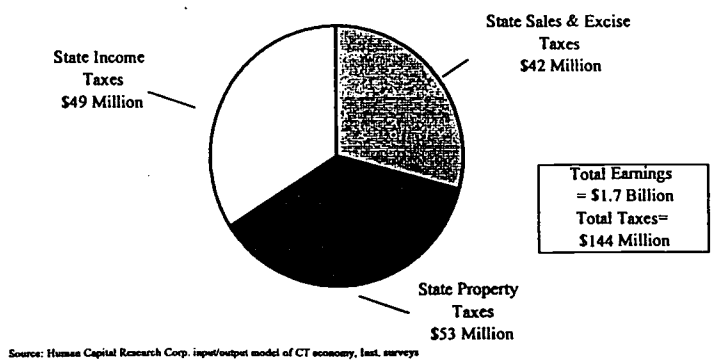
The aggregate impact of Connecticut's independent institutions on the state economy generated more than 51,000 jobs including nearly 18,000 in the higher education sector. In 1996, this level of employment represented 3.4 percent of the state's private non-agricultural work force, or one out of every 30 people employed in the state.

Figure 22: Direct, Indirect, Induced and Total Employment Generated by Education Activity by Industry



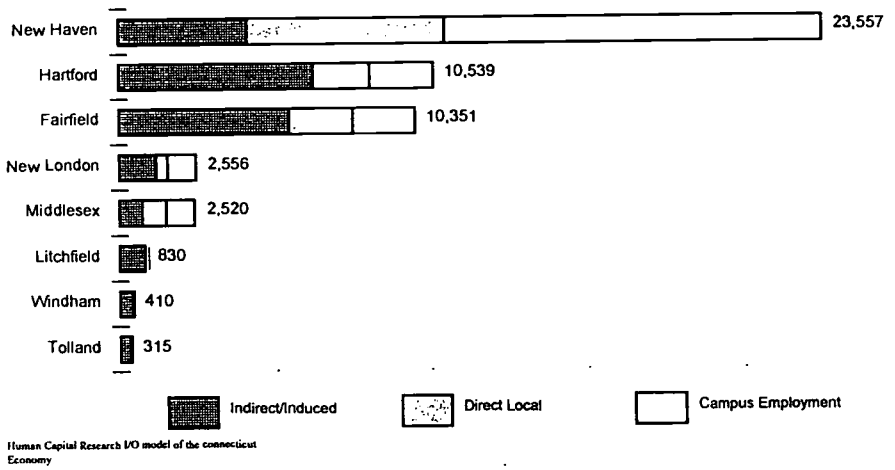
Collectively, the 51,078 total jobs that result from economic activity created by independent higher education provide $1.7 billion in employee earnings and result in $144 million of annual tax revenues to state and local government in Connecticut.

Figure 23: Taxes Paid from Employment Generated by Independent Higher Education



Naturally, as with any economic activity, the effects of this enterprise are felt differentially from one part of the state to the next, depending on whether a given community is a "host" to a college or if a particular industry or company has strong linkages directly or indirectly with the state's independent colleges. While the economic effects of Connecticut's independent colleges and universities vary from one region of the state to the next, all eight of Connecticut's counties benefit from the sector's activities in terms of employment and output whether they are a host community to an independent college or not.

Figure 24: Estimated County Employment (Direct and Indirect) Related Education Activity



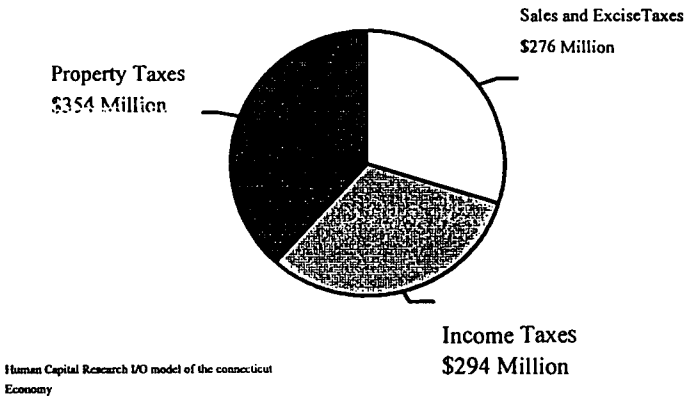
The Alumni of Connecticut's Independent Colleges and Universities

While the production of academic degrees represents a primary output of Connecticut's independent colleges and universities, it is ultimately through the lifelong work, civic participation and continued professional and personal development of alumni that these institutions makes their greatest contribution to the state. As of 1995, the seventeen independent colleges and universities in this study had nearly 150,000 alumni who have remained as lifelong residents of Connecticut.

The independent sector's alumni constitute a vital part of the state's economy. In 1995, the sector's alumni generated an annual payroll of $8.5 billion and nearly $924 million in tax revenue to state and local government.

From a taxpayer's perspective, the contribution of Connecticut's alumni represent an enormous economic return on investment. Since 1990, Connecticut has invested approximately $85 million to provide financial aid awards to needy state students. In return, the state and local government has seen an estimated $5.4 billion in tax revenue.

Figure 25: Estimated Annual Tax Contribution of Connecticut Independent College and University Alumni to State and Local Government: 1996



Toward a Strategy that Better Utilizes Higher Education for Economic and Community Development

Through a comprehensive and well coordinated human capital investment strategy, Connecticut can accelerate its lagging growth in employment, increase average earnings, and begin to reverse the rising trend in economic disparity. This vision would reaffirm the state's high quality of life and enhance its capacity to meet the economic challenges of the next century. To fulfill this vision, Connecticut faces two fundamental challenges: one of engagement (that is, ensuring that less educated and less paid workers and new entrants to the labor force have sufficient understanding of the importance of skill development and of the opportunity to participate in college); and, one of investment (to ensure that all of the resources necessary to meet the education and training needs of the state are available and delivered as effectively as possible).

Toward this end, the following policy initiatives are intended (1) to help strengthen Connecticut's system of higher education to meet future workforce needs, and (2) to help maintain the standard and quality of life in the state.

Recommendations

1. Create an interdepartmental strategic plan for utilizing higher education as an integral part of state economic development efforts.

A. The plan should be created at the direction of the Governor, and developed jointly by representatives of independent and public colleges/universities and state business and industry organizations, working in collaboration with the state Departments of Economic and Community Development, Labor, and Higher Education, and the Connecticut Economic Resource Center.

B. The plan should fully utilize independent higher education as a public resource in helping to meet Connecticut's economic development goals, and as a way of maximizing state efforts toward economic competitiveness at the lowest possible cost to taxpayers.

2. Establish a higher education/business roundtable to identify possible areas of economic development partnership between colleges/universities and business/industry. The roundtable should be convened periodically at the direction of the Governor, and involve business and higher education leaders at senior executive levels.

3. Use existing programs to increase state investment in higher education, and create new programs as investment vehicles, to meet future workforce needs and improve collaboration between colleges/universities and business/industry.

A. Fully fund existing programs of need-based student aid for Connecticut residents attending Connecticut colleges and universities.

B. Fund Charles Goodyear Grants under the Yankee Ingenuity Initiative of Connecticut Innovations Inc. to encourage better linkages between specific institutions of higher education and businesses.

