BY NICHOLAS A. JOLLY, ECONOMIST, DOL



HIGHLIGHTS

AGING OF THE POPULATION

• The number of Connecticut residents who are 65 and older is projected to increase by 72% between 2005 and 2030, whereas those from age 30 to 64 are projected to decrease by approximately 4%.

AGING OF THE WORKFORCE

• Between 2003 and 2006, the percentage of Connecticut jobs held by workers 62 years old and older increased approximately 16% while the percentage of jobs held by workers between 25 and 34 years old decreased by 6%.

INDUSTRY EMPLOYMENT OF OLDER WORKERS

• As of 2006, workers 55 years old and older held 27% of mining jobs, while only 12% of these jobs were held by workers between 25 and 34 years old. Other industries in a similar situation were:

INDUSTRY	Workers 55+	Workers 25 to 34	%-Point Spread
Utilities	21.5%	10.8%	10.7 points
Public Administration	23.6%	13.9%	9.7 points
Manufacturing	22.9%	15.3%	7.6 points
Agriculture	21.2%	14.1%	7.1 points
Educational Services	24.4%	18.0%	6.4 points

- The percentage of industry jobs held by older workers (age 62 and over) increased in every industry almost every year between 2003 and 2006, with the increases over the four-year period ranging from 7% to 30%.
- Of all jobs statewide held by older workers in 2006, 14% were in the health care and social assistance industry, 14% in educational services and 13% in manufacturing.

GEOGRAPHIC DISTRIBUTION OF OLDER WORKERS

- The number of jobs in the state's Workforce Investment Areas (WIAs) that were held by older workers did not vary greatly, ranging from 6.5% to 8.0% of all jobs in each area.
- There were more jobs held by older workers who were residents of the North Central WIA, 29.4%, than in any other area. The fewest were held by residents of the Eastern WIA, 11.7%.

WAGES OF OLDER WORKERS

- Jobs held by older workers in the utilities and management industries paid the highest median quarterly earnings, each exceeding \$17,000 in the fourth quarter of 2006. Other high-paying industries for older workers include finance and insurance, manufacturing, mining, construction, and professional and technical services.
- Between 2003 and 2006, real median earnings of workers age 65+ increased 7.4%, and earnings of workers ages 62 to 64 increased 5.3%. By comparison, real median earnings for all age groups increased by only 0.1%.

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INTRODUCTION

In order for Connecticut's economy to maintain its health, the state's labor force must, at the very least, remain at a constant level. To do so, younger workers must continuously enter the labor force to replace the older workers who have reached the point of retirement. In other words, the entrance rate of young labor supply must at least offset the retirement rate. Population dynamics have two mechanisms that can allow this outcome to occur. First, the birthrate within the state could completely offset the retirement rate. This would assure that, all else equal, there would be enough younger workers to replace those workers deciding to retire. Second, younger workers' net in-migration could be large enough to offset the number of people retiring. This would also assure that there would be enough younger workers to replace those who are retiring. However, as is typically the case, these two dynamics work together as opposed to remaining mutually exclusive, and how well these dynamics work depends upon a number of economic and sociological events.

Numerous problems arise when a state's labor force does not grow or maintain a constant level. First, employers have a difficult time attempting to maintain constant production growth. Obviously, if an employer cannot replenish an aging workforce, then its ability to produce the same level of goods and services falls. As production falls, so does income and profits. An additional effect also hurts employers: As employees age and decide to retire, firms must be able to make pension and other retirement benefit payments. Therefore, if firms have difficulty maintaining a productive workforce, then they will also have difficulty making these benefit payments. A changing labor force composition also has numerous implications for public assistance programs such as Social Security and Medicare. For related issues facing Connecticut's older workers, see *The Effects of Mass Layoffs on Earnings of Connecticut's Older Workers* on the Office of Research's website at http://www.ctdol.state.ct.us/lmi/occ papers.htm.

