

# **The Employment Experiences and College Labor Market Job Characteristics of Young Adult Associate Degree and Bachelor Degree Recipients in Massachusetts and the U.S.**

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## **Introduction**

Knowledge of the annual, educational outputs of a state's higher education system and their ability to be matched with jobs available in the state is critical for educational and workforce development policymaking and program planning. Tying the outputs of the higher education system more closely to the skill needs of employers can generate important employment and earnings benefits for the graduates themselves and higher levels of output, employment, and productivity from the state's employers.

This research report is designed to assist the Massachusetts Department of Higher Education in its efforts to identify the alignment of the graduates from the state's two and four year colleges and universities with the workforce needs of the state. The paper will identify and assess the employment experiences of relatively young Associate degree and Bachelor degree holders (20-26 years old) in Massachusetts in recent years (2008 through 2010). The employment rates and the college labor market job finding rates of recent graduates from all two year and four year colleges and universities in the state (private and public) will be estimated and compared with those for the nation as a whole over the same time period. A few separate findings related to the employment experiences of male and female Bachelor degree holders in Massachusetts will also be presented.

The final sections of this report will examine other key characteristics of the jobs obtained by employed Associate and Bachelor degree holders in Massachusetts in 2009-2010, including the state in which their jobs were held, their self-employment status, and whether they held an unpaid job in a family owned firm. These findings as well as those for graduates who moved out of state are important to interpreting the findings of the UI wage matching records since these employed individuals will not have a Massachusetts UI wage record for their jobs.

## **Source of Data**

All of the estimates appearing in this paper on the employment rates and employment outcomes of young Associate degree and Bachelor degree holders in Massachusetts and the U.S. are based on the findings of the American Community Surveys (ACS) for calendar years 2008, 2009, and 2010. The ACS survey is a national and state household survey conducted by the U.S. Census Bureau throughout each calendar year. It collects data on the demographic characteristics, educational attainment, employment, occupations of jobs held, geographic

locations of one's job, and the sector of employment for all persons 16 and older living in households and group quarters. The ACS in Massachusetts in recent years has obtained questionnaires from close to 40,000 households across the state as well as a sample of individuals living in group quarters, such as college dormitories and fraternities/sororities. The ACS sample of households is considerably larger than the 800-900 monthly sample of Massachusetts households in the Current Population Survey which includes repeated interviews with the same household over the course of the year.<sup>1</sup> The ACS survey also has collected data on the geographic locations of the jobs held by the employed, including out of state locations, on the college majors of those individuals obtaining a Bachelor's degree, and on the annual earnings of all working-age respondents.<sup>2</sup>

### **The Employment Rates and College Labor Market Job Finding Rates of Young Associate Degree Holders in Massachusetts in 2008-2009**

To place the findings of the UI wage record match for recent graduates of the state's community colleges into perspective, we examined the employment rates of all Associate degree holders ages 26 and under who were residing in Massachusetts in 2008 and 2009. Findings in Table One are two year averages to boost the sample sizes for the analysis.

Table 1:  
The Number of Associate Degree Holders Ages 26 and Under in Massachusetts in 2008-09 and Their Employment Status at the Time of the Survey

Group	(A) Number	(B) Per Cent of Population in This Age/Education Group
All	33,594	100.0
Employed	27,446	81.7
Employed in a College Labor Market Job	13,202	39.3
Per Cent of Employed in CLM Job	48.0%	

<sup>1</sup> In the CPS survey, once a household is selected for interviewing, it is interviewed for four consecutive months, dropped for 8 months, then re-interviewed again for 8 months.

<sup>2</sup> In the CPS, data on annual earnings are only collected once per year in the March survey.

On average, there were approximately 33,600 Associate degree holders ages 26 and under in the state over this two year period. Of this group, 27,446 or nearly 82 of every 100 held some type of job either part-time or full-time in the private or public sector, including the self-employed.<sup>3</sup> A high fraction of these employed Associate degree holders, however, were working in jobs that did not require any substantive post-secondary training.<sup>4</sup> Only 48% of the employed Associate degree holders were holding a jobs that required post-secondary education or training. The high mal-employment share should be viewed as troubling since those young Associate degree holders who obtain a “college labor market job” will earn about 80% more per week than their peers who are mal-employed. Available evidence suggest that younger Associate degree holders in Massachusetts, New England, and the U.S. have been facing more severe difficulties than their older peers in finding college labor market jobs in recent years due to weakened labor markets.