C. Create a state grant program, to be matched by privately raised funds, to assist in upgrading facilities, equipment, and technology at independent colleges and universities. These grants would leverage public and private dollars to help institutions renew aging campuses and to encourage the development of a technology infrastructure across the state's higher education system (to improve the delivery of educational services at the lowest possible cost to taxpayers).

4. Initiate new state programs utilizing higher education in the effort to reduce high school dropout rates, for the purpose of helping meet future workforce needs.

A. Create a College Early Awareness Campaign to initiate and coordinate efforts to reduce high school dropout rates, and increase the number of Connecticut students going to college in-state. This campaign should be directed by a council of representatives from the institutions and the

Departments of Education and Higher Education.

B. Establish a College Mentors Foundation to raise private funds that will be matched by state funds for the purpose of establishing a mentoring program to connect college students with urban youth. This program should work in conjunction with the College Early Awareness Campaign.

C. Create a program of college access grants to provide supplemental funds of up to $2,500 each to students receiving aid under the Connecticut Independent College Student (CICS) and Aid to Public College Student (CAPCS) Grant Programs. Eligible students would be residents of the most impoverished cities and towns and would meet certain need criteria.

5. Better utilize higher education resources to achieve community development goals.

A. Establish a Higher Education/Communities Partnership Program to build upon current efforts of colleges and universities that assist their local cities and towns (such as neighborhood development, homesteading for college employees to live in host communities, and expanded programs linking colleges with local K-12 schools).

B. Maintain full funding at statutory levels for the PILOT Programs for independent college/university property and for public college/university property in recognition of the fact that these institutions provide statewide services and enroll students from across Connecticut.

Appendices: Research Methodology

Appendix A: Construction and Use of The Connecticut Input-Output Table

To estimate the impact of Connecticut Independent College expenditures on the state's economy and for understanding the linkages or dollar flows between that activity and its supplying sectors, a Connecticut Input-Output table was developed.

The Connecticut Input-Output table is built from an updated 96 sector 1987 benchmark USIO table. The table has been updated for 1996 prices and unemployment based on various national and local sources. The table has been "regionalized" to estimate economic acticity within Connecticut using the standard Location Quotient (LQ) update method where individual values from the 10 technical coefficient or "A" matrix are proportionately adjsuted based on Connecticut employment LQ's derived from 1993 US County Business Patterns. For example, and input coefficient of .22 would have a value of .11 if the Connecticut LQ for that industry had a value of .5. Technical coefficients in industries with LQ values of greater than 1.0 are left unchanged.

In considering the impact or multiplier effects under this technique it is important to recognize that this, like all non-survey or partial survey-based IO tables, is only an estimate of actual economic activity. Because of individual supplier arrangements between individual business establishments and unique consumer preferences, it is impossible to estimate precisely the extent to which all transactions actually occurred within state boundaries. Application of the LQ method generally yields conservative estimates of indirect and induced economic activity. For this analysis, the resultant income multiplier for independent higher education is estimated at 2.3. The corresponding employment multipliers are derived from employment output ratios from various sources including the 1992 economic census.

In general, IO analysis distinguishes between three kinds of effects:

Direct effects: which include the expenditure for the activity itself (for example the purchasing of textbooks by students and supplies by the institutions);

Indirect effects: which concern the economic activities associated with meeting the direct demand (for example, the manufacture of paper used for college text books); and

Induced effects: which concern the final round of economic activities that result from the disposition of employee compensation resulting from meeting the direct and indirect demand (for example, the purchase of goods and services by the factory worker who helped print the textbook in the above example).

To estimate inter-industry effects from Connecticut Independent College activity, the analysis adopted the approach of converting educationally related expenditures into a vector of final demand based on the industrial composition of those purchases. This conversion was achieved though a survey that was administered to the budget officers of each member institution requesting that they break down all purchases in terms that could be coded to conform with the

standard industrial classification structure. Because virtually all colleges and universities in the United States maintain budgetary information in a format that is not consistent with this classification scheme, Human Capital Research Corporation recognizes that the staff of the Connecticut institutions went to considerable lengths to provide these estimates -- for which we are extremely grateful.

As colleges and universities continue to adapt to new technologies, new methods of delivery, and the changing needs of the market, the organization and delivery of higher education services remain in an ongoing state of change. Therefore, while this study focuses on the sector's contribution in 1996, it is important to recognize that this is a snapshot that is destined to change.