Table 1 shows growth rates calculated from the population projections released by the Connecticut State Data Center. As Table 1 indicates, the State Data Center projects that the older age group (65+) experiences positive growth rates in each five-year interval starting in 2005. Not only are these growth rates positive, but also they increase between 2005 to 2010 and 2025 to 2030. At the same time, the

younger age groups experience a shrinking positive growth rate or negative growth rate during each five-year interval. These projections imply that the younger workers will feel a larger strain in terms of supporting the older population after 2010. This also implies that older workers will become an increasingly important part of

Table 1: Population Growth Rates by Age Group

Age	Growth Rates					
Group	2005 to 2010	2010 to 2015	2020 to 2025	2025 to 2030		
20 to 24	12.4	1.9	-8.4	-9.3	-3.3	
25 to 29	15.7	11.9	2	-7.9	-8.9	
30 to 64	-0.1	-0.8	-0.01	-1.1	-1.9	
65+	6.6	12.9	13.3	14.4	10.5	



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Connecticut's workforce. The U.S. Census states that Connecticut's median age is 39.3 as of 2005. VII f the population projections hold, then the median age in Connecticut will increase and the state will need to rely upon an aging workforce to maintain economic health. In fact, the State Data Center projects the median age of Connecticut's population will equal 41.5 by 2030. This potential change in the age composition will undoubtedly influence employers and policy makers, alike.

Because of these issues, it is important to have an understanding of the jobs held by Connecticut's older workers. This article presents facts regarding the age composition of Connecticut's jobholders, and the industrial distribution, geographic distribution, and the wage distribution of the jobs held by older workers. For purposes of this report, an older worker is defined as someone who is at least 62 years old. All data reported here are for the fourth quarters of 2003, 2004, 2005, and 2006.

AGE COMPOSITION OF CONNECTICUT'S WORKFORCE

Table 2 presents the age composition of Connecticut's jobholders. As one can see, in 2006:Q4 there was a significant portion of jobs held by workers over the age of 62 (7.2%). This is up from 2003:Q4 when older workers held 6.2% of all jobs in Connecticut. This represents an increase of approximately 16% between 2003 and 2006. Workers holding these positions are of the age where they are eligible for retirement or will be making the decision to retire within the next couple of years. Another way of looking at this is that a group of workers that decided against retirement and continues to remain productive holds a significant portion of the state's jobs. Table 2 also shows that workers between the ages of 55 and 61 hold 10.3% of the jobs within Connecticut as of 2006:Q4, and these workers may be making the decision to retire within the coming decade. Therefore, if all workers age 55 or older decided to retire relatively soon, as much as 17.5% of Connecticut's jobs would need to be replaced within the next ten years. On the bright side, Table 2 also shows that there are currently (2006:Q4) a larger

percentage of jobs held by younger workers in the state. Specifically, workers between the ages of 25 and 34 hold 20% of all positions in Connecticut.

Table 2: Age Composition of Connecticut's Jobholders

Age Group	2003:Q4	2004:Q4	2005:Q4	2006:Q4	% Change 2003-2006
65+	4.2%	4.3%	4.4%	4.6%	11.1%
62 to 64	2.0%	2.1%	2.4%	2.5%	27.0%
55 to 61	9.4%	9.8%	9.8%	10.3%	9.5%
45 to 54	21.3%	21.6%	22.1%	22.7%	6.6%
35 to 44	25.1%	24.4%	24.0%	23.6%	-5.8%
25 to 34	21.4%	20.8%	20.4%	20.0%	-6.4%
22 to 24	6.3%	6.4%	6.4%	6.3%	-1.2%
19 to 21	5.5%	5.7%	5.8%	5.9%	7.1%
14 to 18	4.8%	4.8%	4.6%	4.0%	-16.5%
<14	0.0%	0.0%	0.0%	0.0%	-74.8%
TOTAL	100%	100%	100%	100%	-



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The State Data Center's population projections indicate that in-migration, which has been important to Connecticut's population growth since the 1990's, will continue to be critical to meeting the state's workforce needs in the future. Table 2 confirms this. Between 2003 and 2006, the percentage of jobs held by workers age 55 and older experienced a growth rate of 12%. In addition, each successive age category beginning with the 45 to 54 group experienced significantly larger growth than any younger age category over this 4-year span. In fact, five out of the six younger age categories experienced negative growth rates between 2003 and 2006. The only age group that experienced positive growth is the 19 to 21 group; this is most likely due to increasing college enrollment rates within the state.