A comparison of the employment rates of Massachusetts Associate degree holders with those of their peers across the country in 2008-09 is displayed in Table 2. Massachusetts young adults were employed at a higher rate than their U.S. peers (~82% vs. 78%) but were modestly less likely to obtain a college labor market jobs (48% vs. 50%). As a consequence of these two divergent findings that came close to offsetting each other, the share of all young Associate degree holders who held a college labor market job was nearly identical in both the state and the nation (39%).

Table 2:  
Employment Rates and Per Cent of Employed Associate Degree Holders 26 and Under With a College Labor Market Job in Massachusetts and the U.S., 2008-09

Variable	(A) Massachusetts	(B) U.S.	(C) Massachusetts – U.S.
Employment Rate	81.7	78.0	+3.7
Per Cent of Employed in a College Labor Market Job	48.0	50.0	-2.0
Per Cent of Population in a CLM Job	39.3	39.0	+.3

<sup>3</sup> As will be noted in a following section, the self-employed who are not incorporated will not be covered by the UI wage record.

<sup>4</sup> Any occupation in O\*NET categories 3, 4, or 5 were categorized as a college labor market job for Associate degree holders. A category 3 job requires some post-secondary education or training, but not a Bachelor’s degree. Jobs in categories 4 and 5 typically required a Bachelor’s or higher degree.

## The Employment Experiences of Young Bachelor Degree Holders in Massachusetts and the U.S. in 2008-09 and in Calendar Year 2010

Findings on the employment rates and college labor market characteristics of jobs held by young 25 and under Bachelor degree holders in Massachusetts in 2008-09 are displayed in Table 3. There were 129,200 Bachelor degree holders in this age group living in the state on average over this two year period. Of this group, 103,600 or 80% were employed in some type of job. Approximately two-thirds of the employed were able to obtain a college labor market job which produces considerably higher weekly and annual earnings than those obtained by the mal-employed.<sup>5</sup>

Table 3:  
The Number of Bachelor Degree Holders Ages 25 and Under in Massachusetts in 2008-09 and Their Employment Status at the Time of the ACS Survey

Group	(A) Number	(B) Per Cent of Population in This Age/Education Group
All	129,206	100.0
Employed	103,623	80.2
Employed in a College Labor Market Job	68,350	52.9
Per Cent of Employed in CLM Job	66.0%	

Comparisons of findings on the employment rates of young four year college graduates in Massachusetts with those for the U.S. in 2008-09 are presented in Table 4. The employment rates of both groups were essentially identical (80.2% vs. 80.0%). Employed Massachusetts Bachelor degree holders were slightly more likely than their U.S. peers to obtain a college labor market job (66% vs. 64%). Combining these two results yields a CLM job holding rate of 53% for Massachusetts Bachelor degree holders versus 51% for the U.S.

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<sup>5</sup> During 2010, the mean weekly earnings of employed 20-64 year old Bachelor degree holders in Massachusetts were 57% higher than those of their employed peers who were mal-employed, an extraordinarily large wage effect.

Table 4:  
Employment Rates and Per Cent of Employed Bachelor Degree Holders 25 and Under With a College Labor Market Job in Massachusetts and the U.S., 2008-09  
(Persons 25 and Under)

	(A)	(B)	(C)
Variable	Massachusetts	U.S.	Massachusetts – U.S.
Employment Rate	80.2	80.0	+2
Per Cent of Employed in a College Labor Market Job	66.0	64.0	+2.0
Per Cent of Population in a CLM Job	52.9	51.2	+1.7

The American Community Survey data for 2010 were used to perform a similar analysis for young Bachelor degree holders in Massachusetts and the U.S. (Table 5). The overall employment rate for Massachusetts Bachelor degree recipients was just under 79% versus 77% for the U.S., a difference of 1.5 percentage points in favor of the state. Again, we find that employed Massachusetts Bachelor degree holders were modestly more successful than their national peers in finding a college labor market job (63% vs. 61). The ACS survey findings for the past three years (2008-2010) clearly indicate that approximately 80% of young Bachelor degree holders are employed on average throughout the year but that only somewhat under two-thirds of the employed are able to obtain a college labor market job. Very similar findings prevail across the country, with Massachusetts graduates slightly outperforming their peers on both employment measures.