Input Output Master Bridge Table

Order	Group	Industry Group	Industry	US Benchmark Industry Code	SIC	EMPRatio	AvgPay
1	1	Agriculture	Livestock,livestock products	1	0100	$581,779	$21,549
2	1	Agriculture	Other agricultural products	2	0100	$581,779	$21,549
3	1	Agriculture	Forestry and fishery products	3	0800	$581,779	$21,684
4	1	Agriculture	Agricultural, forestry, fishery services	4	0700	$581,779	$21,684
5	2	Mining	Metallic mining	5+6	1000	$203,499	$21,684
6	2	Mining	Coal mining	7	1200	$201,727	$45,747
7	2	Mining	Petroleum and natural gas	8	1300	$414,489	$45,747
8	2	Mining	Nonmetallic minerals mining	9+10	1400	$128,299	$45,747
9	3	Construction	New and Maintenance Construiction	11+12	1700	$82,407	$40,797
10	7	Manf - Technology	Ordnance and accessories	13	3600	$103,157	$50,232
11	4	Manf - Resource	Food and kindred products*	14	2000	$257,000	$41,132
12	4	Manf - Resource	Tobacco products	15	2100	$581,779	$0
13	5	Manf - Labor	Broad,narrow fabrics,yarn,thread mills*	16	2200	$164,917	$25,734
14	5	Manf - Labor	Misc. textile goods and floor coverings*	17	2200	$164,917	$25,734
15	5	Manf - Labor	Apparel	18	2200	$106,897	$22,979
16	5	Manf - Labor	Misc. fabricated textile products*	19	2300	$68,479	$31,075
17	4	Manf - Resource	Lumber and wood products	20+21	2400	$96,818	$32,309
18	5	Manf - Labor	Furniture and fixtures	22+23	2500	$121,444	$31,202
19	6	Manf - Capital	Paper,allied products, except containers	24	2600	$227,028	$53,612
20	6	Manf - Capital	Paperboard containers and boxes	25	2600	$245,106	$53,612
21	6	Manf - Capital	Newspapers and periodicals	26A	2700	$106,323	$35,048
22	6	Manf - Capital	Other printing and publishing	26B	2700	$106,323	$35,048
23	4	Manf - Resource	Industrial and other chemicals	27A	2800	$242,654	$63,180
24	4	Manf - Resource	Agricultural fertilizers and chemicals	27B	2800	$242,654	$63,180
25	7	Manf - Technology	Plastics and synthetic materials	28	2800	$242,654	$63,180
26	7	Manf - Technology	Drugs	29A	2800	$242,654	$63,180
27	7	Manf - Technology	Cleaning and toilet preparations	29B	2800	$242,654	$63,180
28	7	Manf - Technology	Paints and allied products	30	2800	$242,654	$63,180
29	6	Manf - Capital	Petroleum refining and related products*	31	2900	$245,429	$75,573
30	6	Manf - Capital	Rubber and misc. plastics products	32	3000	$115,618	$35,464
31	5	Manf - Labor	Footwear, leather, and leather products	33+34	3100	$129,500	$17,798
32	4	Manf - Resource	Glass and glass products	35	3200	$139,724	$35,516
33	4	Manf - Resource	Stone and clay products	36	3200	$139,724	$35,516
34	6	Manf - Capital	Primary iron and steel manufacturing	37	3300	$172,058	$50,232
35	6	Manf - Capital	Primary nonferrous metals manufacturing	38	3300	$172,058	$39,636
36	6	Manf - Capital	Metal containers	39	3400	$110,029	$35,880
37	6	Manf - Capital	Heating, plumbing,fabricated metal products	40	3400	$110,029	$35,880
38	6	Manf - Capital	Screw machine products and stampings	41	3400	$110,029	$35,880
39	6	Manf - Capital	Other fabricated metal products	42	3400	$110,029	$35,880
40	7	Manf - Technology	Engines and turbines	43	3500	$120,900	$44,356
41	6	Manf - Capital	Farm, construction, and mining machinery	44+45	3500	$116,512	$44,356
42	6	Manf - Capital	Materials handling machinery and equipment	46	3500	$116,512	$44,356
43	6	Manf - Capital	Metalworking machinery and equipment	47	3500	$116,512	$44,356
44	6	Manf - Capital	Special industry machinery and equipment	48	3500	$116,512	$44,356
45	6	Manf - Capital	General industrial machinery and equipment	49	3500	$116,512	$44,356
46	6	Manf - Capital	Miscellaneous machinery, except electrical	50	3500	$116,512	$44,356
47	7	Manf - Technology	Computer and office equipment	51	3500	$116,512	$44,356
48	6	Manf - Capital	Service industry machinery	52	3500	$116,512	$44,356
49	6	Manf - Capital	Electrical industrial equipment	53	3600	$115,059	$50,232
50	7	Manf - Technology	Household appliances	54	3600	$115,059	$50,232
51	5	Manf - Labor	Electric lighting and wiring equipment	55	3600	$115,059	$50,232
52	7	Manf - Technology	Audio, video, and communication equipment	56	3600	$115,059	$50,232
53	7	Manf - Technology	Electronic components and accessories	57	3600	$115,059	$50,232
54	6	Manf - Capital	Misc. electrical machinery and supplies	58	3600	$115,059	$50,232
55	6	Manf - Capital	Motor vehicles (passenger cars and trucks)	59A	3700	$140,943	$49,088
56	6	Manf - Capital	Truck and bus, trailers, vehicles parts	59B	3700	$140,943	$49,088
57	7	Manf - Technology	Aircraft and parts	60	3700	$140,943	$49,088
58	6	Manf - Capital	Other transportation equipment	61	3700	$140,943	$49,088
59	7	Manf - Technology	Scientific and controlling instruments	62	3800	$165,909	$49,036
60	7	Manf - Technology	Ophthalmic and photographic equipment	63	3800	$165,909	$49,036
61	5	Manf - Labor	Miscellaneous manufacturing	64	3900	$136,121	$36,764
62	8	Transportation	Railroads; passenger ground transportation	65A	4100	$35,072	$18,924
63	8	Transportation	Freight transportation and warehousing	65B	4200	$98,736	$31,663
64	8	Transportation	Water transportation*	65C	4400	$427,559	$40,942
65	8	Transportation	Air transportation	65D	4500	$116,172	$30,740
66	8	Transportation	Pipelines, freight forwarders, and related	65E	4600	$72,296	$49,297
67	10	Communication	Communications, except radio and TV	66	4800	$166,984	$53,196
68	10	Communication	Radio and TV broadcasting	67	4800	$166,984	$53,196
69	9	Utilities	Electric services (utilities)	68A	4900	$384,497	$47,218
70	9	Utilities	Gas production and distribution (utilities)	68B	4900	$384,497	$47,218
71	9	Utilities	Water and sanitary services	68C	4900	$384,497	$47,218
72	15	Wholesale	Wholesale trade	69A	5000	$745,492	$47,840
73	14	Retail	Retail trade	69B	5200	$137,277	$21,060
74	11	Finance	Finance	70A	6000	$426,325	$123,448
75	11	Finance	Insurance	70B	6300	$233,873	$44,979
76	12	Real Estate	Owner- occupied dwellings	71A		$94,118	$0
77	12	Real Estate	Real estate and royalties	71B	6500	$169,685	$32,604

78	16	Consumer Services	Hotels and lodging places	72A	7000	$44,240	$16,380
79	17	Business Services	Personal and repair services (except auto)	72B	7200	$60,506	$14,674
80	17	Business Services	Computer and data processing services	73A	7300	$37,659	$26,007
81	18	Professional Services	Legal, engineering, accounting, and related	73B	8100	$111,444	$45,032
82	17	Business Services	Other business and professional services	73C	7300	$112,386	$32,000
83	17	Business Services	Advertising	73D	7300	$70,738	$45,032
84	13	Resturants	Eating and drinking places	74	5800	$33,650	$10,920
85	16	Consumer Services	Automotive repair and services	75	7500	$93,839	$24,596
86	16	Consumer Services	Amusements	76	7800	$68,877	$19,186
87	19	Health Services	Health services	77A	8000	$67,919	$33,800
88	20	Human Services	Educational and social services, member.org.	77B	8600	$63,458	$22,620
89	21	Government Enterprise	Federal Government enterprises	78	4300	$23,531	$40,300
90	21	Government Enterprise	State and local government enterprises	79		$23,531	$38,400

Source: US Department of Commerce, County Business Patterns 1993; 1992 Economic Census; Bureau of Economic Analysis 1987 US Benchmark I/O Table

Expenditure Ratios

Source: Bureau of Labor Statistics Consumer Expenditure Data

Expenditure	Student Ratio	General Ratio	US Benchmark Industry Group
Alcoholic beverages	1.89%	0.90%	14
Food at home	7.92%	8.81%	14
Tobacco products and smoking sup	1.17%	0.84%	15
Floor coverings	0.05%	0.39%	17
Apparel and services	7.00%	5.34%	18
Household textiles	0.19%	0.32%	19
Furniture	1.36%	1.03%	22+23
Reading	0.43%	0.54%	26b
Other household products	0.33%	0.57%	29B
Laundry and cleaning supplies	0.33%	0.35%	29B
Gasoline and motor oil	3.72%	3.20%	31
Small appliances, misc. housewar	0.25%	0.26%	54
Miscellaneous household equipme	1.47%	1.89%	54
Major appliances	0.41%	0.48%	54
Vehicle purchases (net outlay)	11.12%	8.85%	59A
Public transportation	0.85%	1.24%	65A
Telephone	2.78%	2.24%	66
Electricity	2.15%	2.80%	68A
Natural gas	0.61%	0.92%	68B
Fuel oil and other fuels	0.10%	0.32%	68B
Water and other public services	0.30%	0.84%	68C
Personal insurance and pensions	6.53%	9.55%	70B
Owned dwellings	2.10%	11.35%	71A
Other lodging	1.00%	1.28%	71B
Rented dwellings	15.11%	5.85%	71B
Household operations	0.87%	1.59%	72B
Miscellaneous	1.98%	2.43%	72B
Personal care products and service	1.38%	1.29%	72b
Food away from home	7.08%	5.52%	74
Other vehicle expenses	5.97%	6.35%	75
Entertainment	5.38%	5.09%	76
Health care	2.15%	5.70%	77A
Education	5.02%	1.49%	77B
Postage and stationery	0.33%	0.36%	78