INDUSTRY DISTRIBUTION

Table 3 shows the number of jobs held by workers of selected ages within each industry as a percentage of the total number of jobs in that industry for 2006:Q4. This table shows what industries have the largest proportion of jobs held by older workers at least 62 years old who may be considering retirement.

The table also shows the percentage of jobs held by those between the ages of 55 and 61 who will possibly retire within the coming decade, and the percentage of jobs held by younger workers age 25 to 34.

Table 3 shows that the industry with the largest percentage of its jobs held by older workers is mining, where workers at least 55 years old hold approx. 27% of the industry's positions. The mining industry only has 11.9% of its workforce between the ages of 25 and 34. Therefore, if things remain relatively unchanged, this industry may have a difficult time

Table 3: Number of Jobs by Selected Age Group as Percent of Industry Jobs 2006:Q4

INDUSTRY	Ages 62+	Ages 55-61	Ages 25-34
Mining	15.3%	11.7%	11.9%
Agriculture, Forestry, Fishing, and Hunting	11.2%	10.0%	14.1%
Public Adminstration	10.7%	12.9%	13.9%
Real Estate and Rental and Leasing	9.7%	10.7%	19.7%
Educational Services	9.4%	15.0%	18.0%
Other Services	8.5%	9.6%	19.5%
Transportation and Warehousing	8.3%	10.3%	18.4%
Arts, Entertainment, and Recreation	8.2%	8.9%	20.0%
Manufacturing	8.0%	13.9%	15.3%
Wholesale Trade	7.4%	10.6%	20.0%
All Industries	7.2%	10.3%	20.0%
Professional and Technical Services	7.1%	9.8%	25.7%
Health Care and Social Assistance	6.9%	10.8%	22.1%
Retail Trade	6.7%	7.3%	18.0%
Management of Companies	6.5%	11.8%	18.6%
Construction	6.3%	9.0%	20.9%
Information	6.2%	9.9%	23.4%
Administrative and Waste Services	6.0%	8.0%	24.3%
Utilities	5.4%	16.1%	10.8%
Finance and Insurance	5.2%	10.0%	23.6%
Accomodation and Food Services	3.7%	4.1%	21.7%

replacing its older employees when they decide to retire. Industries in a relatively similar situation as



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mining are educational services (24.4% age 55 and older), public administration (23.6%), manufacturing (22.9%), utilities (21.5%), and agriculture (21.2%). These industries comprise significant segments of Connecticut's workforce. Industries with the largest percentage of jobs held by younger workers (between 25 and 34 years old) are professional and technical services (25.7%); administrative and waste services (24.3%); and finance and insurance (23.6%).

Table 4 shows the proportion of industry jobs held by workers age 62 and older for the fourth quarters of 2003 through 2006 along with the growth rates for 2003 to 2006. Table 4 indicates that the utilities industry experienced the largest percentage increase between 2003 and 2006 (30%). Recall that the statewide growth rate in the proportion of jobs held by workers aged 62+ was approximately 16%. Eleven industries experienced higher growth rates and nine industries experienced lower growth rates.

Table 4: Percent of Jobs Held by Older workers as Percent of Industry Jobs 2003-2006