Visitor Expenditures

EXP per visitor day		*$163*	*$37*	*$78*
By Industry Group	**US Benchmark Industry Code**	**Parent Visits**	**Sport Visits**	**Other Visits**
Clothing	18	18%	8%	9%
Furniture	22+23	6%	2%	8%
Gasoline	31	6%	8%	5%
Transportation	65A	2%	0%	7%
Retail	69B	18%	16%	16%
Lodging	72A	14%	16%	10%
Personal Services	72B	2%	2%	1%
Food & Drink	74	29%	39%	39%
Auto Repair	75	4%	4%	3%
Amusements	76	1%	1%	1%
Government	79	1%	3%	1%

Appendix B: Source Data

Connecticut Employment Forecast

Source: Office of Research, Connectict Department of Labor
February 1997

Occupation	1994 Employment	2005 Employment	Growth Rate (%)	Annual Job Openings
Total, All Occupations	1,650,580	1,829,190	10.8%	52,562
Managers & Administrators	126,570	142,780	12.8%	4,182
Management Support Workers	63,440	71,360	12.4%	1,925
Social Scientists	23,640	29,060	23.0%	980
Writers,	22,030	25,460	15.5%	735
Teachers,Librarians, & Counselors	94,030	104,530	11.1%	2,883
Lawyers & Related Workers	14,300	16,410	14.7%	374
Natural Scientists & Related Workers	6,840	8,060		307
Engineers Architects & Related Workers	26,100	31,680		1,434
Computer & Math Specialists	29,830	37,610	26.1%	1,287
Technicians	17,650	18,450		439
Health Diagnosticians	16,660	19,740	18.5%	597
Health Technicians	21,450	27,130		895
Supervisors, Administrative Support	22,280	26,140	17.3%	913
Administrative Support	268,470	264,350		4,823
Fire Fighters, Police Officers & Guards	31,100	38,080	22.4%	1,543
Service	228,940	268,800		9,209
Supervisors, Marketing & Sales	32,420	36,730	13.3%	975
Sales	181,300	205,400		7,468
Construction Trades & Extractive Workers	40,840	44,620	9.2%	1,186
Mechanic / repairers	87,570	93,990		2,622
Precision Production Workers	28,690	29,130	1.5%	559
Machine Setters, Set-Up Operators/Tend,Ass	97,330	98,850	1.6%	2,285
Farm Operators & Managers	15,160	17,540	12.3%	465
Military				
Other				
Transp & Material Moving Machine Operators	55,980	61,490	9.9%	1,482
Helpers, Laborers& Material Moving, Hand	40,500	43,580	7.6%	1,410
Health Assessment & Treatment Workers	48,330	58,060	20.1%	1,684

Connecticut's Change in Employment and Wages By Industry

Source: Department of Commerce 1987, 1993 County Business Patterns

	Employ Share	Emp Change	Avg Wage	Change in Wage '86
All	100.0%	-2.0%	$31,751	6.0%
Construction	3.5%	-28.4%	$39,631	8.1%
Manufacturing	21.1%	-29.0%	$41,318	14.5%
Paper	1.8%	-7.3%	$31,076	4.7%
Fabricated	2.5%	-19.2%	$34,607	15.3%
Machinery	2.5%	-31.2%	$38,158	9.6%
Elelctrionc	1.6%	-50.7%	$33,150	4.4%
Transportat	3.9%	-35.6%	$45,233	4.6%
Instructions	1.4%	-19.0%	$37,976	25.1%
TPCU	5.1%	1.3%	$36,411	-3.6%
Interurb	0.8%	23.9%	$18,924	11.3%
Trucking	1.0%	3.6%	$31,663	-0.9%
Commun	1.3%	-9.6%	$43,433	-3.4%
Utils	1.1%	19.5%	$47,218	-1.4%
Wholsale	6.2%	2.8%	$42,045	13.3%
Retail	18.8%	0.1%	$16,442	2.0%
Eating	5.4%	5.6%	$10,096	-1.0%
FIRE	10.3%	2.0%	$43,502	22.4%
Banking	2.1%	-1.4%	$29,910	8.5%
Insurance	4.8%	5.9%	$44,797	21.8%
Hotels	0.8%	-1.8%	$14,521	-1.5%
Pers Svc	1.3%	4.3%	$14,674	-0.5%
Bus Svc	6.0%	8.1%	$26,007	7.7%
Auto Rpr	0.9%	21.6%	$22,988	6.7%
Health	12.1%	44.3%	$31,184	19.5%
Law	1.1%	34.1%	$40,385	11.8%
Ed	3.1%	15.1%	$24,442	12.4%
Social Svc	2.5%	93.1%	$16,169	9.8%
Membrshp	1.7%	8.1%	$18,023	34.2%
Engr/Mgt	2.8%	88.0%	$41,261	10.0%

1990 Connecticut Educational Attainment Rates by Occupation
Source: 1990 Census PUMS

	High School or Less	Some College College	AS Degree	AA Degree	BA Degree	MA Degree	Professional Degree	PhD
Managers & Administrators	22.3%	19.1%	3.1%	4.6%	31.6%	15.8%	1.7%	1.8%
Management Support Workers	16.1%	19.0%	3.2%	5.5%	41.7%	13.0%	1.2%	0.4%
Social Scientists	8.6%	11.4%	1.7%	2.7%	32.6%	33.5%	3.8%	5.7%
Writers,	16.0%	20.4%	3.7%	4.3%	42.2%	11.5%	1.2%	0.9%
Teachers,Librarians, & Counselors	7.5%	8.1%	1.2%	1.9%	24.7%	47.6%	2.8%	6.2%
Lawyers & Related Workers	0.1%	0.7%	0.0%	0.0%	8.5%	3.3%	84.9%	2.5%
Natural Scientists & Related Workers	7.8%	4.1%	1.7%	2.8%	38.2%	21.5%	2.4%	21.6%
Engineers Architects & Related Workers	7.3%	11.4%	5.4%	5.4%	48.0%	19.5%	1.5%	1.6%
Computer & Math Specialists	10.2%	16.7%	3.2%	5.7%	44.8%	17.0%	0.7%	1.6%
Technicians	22.6%	24.7%	7.5%	7.5%	25.7%	8.7%	0.9%	2.2%
Health Diagnosticians	0.6%	0.1%	0.3%	0.0%	5.1%	1.8%	87.0%	5.1%
Health Technicians	21.2%	20.6%	13.5%	7.2%	23.9%	8.8%	3.7%	1.0%
Supervisors, Administrative Support	37.3%	28.9%	2.2%	4.4%	21.6%	5.1%	0.4%	0.1%
Administrative Support	47.9%	28.9%	3.8%	5.2%	11.5%	2.3%	0.4%	0.1%
Fire Fighters, Police Officers & Guards	45.5%	29.8%	3.0%	4.7%	14.1%	2.2%	0.7%	0.0%
Service	64.0%	22.5%	3.2%	2.6%	6.0%	1.3%	0.4%	0.1%
Supervisors, Marketing & Sales	34.3%	23.9%	2.9%	5.6%	26.2%	6.2%	0.7%	0.1%
Sales	38.9%	24.8%	2.3%	3.9%	24.3%	5.0%	0.7%	0.2%
Construction Trades & Extractive Workers	69.5%	18.5%	3.5%	2.0%	5.2%	1.0%	0.3%	0.0%
Mechanic / repairers	66.4%	21.1%	5.2%	2.7%	3.7%	0.5%	0.5%	0.0%
Precision Production Workers	68.4%	18.6%	2.6%	2.7%	5.6%	1.9%	0.1%	0.1%
Machine Setters, Set-Up Operators/Tend,Ass	80.1%	12.5%	1.6%	1.5%	3.3%	0.6%	0.2%	0.1%
Farm Operators & Managers	63.6%	19.1%	4.2%	2.1%	9.6%	1.1%	0.4%	0.0%
Military	35.4%	40.3%	2.7%	3.1%	14.5%	3.5%	0.5%	0.0%
Other	72.9%	12.7%	0.0%	3.3%	7.1%	2.8%	0.0%	1.2%
Transp & Material Moving Machine Operators	74.3%	16.6%	1.7%	1.7%	4.6%	0.9%	0.1%	0.1%
Helpers, Laborers& Material Moving, Hand	75.9%	16.5%	1.7%	1.5%	3.7%	0.4%	0.2%	0.0%
Health Assessment & Treatment Workers	7.2%	13.2%	17.0%	9.6%	35.6%	7.4%	9.6%	0.3%

STATE APPROPRIATIONS, GRANTS AND CONTRACTS, DEGREES CONFERRED AND ENROLLMENT FISCAL YEAR 1992-93

ID	State	--------Number of Degrees Conferred in Fiscal Year 19 AA	BA	Prof	MA	PHd	Total	State Appropriation Grants and Contracts	State Taxpayer Cost Per Degre	Private Hdcount Share of Enrollment	Private FTE Share of Enrollment
AL	Alabama	7,484	20,525	866	5,636	406	34,917	$772,713	$22,130	11%	11.65%
AZ	Arizona	6,928	15,807	436	5,694	690	29,555	$596,087	$20,169	7%	8.91%
AR	Arkansas	2,618	8,449	449	1,836	120	13,472	$404,957	$30,059	12%	13.53%
CA	California	54,688	111,010	9,195	37,046	4,987	216,926	$5,914,065	$27,263	12%	14.03%
CO	Colorado	6,294	18,925	813	6,391	768	33,191	$476,829	$14,366	12%	12.70%
CT	Connecticut ..	5,094	14,931	679	6,590	630	27,924	$348,823	$12,492	35%	37.71%
DE	Delaware	1,313	4,119	550	954	144	7,080	$130,215	$18,392	17%	15.75%
FL	Florida	39,405	43,212	2,322	13,145	1,661	99,745	$1,699,701	$17,040	17%	20.02%
GA	Georgia	8,316	25,390	1,949	7,958	899	44,512	$1,030,941	$23,161	21%	22.79%
ID	Idaho	3,544	3,923	146	1,005	65	8,683	$197,411	$22,735	19%	22.04%
IL	Illinois	27,620	51,482	4,410	22,440	2,601	108,553	$1,386,402	$12,772	24%	27.15%
IN	Indiana.....	9,236	31,453	1,496	6,874	1,107	50,166	$968,430	$19,305	21%	23.11%
IA	Iowa	8,344	17,598	1,534	3,517	683	31,676	$590,852	$18,653	29%	29.61%
KS	Kansas	6,312	14,282	601	3,920	387	25,502	$476,753	$18,695	9%	10.43%
KY	Kentucky	6,546	14,396	985	4,195	328	26,450	$670,197	$25,338	16%	17.65%
LA	Louisiana	2,865	17,825	1,502	4,723	428	27,343	$650,344	$23,785	13%	13.66%
ME	Maine	2,433	5,976	168	917	40	9,534	$174,502	$18,303	30%	30.58%
MD	Maryland	8,425	20,427	1,050	8,006	963	38,871	$728,205	$18,734	15%	15.96%
MA	Massachusett	13,354	42,747	3,677	19,215	2,276	81,269	$547,420	$6,736	57%	59.33%
MI	Michigan	24,231	45,711	2,581	14,944	1,513	88,980	$1,487,865	$16,721	15%	16.29%
MN	Minnesota	9,766	24,762	1,854	5,217	674	42,273	$856,739	$20,267	22%	24.39%
MS	Mississippi	5,575	10,673	466	2,672	303	19,689	$410,776	$20,863	11%	11.03%
MO	Missouri.....	8,023	26,954	2,171	9,303	711	47,162	$587,986	$12,467	33%	33.48%
MT	Montana	801	4,194	68	756	57	5,876	$128,445	$21,859	15%	13.26%
NE	Nebraska	2,494	9,522	806	2,007	238	15,067	$353,186	$23,441	16%	17.80%
NV	Nevada	1,311	3,029	54	845	39	5,278	$192,460	$36,465	1%	1.51%
NH	New Hampshi	3,343	7,524	195	2,267	118	13,447	$77,595	$5,770	45%	44.89%
NJ	New Jersey ..	12,299	25,185	1,679	8,110	965	48,238	$1,058,237	$21,938	19%	20.07%
NM	New Mexico ..	3,007	5,667	178	2,142	243	11,237	$368,785	$32,819	4%	4.95%
NY	New York	53,393	97,104	7,476	42,539	4,045	204,557	$2,616,728	$12,792	43%	44.68%
NC	North Carolin	12,164	31,852	1,709	6,864	980	53,569	$1,524,786	$28,464	18%	20.45%
ND	North Dakota	1,696	4,555	142	649	74	7,116	$151,143	$21,240	9%	9.47%
OH	Ohio	19,881	51,487	3,225	14,613	1,973	91,179	$1,319,208	$14,468	24%	24.55%
OK	Oklahoma	6,304	15,002	928	4,457	416	27,107	$583,977	$21,543	12%	13.68%
OR	Oregon	5,676	13,139	988	3,650	535	23,988	$484,275	$20,188	13%	15.50%
PA	Pennsylvania	20,091	65,073	3,774	17,649	2,267	108,854	$1,064,949	$9,783	43%	42.76%
RI	Rhode Island	4,156	9,341	81	2,070	269	15,917	$117,062	$7,355	45%	50.17%
SC	South Carolin	5,953	15,254	604	4,245	408	26,464	$595,843	$22,515	15%	16.93%
SD	South Dakota	848	4,252	130	913	52	6,195	$97,242	$15,697	19%	18.87%
TN	Tennessee ...	6,801	20,371	1,341	5,016	721	34,250	$741,326	$21,645	21%	23.64%
TX	Texas	24,804	67,598	4,882	20,887	2,546	120,717	$3,118,048	$25,829	11%	13.04%
UT	Utah	4,839	12,901	388	2,868	376	21,372	$363,909	$17,027	27%	30.65%
VT	Vermont	1,264	4,707	96	1,103	53	7,223	$46,439	$6,429	43%	44.78%
VA	Virginia	10,232	30,858	1,811	9,325	998	53,224	$836,957	$15,725	16%	17.87%
WA	Washington ..	16,619	20,829	920	6,745	618	45,731	$976,065	$21,344	13%	14.51%
WV	West Virginia.	2,919	8,606	320	1,916	99	13,860	$294,996	$21,284	12%	12.93%
WI	Wisconsin	9,481	27,709	971	6,340	851	45,352	$888,921	$19,600	17%	17.38%
WY	Wyoming	1,850	1,856	69	342	50	4,167	$123,967	$29,750	3%	3.22%