INDUSTRY	2003:Q4	2004:Q4	2005:Q4	2006:Q4	Change 2003- 2006
Utilities	4.2%	4.7%	5.1%	5.4%	29.9%
Mining	12.1%	13.9%	16.2%	15.3%	26.5%
Management of Companies	5.2%	5.9%	6.7%	6.5%	25.5%
Arts, Entertainment, and Recreation	6.6%	6.9%	7.6%	8.2%	23.0%
Information	5.1%	5.3%	5.7%	6.2%	21.6%
Professional and Technical Services	5.9%	6.3%	6.7%	7.1%	20.6%
Agriculture, Forestry, Fishing, and Hunting	9.3%	9.5%	10.0%	11.2%	19.9%
Health Care and Social Assistance	5.8%	6.1%	6.5%	6.9%	18.7%
Construction	5.3%	5.5%	5.9%	6.3%	18.6%
Manufacturing	6.7%	7.1%	7.7%	8.0%	18.3%
Educational Services	8.1%	8.6%	9.0%	9.4%	16.8%
All Industries	6.2%	6.4%	6.8%	7.2%	16.2%
Real Estate and Rental and Leasing	8.3%	8.7%	9.1%	9.7%	15.6%
Finance and Insurance	4.5%	4.6%	5.0%	5.2%	15.6%
Wholesale Trade	6.4%	6.5%	7.0%	7.4%	14.8%
Other Services	7.5%	7.7%	8.2%	8.5%	13.0%
Public Administration	9.6%	10.3%	10.4%	10.7%	11.7%
Retail Trade	6.0%	6.1%	6.5%	6.7%	10.8%
Administrative and Waste Services	5.4%	5.4%	5.7%	6.0%	10.1%
Transportation and Warehousing	7.5%	7.8%	8.1%	8.3%	9.6%
Accommodation and Food Services	3.4%	3.5%	3.6%	3.7%	7.4%

Another interesting fact presented in Table 4 is that, with only two exceptions, between each pair of years from 2003 to 2006, every single industry experienced an increase in the percentage of jobs held by older workers. Between the fourth quarters of 2005 and 2006, the mining and management industries



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experienced declines in the percentage of jobs held by older workers amounting to approximately -6% and -3%, respectively.

Table 5 identifies the industries that had the largest percentage of all jobs statewide held by older workers as of 2006:Q4. As one can see, the health care and social assistance industry had the largest number of jobs held by older workers at 14.3%, closely followed by educational services (14.2%) and manufacturing (12.9%). Interestingly, the industry with the largest percentage of older workers in its workforce also had the smallest percentage of all statewide jobs held by older workers. Mining, the smallest industry in terms of overall employment, had just 0.1% of all jobs held by older workers.

Table 5: Industry Percent of All Statewide Jobs Held by Older Workers - 2006:Q4

INDUSTRY	% of Jobs
Health Care and Social Assistance	14.3%
Educational Services	14.2%
Manufacturing	12.9%
Retail Trade	12.3%
Administrative and Waste Services	5.1%
Finance and Insurance	5.0%
Professional and Technical Services	4.9%
Public Administration	4.7%
Wholesale Trade	4.0%
Other Services	4.0%
Construction	3.8%
Accomodation and Food Services	3.3%
Arts, Entertainment, and Recreation	3.3%
Transportation and Warehousing	2.9%
Information	2.0%
Real Estate and Rental and Leasing	1.9%
Management of Companies	0.6%
Utilities	0.4%
Agriculture, Forestry, Fishing, and Hunting	0.3%
Mining	0.1%
Total	100%

Table 6 shows the shift among the industries between 2003 and 2006 in statewide jobs held by older workers. The final column represents the percentage point difference between 2006 and 2003. The two industries with the largest increase in the share of jobs held by older workers are educational services (1.4 points) and health care and social assistance industries (1.1 points). The industry experiencing the



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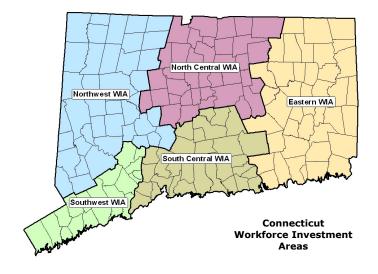
largest decline in the share of older worker jobs is retail trade (-1.6 points).