Source: U.S. Department of Education, Digest of Education Statistics, 1995

Connecticut

State & Local Taxes in 1995

Income Group	Lowest 20%	Second 20%	Middle 20%	Fourth 20%	Top 20%		
					Next 15%	Next 4%	Top 1%
Income Range	Less than $41,000	$41,000 - $57000	$57,000 - $73,000	$73,000 - $99,000	$99,000 - $201,000	$201,000 - $425,000	$425,000 or more
Average Income in Group	$26,800	$50,100	$64,700	$83,700	$130,000	$326,000	$1,705,00
Sales & Excise Taxes	4.9%	3.7%	3.2%	2.5%	1.8%	1.4%	0.8%
General Sales - Individuals	2.7%	1.2%	1.8%	1.5%	1.1%	0.9%	0.6%
Other Sales & Excise-Ind.	0.9%	0.6%	0.5%	0.4%	0.3%	0.1%	0.0%
Sales & Excise on Business	1.3%	1.0%	0.8%	0.7%	0.5%	0.4%	0.3%
Property Taxes	6.0%	4.2%	4.1%	4.0%	3.8%	2.8%	1.6%
Property Taxes on Families	5.8%	4.0%	4.0%	3.8%	3.5%	2.4%	0.8%
Other Property Taxes	0.2%	0.1%	0.1%	0.2%	0.3%	0.5%	0.9%
Income Taxes	0.6%	2.2%	3.4%	3.9%	4.3%	4.2%	4.4%
Personal Income Tax	0.5%	2.1%	3.3%	3.9%	4.2%	4.0%	4.1%
Corporate Income Tax	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.3%
TOTAL TAXES	11.5%	10.0%	10.7%	10.5%	9.9%	8.4%	6.8%
Federal Deduction Offset	-0.3%	-0.5%	-1.1%	-1.6%	-2.1%	-2.4%	-1.9%
TOTAL AFTER OFFSET	11.3%	9.5%	9.5%	8.8%	7.8%	6.1%	4.9%

Appendix C: Survey Instruments

CCIC INSTITUTIONAL SURVEY WORKSHEETS

SECTION 1A. CURRENT FUND EXPENDITURES (FY 1995)

Institution Name _____ Telephone _____

Respondent Name _____ Title _____

Instructions

Use the worksheets on pages 1 through 3 to detail your institution's major current fund expenditures for FY 1995 (*excluding auxiliary and independent operations which are covered on page 4*). Some, but not all, of these expenditure categories will correspond to the expenditures that your institution reported in the Integrated Post-Secondary Education Data System (IPEDS) Finance survey. If possible, report spending activity for all institutional functions as a single entity--even if you have multiple functions at multiple locations. If this information cannot be aggregated, please distribute as many copies of this instrument as necessary, so that we can combine your institution's data.

The categories represent the major areas of expenditure for colleges and universities. With the exception of labor, all other categories in this section represent goods and services purchased from outside vendors (business and government). While these categories are not collectively exhaustive and do not represent your entire operating budget they are intended to be mutually exclusive. Therefore, please be certain not to double count any expenditures by reporting on expenditures for the same item under more than one category.

If you have any questions regarding the survey please contact Royal Dawson or Brian Zucker at 1-800-353-9715. Please mail or fax the completed survey by January 10 , 1997 to Human Capital Research Corp, 1735 North Paulina, Loft 301, Chicago, IL 60622, FAX: 773-342-0498

A. PERSONNEL & PERSONNEL RELATED	FY 1995 Expenditures
Labor: Total wages and salaries for all employees (except student employees)	$
Total Personnel Benefits: (Please disaggregate below if possible)	$
Contributions to pension/retirement	$
Health insurance	$
All other insurance and benefits	$
Professional membership organization/association related dues and fees (e.g. accreditation)	$
Faculty/Staff development and training (external sources)	$

B. OPERATIONS & MAINTENANCE OF PHYSICAL PLANT
(EXCLUDING building construction, repair and improvement)

Total Utilities: (Please disaggregate below if possible)	$
Electricity	$
Gas/fuel	$
Sanitary services and water services	$
Telephone/communication services	$
Cable television service	$
All Industrial equipment, appliances, & machinery (elec., heat, plumbing-- **EXCLUDING** computers and electronic peripherals)	$
Motor vehicle purchases	$
Real estate rental and leasing fees paid	$
Janitorial Services	$

C. FURNITURE, FIXTURES, & EQUIPMENT

Furniture and fixtures	$
Electronic equipment and computers (not included under **O & M of Plant**)	$
Computer software and licensing	$
Office Supplies	$

D. PROFESSIONAL & BUSINESS SERVICES

Professional and consultant (including fund raising, legal, architecture, accounting, marketing and research)	$
Financial and insurance services not included under **Personnel Benefits** (e.g. fire, theft insurance)	$
Business services (including advertising, photocopying, data processing)	$
Equipment, maintenance, & repair (including vehicles & industrial/electric equip.)	$
Postage and delivery services (e.g., Fed-Ex)	$
Medical services (not covered by insurance)	$
Educational services (other than staff-development training)	$

E. PRINTING & PUBLISHING

Total Library Acquisitions: (Please disaggregate below if possible)	$
Library material acquisitions (books, periodicals)	$
Library material acquisitions (other than print media--i.e., audio-visual)	$
Commercial printing (including college catalogs, view books, brochures, stationary, posters, annual reports, alumni magazines, etc.)	$

F. FOOD, TRAVEL, LODGING & CAMPUS FUNCTIONS
(EXCLUDING room and board expenditures)

Food Services: (Please disaggregate below if possible)	$
Food services, prepared and raw food and food products (including beverages) ***–COLLEGE OPERATED***	$
*Food services, prepared and raw food and food products (including beverages)–**CONTRACTUAL SERVICES***	$
Hotel and lodging services (such as meeting rooms, banquets, and athletic team accommodations)	$
Passenger transportation for administration, faculty, and staff (air, rail, ground)	$

G. FACILITY CONSTRUCTION, REPAIR, & IMPROVEMENT
(Completed FY 1995)

Total Construction and Maintenance: (Please disaggregate below if possible)	$
New building construction	$
Building repair, remodeling and maintenance construction	$
Road and grounds construction and maintenance	$

CAPITAL FACILITIES COMPLETED / PURCHASED BETWEEN FY1990 AND FY1994 (NOT INCLUDED ABOVE)

Facility Name/Description	Year Completed	Total Cost of Construction
1.		$
2.		$
3.		$
4.		$
5.		$
6.		$
7.		$

(If additional space is required use reverse side)

INDEPENDENT OPERATIONS

In the space below, please list each of the institution's independent operations by type of activity (e.g., printing press, conference center, business incubator, child care center etc.).

Facility Name/Description	FY 1995 OPERATIONAL BUDGET EXPENDITURES
1.	$
2.	$
3.	$
4.	$
5.	$

AUXILIARY OPERATIONS

In the space below, list by type of activity each of the institution's auxiliary operations that have not been previously included in **Section 1** (e.g., dormitory, commissary, laundry service, etc.).

Type of Activity	FY 1995 EXPENDITURES
1.	$
2.	$
3.	$
4.	$
5.	$
6.	$

BREAKDOWN OF ACCOUNTS PAYABLE

Please provide a disk in PC format (Ascii, Lotus, Excel, Quattro, Dbase or Paradox) of your major accounts payable defined as those payments that in aggregate represent 70-80% of total accounts payable. Include account (company) name, city, state, zip code, account category, and the total FY 1995 expenditure amount.

DETAILED INSTITUTIONAL FINANCIAL AUDIT: FISCAL YEAR 1995

Please include a full copy of the most detailed institutional financial audit for fiscal year 1995 to augment this survey research data.

If you have any questions regarding the survey please contact Royal Dawson or Brian Zucker at 1-800-353-9715. Please mail or fax the completed survey by January 10 , 1997 to Human Capital Research Corp, 1735 North Paulina, Loft 301, Chicago, IL 60622, FAX: 773-342-0498

SECTION 1B. CONTRIBUTIONS TO GOVERNMENT

For FY 1995 please indicate all **taxes** paid to local and state entities.

	State Taxes	Local Taxes
Payroll taxes	$	
Real estate taxes	$	
Utility taxes	$	
Other taxes (specify)	$	
Total taxes paid	$	

In FY 1995, did your institution make any **voluntary contributions** (direct financial or in-kind) to any unit of government in lieu of taxes? If yes, how much or what was contributed to what unit(s) of government?

PURPOSE FOR DIRECT VOLUNTARY FINANCIAL CONTRIBUTIONS	TO WHOM?	AMOUNT
1.		$
2.		$
3.		$
4.		$

DESCRIPTION OF IN-KIND CONTRIBUTIONS/ ARRANGED SERVICES (e.g. Park Maintenance)	TO WHOM?	ESTIMATED MARKET VALUE
1.		$
2.		$
3.		$
4.		$

In FY 1995, did your institution pay any **special assessments** for improvements to surrounding public property such as new sidewalks or roads? If yes, how much was contributed for what purpose?

DESCRIPTION/PURPOSE OF SPECIAL ASSESSMENT	TO WHOM?	ESTIMATED MARKET VALUE
1.		$
2.		$
3.		$
4.		$

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SECTION 2 STUDENT EXPENDITURE BUDGETS

Institution Name _____ Telephone _____

Respondent Name _____ Title _____

If you have any questions regarding the survey please contact Royal Dawson or Brian Zucker at 1-800-353-9715. Please mail or fax the completed survey by January 10 , 1997 to Human Capital Research Corp, 1735 North Paulina, Loft 301, Chicago, IL 60622, FAX: 773-342-0498

What were the student expenditure budgets at your institution during academic year 1995-96?

	Full-Time Undergraduate (living away from home, e.g dorm)	Full-Time Undergraduate (commuter, e.g. living with parents)	Full-Time Graduate (living away from home, e.g dorm)	Full-Time Graduate (commuter, e.g. living with parents)
Tuition and fees	$	$	$	$
Room & board	$	$	$	$
Transportation	$	$	$	$
Books	$	$	$	$
Misc. personal expenses	$	$	$	$
Other (specify)_____	$	$	$	$

SECTION 3 ESTIMATING COLLEGE RELATED TOURISM ACTIVITY

Institution_____ **Respondent's Name**_____
Title/Position_____ **Phone**_____

A significant indirect contribution of independent higher education to the community concerns associated tourism activity. To estimate the total effects, this analysis will utilize a standardized visitor budget per Person-Day*, and then trace its total impact using the Connecticut input-output model developed for CCIC by Human Capital Research Corporation.

Please provide the estimated number of college visitor day-visit person-days and the estimated number of college visitor overnight-visit person-days in academic year 1995-96 (e.g., prospective students, homecoming and sporting events, alumni reunions, conferences, etc.).

*Person-Day = (number of persons) x (number of days in town)
For example: two visitors for two days = four Person-Days

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1. Student, family, and friend visitation: (prospective students, parent weekend, freshmen orientation, etc.)

Estimated:_____Total Person-Days for Day Visits (e.g. Attended tour went home)

Estimated:_____Total Person-Days for Overnight Visits (e.g. dined, and stayed in hotel)

2. Sporting and cultural event visitation:

Estimated:_____Total Person-Days for Day Visits

Estimated:_____ Total Person-Days for Overnight Visits

3. Seminar, conference, and institute visitation:

Estimated:_____Total Person-Days for Day Visits

Estimated:_____Total Person-Days for Overnight Visits

4. Alumni event visitation: (homecoming, reunions, etc.)

Estimated:_____Total Person-Days for Day Visits

Estimated:_____Total Person-Days for Overnight Visits

5. Other (specify) _____

Estimated:_____Total Person-Days for Day Visits

Estimated:_____Total Person-Days for Overnight Visits

SECTION 4A. INSTITUTIONAL CONTRIBUTIONS — *Major Facilities Made Available To The Public At Large*

In the 1995-96 academic year, what cultural, recreational, and business facilities owned or operated by your institution were made available to the local and regional community? (An example is provided in the first row)

Institution_____ **Respondent**_____ **Title**_____ **Phone**_____

If you have any questions regarding the survey, please contact Royal Dawson or Brian Zucker at 1-800-353-9715. Please mail or fax this completed form by JANUARY 10, 1997 to Human Capital Research Corp, 1735 N. Paulina, Loft 301, Chicago, IL 60622, FAX: 773-342-0498

Cultural and Recreational Facilities	Number of Facilities (e.g., 3 galleries; 2 theaters)	Brief Description of Community Use of Facilities (e.g., Program Name, Target Population, Program Purpose) *Please mail or fax any additional descriptive brochures or materials along with this survey*	Estimated Number Using the Facility	Estimated Total Value of In-kind or Subsidized access (e.g., 100 free tkts. @ $10) *(if applicable)*
Example: Theaters/Orchestras	*2*	*Produced and performed four theater productions* *Provided to the public a "Jazz Series" targeted toward elementary children to increase awareness of and interest in Jazz music*	*over 2,200 community members attended the productions*	*$ 4,000* *200 Jazz series tickets free to the public (mkt. value of $20)*
Theaters/Orchestras				$
Newspaper				$
Radio / Television Station				$
Sports Facilities (stadium; pool; tennis courts, etc.)				$

SECTION 4A. INSTITUTIONAL CONTRIBUTIONS — *Major Facilities Made Available To The Public At Large* (con't.)