Table 6: Industry Percent of All Statewide Jobs Held by Older Workers 2003-2006

INDUSTRY	2003:Q4	2004:Q4	2005:Q4	2006:Q4	Change 2003- 2006
Health Care and Social Assistance	13.2%	13.5%	13.7%	14.3%	1.1%
Educational Services	12.9%	13.1%	13.3%	14.2%	1.4%
Manufacturing	13.4%	13.1%	13.0%	12.9%	-0.4%
Retail Trade	13.9%	13.7%	13.4%	12.3%	-1.6%
Administrative and Waste Services	5.4%	5.1%	5.1%	5.1%	-0.2%
Finance and Insurance	5.1%	4.9%	5.0%	5.0%	-0.1%
Professional and Technical Services	4.8%	4.9%	4.9%	4.9%	0.1%
Public Administration	4.6%	4.6%	4.6%	4.7%	0.1%
Wholesale Trade	4.0%	4.0%	4.1%	4.0%	0.0%
Other Services	4.2%	4.0%	4.0%	4.0%	-0.2%
Construction	3.7%	3.8%	3.8%	3.8%	0.1%
Accommodation and Food Services	3.7%	3.7%	3.5%	3.3%	-0.4%
Arts, Entertainment, and Recreation	3.2%	3.2%	3.3%	3.3%	0.0%
Transportation and Warehousing	2.9%	3.1%	3.0%	2.9%	0.0%
Information	2.0%	2.0%	1.9%	2.0%	-0.1%
Real Estate and Rental and Leasing	1.9%	2.0%	2.0%	1.9%	0.0%
Management of Companies	0.5%	0.5%	0.5%	0.6%	0.1%
Utilities	0.4%	0.4%	0.4%	0.4%	0.0%
Agriculture, Forestry, Fishing, and Hunting	0.4%	0.3%	0.3%	0.3%	-0.1%
Mining	0.1%	0.1%	0.1%	0.1%	0.0%
Total	100%	100%	100%	100%	-

GEOGRAPHIC DISTRIBUTION

Tables 7 and 8 identify the varying concentrations of jobs held by older workers in the state's five Workforce Investment Areas. Table 7 looks at all the jobs held by residents in each region and answers the following question: Among all of the jobs held by residents in a particular Workforce Investment Area in 2006:Q4, what percentage of these jobs are held by older workers?





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As Table 7 indicates, these jobs appear to be fairly evenly distributed across the regions, with the differences between regions varying by no more than 1.5 percentage points. The Southwest WIA has the largest percentage (8.0%), and the Eastern WIA has the smallest (6.5%). The southern part of the state (Southwest and South Central WIAs) has a slightly larger percentage of jobs held by older workers than the northern regions (Northwest and North Central WIAs).

Table 8 is analogous to Table 5, looking at all jobs statewide held by older workers. It answers the question: Among all of the jobs statewide held by older workers, how many are held by residents of each WIA? Table 8 shows these regional shares as percentages of the state total. Residents of the North Central WIA hold the largest proportion of the state's jobs held by older workers (29.4%). Interestingly, this appears contrary to what Table 7 shows. It means that residents in the North Central WIA have a larger share of statewide jobs held by older workers, but these jobs make up a smaller portion (relative to other regions) of the total number of jobs held by all residents in that region. The Eastern WIA has the smallest percentage of jobs held by older workers (11.7%). However, unlike the North Central WIA, the Eastern region ranks last in both Tables 7 and 8, having the smallest

Table 7: Percent of Region Jobs Held by Resident Older Workers 2006;Q4

Place of Residence	% of Jobs
Southwest WIA	8.0%
South Central WIA	7.3%
Northwest WIA	7.2%
All Regions	7.2%
North Central WIA	6.8%
Eastern WIA	6.5%

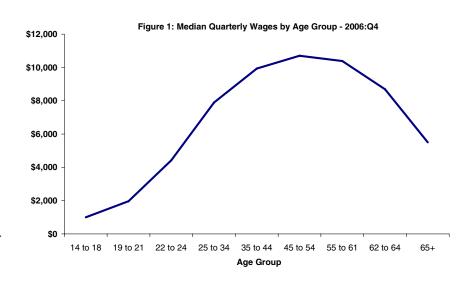
Table 8: Percent of Statewide Jobs Held by Older Workers 2006: Q4

Place of Residence	% of Jobs
North Central WIA	29.4%
South Central WIA	21.8%
Southwest WIA	20.5%
Northwest WIA	16.7%
Eastern WIA	11.7%
Total	100%

percentage of jobs in the region held by older workers and the smallest share of all jobs statewide held by older workers. The South Central WIA also maintained its rank between Tables 7 and 8.

WAGES

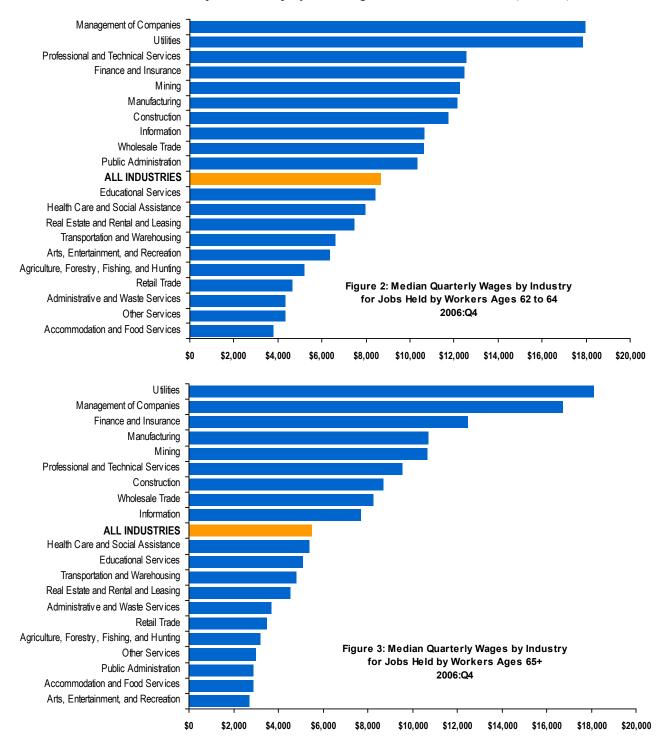
Figure 1 shows the median earnings by age for workers in Connecticut. This is the typical shape of the age-earnings profile. Wages are generally lower for younger workers since they typically spend more time acquiring human capital (knowledge and skills) in the form of formal education, on-the-





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job training, and work experience in the hopes of receiving higher wages in the future. Since this additional training provides higher wages in the future, younger workers are more likely to accept lower wages early in their careers. The profile typically declines at relatively older ages as workers retire from their full-time careers and take part-time employment. Figures 2 and 3 indicate the (nominal) median





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quarterly earnings for workers between 62 and 64 years old and workers 65+, respectively, by industry for 2006:Q4. Figure 2 shows that workers between 62 and 64 years old earn the highest median wages in the management, utilities, and professional and technical services industries. They earn the lowest median wages in the following industries: accommodation and food services; other services; and administrative and waste services. Workers who are at least 65 years old earn the highest median quarterly wages in the utilities, management, and finance and insurance industries. They earn the least in the arts, entertainment, and recreation industry, accommodation and food services industry, and public administration.

Table 9 shows the growth in real median quarterly earnings by selected age groups for the fourth quarters of 2003 through 2006, with real median quarterly earnings deflated by the appropriate year's consumer price index for all urban

consumers (CPI-U) (1982-84=100). Table 9 presents some interesting facts. First, the growth in earnings for older workers is always larger than overall earnings growth. There is only one instance when this is not true. This occurs for jobs held by workers ages 62 to 64 between 2005 and 2006.

Table 9: Growth in Real Median Quarterly Earnings by Age Group

Age Group	% Change 2003-2004	% Change 2004-2005	% Change 2005-2006	% Change 2003-2006
65+	4.1%	-0.6%	3.8%	7.4%
62 to 64	3.3%	0.5%	1.6%	5.3%
All Ages	-0.1%	-2.0%	2.1%	0.1%

During this time, overall earnings growth was 0.5 percentage point larger than the growth for jobs held by workers ages 62 to 64. Second, there is only one instance when workers ages 62 to 64 had a larger earnings gain than workers ages 65+. Unfortunately, there is not enough information available for further investigation of these findings. This would be an interesting subject for further research.

SUMMARY

As of 2006:Q4, workers at least 62 years old hold a significant portion of Connecticut's jobs (7.2%). In addition, more than 10% of the jobs are held by individuals between the ages of 55 and 61. These numbers have grown since 2003. Older workers' real quarterly earnings have also increased since 2003. In fact, these earnings have increased at faster rates when compared to the earnings of the overall working population. While this is evidence that older individuals are remaining productive past the age where they are eligible for retirement, eventually they will leave the workforce and a younger cohort of individuals will need to replace them.