Cultural and Recreational Facilities	**Number of Facilities (e.g., 3 galleries; 2 theaters)**	**Brief Description of Community Use of Facilities (e.g., Program Name, Target Population, Program Purpose)** *Please mail or fax any additional descriptive brochures or materials along with this survey*	**Estimated Number Using the Facility**	**Estimated Total Value of In-kind or Subsidized access (e.g., 100 free tkts. @ $10)** *(if applicable)*
Museums/Galleries				$
Conference Centers				$
Health Facilities / Clinics				$
Libraries				$
Residence Halls (non-student use)				$
Other:_____ _____ _____				$
Other:_____ _____ _____				$

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SECTION 4B. INSTITUTIONAL CONTRIBUTIONS — *Community Programs and Services*

In the 1995-96 academic year, what unique programs and services operated by your institution were made available to or benefitted the local and regional community? (An example is provided in the first row)

Institution_____ **Respondent**_____ **Title**_____ **Phone**_____

If you have any questions regarding the survey, please contact Royal Dawson or Brian Zucker at 1-800-353-9715. Please mail or fax this completed form by JANUARY 10, 1997 to Human Capital Research Corp, 1735 N. Paulina, Loft 301, Chicago, IL 60622, FAX: 773-342-0498

Program or Service	**Brief Description of Program or Service and How it Benefits the Community (e.g., Program Name, Target Population, Program Purpose)** ***Please mail or fax any additional descriptive brochures or materials along with this survey***	**Estimated Cost to the Institution**
Example: Homesteading Program for Faculty and Staff	*Institution provides subsidized interest on home mortgages for faculty and staff who choose to reside in the local community. Helps to establish and strengthen relationships between institution and community; helps faculty and staff finance home.*	*$ 12,000 in subsidized interest costs*
Homesteading Program for Faculty and Staff		$
Target Institutional Expenditures to Local Merchants (e.g., minimum amount of dollars go to local merchants)		$
K-12 Partnerships / Collaborations		$
Daycare / Childcare Services		$
Business Development Services		$
Career Development Services		$
Other:_____		$
Other:_____		$

SECTION 4C. STUDENT COMMUNITY CONTRIBUTIONS

In the 1995-96 academic year, what services (e.g., volunteer, student teaching, internships in the community) did your students provide to the local community? How many students participated in these services and how many community members did they serve? (An example is provided in the first row)

Institution_____ **Respondent**_____ **Title/Pos.**_____ **Phone**_____

If you have any questions regarding the survey, please contact Royal Dawson or Brian Zucker at 1-800-353-9715. Please mail or fax this completed form by JANUARY 10, 1997 to Human Capital Research Corp, 1735 North Paulina, Loft 301, Chicago, IL 60622, FAX: 773-342-0498

	Service	Name of Program and Brief Description *Please mail or fax any specific program information (e.g., program brochure, information on student volunteer opportunities, etc.) along with this survey*	Estimated number of Student Volunteers	Estimated Hours of Service per Volunteer	Estimated number of Community Members Served
Example **GENERAL PROGRAMS**	*Big Brothers / Big Sisters Program*	*College students are matched with a boy or girl from the local community*	*100*	*90*	*120*
	Greek System has various philanthropy projects	*Examples include "Toys for Tots" (a collection of toys for needy children during the Christmas season), and "Spring Clean" (students held disabled and elderly with cleaning chores)*	*400*	*800*	*500*
	Internship Program	*Students work for credit at various community businesses and organizations*	*50*	*200*	*50 businesses / organizations*
GENERAL PROGRAMS	1.				
	2.				
	3.				
	4.				
EDUCATION	K-12 Support				
	Adult Education				
	Student Teaching				
OTHER (SPECIFY) →					

SECTION 4C. STUDENT COMMUNITY CONTRIBUTIONS(con't)

	Service	Name of Program and Brief Description *Please mail or fax specific program information (e.g., program brochure, information on student volunteer opportunities, etc.) along with this survey*	Estimated number of Student Volunteers	Estimated Hours of Service per Volunteer	Estimated number of Community Members Served
HEALTH & FAMILY	Hospital / Clinic				
	Hospice/AIDS				
	Drug/Alcohol				
Other (Specify) ---->					
ENVIRONMENTAL	Recycling				
	Environmental Quality				
Other (Specify) ---->					
COMMUNITY	Housing Projects				
	Homeless Care				
	Care for the Elderly				
OTHER (SPECIFY) →					

SECTION 4D. FACULTY/DEPARTMENT CONTRIBUTIONS

Faculty provide significant community and economic contributions through their own independent and coordinated efforts, sometimes under the auspices of the institution and sometimes as independent agents. Tangible examples of such contributions include patents, achievements in the humanities such as writing a book, developing curricular materials for other institutions, and providing critical consulting support to businesses. To help inventory this rich area of economic and community contributions, please describe examples of significant, *tangible* contributions and faculty activities that have provided community benefits in the 1995-96 academic year. Feel free to use additional paper as needed. (An example is provided in the first row)

Institution_____ **Respondent**_____ **Title**_____ **Phone**_____

If you have any questions regarding the survey, please contact Royal Dawson or Brian Zucker at 1-800-353-9715. Please mail or fax this completed form by JANUARY 10, 1997 to Human Capital Research Corp, 1735 North Paulina, Loft 301, Chicago, IL 60622, FAX: 773-342-0498

Indicate areas where your department's faculty have contributed during the 1995-96 academic year	Estimated number of projects, products, activities in this area	Brief description of examples of work that have contributed to the community or state.
Example **Publications (e.g., books, journal articles, etc.)**	*15* *5 textbooks; 10 journal articles*	*Published a series of articles on alternative assessment in the Journal of Curriculum and Assessment. These articles were used as part of the professional development curriculum for over 5,000 elementary teachers in the state moving toward authentic performance measures for student assessment.*
Publications (e.g., books, journal articles, etc.)		
Research achievements, Patents, Scientific Discoveries		
Presentations (e.g., conferences, expert testimony)		
Artistic performances (e.g., gallery showings, choreography, orchestra, etc.)		

SECTION 4D. FACULTY/DEPARTMENT CONTRIBUTIONS (con't)

Indicate areas where your department's faculty have contributed during the 1995-96 academic year	Estimated number of projects, products, activities in this area	Brief description of examples of work that have contributed to the community or state.
Consultations to business		
Consultations to K-12 schools		
Consultations to other organizations: _____		
Other:_____		
Other:_____		

SECTION 5. COLLEGE ALUMNI

Institution Name _____ Telephone _____

Respondent Name _____ Title _____

A key dimension of a college or university's economic impact concerns the contribution of its alumni, particularly to the state's labor force. To estimate the aggregate earnings and tax contribution of Connecticut's independent sector's alumni, we need the following information:

If you have any questions regarding the survey please contact Royal Dawson or Brian Zucker at 1-800-353-9715. Please mail or fax the completed survey by January 10 , 1997 to Human Capital Research Corp, 1735 North Paulina, Loft 301, Chicago, IL 60622, FAX: 773-342-0498

1. **Estimated total living alumni who received an undergraduate degree from your institution broken down as follows:**

	Living CT Residents	Living Non-CT Residents
Male	_____	
Female	_____	
Total	_____	_____

2. **Estimated total living alumni who received a graduate degree from your institution broken down as follows:**

	Living CT Residents	Living Non-CT Residents
Male	_____	
Female	_____	
Total	_____	_____

3. **What is the estimated percentage of undergraduates at your institution who go on to earn a graduate degree at any institution:**

_____ Percent

4. **What is the estimated percentage of undergraduates at your institution who go on to earn a graduate degree at your institution:**

_____ Percent

5. **Estimated total living alumni who attended your institution at the undergraduate level but did not receive a degree:**

_____ Undergraduate non-completers

6. **Estimated total living alumni who attended your institution at the graduate level but did not receive a degree:**

_____ Graduate non-completers

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Institute for Research and Public Service

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Michael A. Gerber, President

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Date: 3/4/98

(over)