The data presented here provide information about the state's older workers for a selected number of years. A more detailed picture of how the age composition of Connecticut's workforce has evolved over



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time would be informative and is a product for future study. Nationally, the U.S. Census Bureau projects the 65 and older population will make up 1-in-5 people by 2030, which is much larger than the current estimate of 1-in-8 people. How long this group remains in the workforce will have significant implications for the state and nation. The Department of Labor is currently working on gathering additional data to help illuminate the evolution of Connecticut's age composition over time. This should help policy makers and employers make better-informed decisions.

ENDNOTES

^{ix} Taeuber, Cynthia, and Matthew R. Graham, 2007. *The Geographic Distribution and Characteristics of Older Workers in Iowa: 2004.* LED Older Worker Profile, LED-OW2007-IA. U.S. Census Bureau, Washington, DC.



¹ Projections were done by the Connecticut State Data Center < http://ctsdc.uconn.edu/>.

ⁱⁱ Obviously, the size of the labor force is one of among many factors that affect the health of an economy. Another important factor, for example, would be the level of the population's skills, as indicated by education levels. However, the unique dataset used for this report does not contain information on the educational attainment of the state's working population. Therefore, the size of the labor force is the only factor mentioned.

iii Other factors can contribute to offsetting the retirement rate. Some examples are in-migration from other states, immigration, re-entrants into the state's labor force, etc. However, since this report focuses on the age distribution within Connecticut, the entry of young workers is the only factor considered.

^{iv} For further discussion of these issues and others relating to older workers see the following: Budetti, Peter P., Richard V. Burkhauser, Janice M. Gregory, and H. Allan Hunt, editors. 2001. *Ensuring Health and Income Security for an Aging Workforce*. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

^v For more detailed information, see the Connecticut State Data Center's website < http://ctsdc.uconn.edu/>.

vi The author calculated all growth rates.

vii The median represents the age at which 50% of the sample is older and 50% is younger. See the U.S. Census' American Fact Finder site at http://factfinder.census.gov/home/saff/main.html?_lang=en for further information.

 $^{^{}viii}$ Percentages may not sum to 100% due to rounding. All growth rates throughout the report use the proportions of jobs and not the levels.

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A NOTE ABOUT THE DATA

This analysis uses data from the Connecticut Unemployment Insurance system. Every quarter, employers covered by unemployment insurance are subject to reporting laws that require them to report the total quarterly earnings (wage records) of each employee to the Connecticut Department of Labor (DOL). This provides a near census of the state's working population. These reports identify the number of jobs currently held in each firm. This is different from the number of employed individuals within the state or within a particular industry. For example, assume that there are two employed people, Person A and Person B. Person A holds a job with two different firms while Person B only holds one job with one firm. This means that there are three jobs (i.e. three wage records) and two employed individuals. Some groups of workers are missing from this data. The two largest are the self-employed and Connecticut residents who work out of state.

Each wage record contains an individual's last name, first initial, social security number, and total quarterly earnings. In addition, every employer covered by the unemployment insurance system has its own unique identification number, and this number is present on the wage record. Demographic information on gender, age, and place of residence is available from the Department of Motor Vehicles (DMV). In order to obtain this information, researchers at the DOL matched individual wage records to DMV records by social security number and were able to match demographic information to between 75% and 80% of the sample. All results presented are for this sub-population of known gender, age, and place of residence.

In addition to demographics, information is available on each employer's industry sector as defined by the North American Industry Classification System (NAICS). As is the case with demographic information, NAICS codes are not available on wage records. Instead, this information is available from the Quarterly Census of Employment and Wages (QCEW) program. Researchers at the DOL integrated the industrial sector information by matching the QCEW record to the wage records by the employer's identification number. There is one caveat that readers should keep in mind when interpreting the industry data: There is a difference between a firm and an establishment. A firm is a collection of establishments, and sometimes establishments within the firm perform different economic activities. For example, a manufacturing firm has a NAICS code between 31 and 33. However, if this firm's corporate headquarters were a separately identified establishment, its NAICS code would be 55. This analysis presents information at the firm, and not establishment level.

The wages discussed are *total* quarterly wages; that is, the gross amount of wages paid in a quarter. They should not be interpreted as weekly or hourly rates.