Table 5:  
Employment Rates and Per Cent of Employed Bachelor Degree Holders 25 and Under With a College Labor Market Job in Massachusetts and the U.S., 2010

	(A)	(B)	(C)
Variable	Massachusetts	U.S.	Massachusetts – U.S.
Employment Rate	78.8	77.3	+1.5
Per Cent of Employed in a College Labor Market Job	63.3	61.4	+2.2
Per Cent of Population in a CLM Job	50.1	47.5	+2.6

Source: American Community Surveys, public use files, 2010.

The findings of the 2010 ACS surveys for Massachusetts on the employment experiences of young Bachelor degree holders can be generated for male and female graduates separately (See Table 6). In 2010, female Bachelor degree holders were modestly more likely to be employed than their male counterparts across the state (80% vs. 78%). However, employed male graduates were more successful in obtaining college labor market jobs than their employed female peers (68% vs. 61%). A better understanding of these gender differences in college labor market job finding would be desirable given the substantial earnings advantages to workers who find college labor market jobs in our state and the nation. Recent research by the Center for Labor Market Studies has found that the college majors of Bachelor degree holders have a very significant effect on their ability to obtain a college labor market job and on their annual earnings. Graduates with degrees in accounting, computer science, education, engineering, health, and the physical sciences (other than biology) are most likely to obtain college labor market jobs while those in the humanities, area studies, communications, and softer social sciences (psychology, sociology) face far greater difficulties. We do have college major data for Bachelor degree recipients on the ACS for 2009 and 2010. Some further analysis of this data would be helpful. Do the unit records for individual BA graduates from the state's public colleges contain information on their college majors? If so, then we should examine the Massachusetts UI wage records (any employment, mean quarters of employment, mean quarterly earnings) by major field of study.

Table 6:  
Comparisons of the Employment Rates and College Labor Market Employment  
Rates of Male and Female Bachelor Degree Holders in Massachusetts in 2010

	(A)	(B)	(C)
Variable	Males	Females	Males - Females
Employment Rate	77.8	79.6	-1.8
Per Cent of Employed in a College Labor Market Job	67.7	60.5	+7.2
Per Cent of Population in a CLM Job	52.6	48.2	+4.4

## **The UI Wage Coverage of the Jobs Held by Younger Employed Associate and Bachelor Degree Holders in Massachusetts in 2009-2010**

All efforts that rely on the wage records of workers covered by the state unemployment insurance system to measure the employment rates of recent college graduates from Massachusetts colleges and universities will be somewhat incomplete. Four groups of employed recent college graduates will be missed by use of the UI wage records only for Massachusetts:

- Those college graduates who moved out of state after graduation and now work outside of the state.<sup>6</sup>
- Those who reside in Massachusetts but work outside of the state, such as in Connecticut, New Hampshire, or Rhode Island.
- Those who are self-employed in a non-incorporated firm.
- Those who work as an unpaid worker in a family owned firm.<sup>7</sup>

Members of the latter three groups have been estimated with the ACS surveys for 2009 and 2010. Findings for employed 20-26 year old Associate degree holders living in Massachusetts are displayed in Table 7. On average, during these two years, there were 27,462 employed, young Associate degree holders living in Massachusetts. Of this group, slightly over 1,200 worked outside of Massachusetts, another 500 were self-employed working in a non-incorporated business, and 333 were working without pay in a family owned business. The sum of these three groups was slightly over 2,000, equivalent to between 7 and 8 per cent. This group, however, excludes those Associate degree holders who graduated from Massachusetts colleges and moved outside of the state. This group of out-migrants also needs to be added to this pool of workers who will not have a Massachusetts UI-based wage record. We will present estimates of the size of this group in a following paper.

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<sup>6</sup> The ACS does ask individuals if they have moved in the past 12 months and to identify the geographic location of their previous residence. We will make estimates of this group in a future paper.

<sup>7</sup> Some individual who work as unpaid interns in a private sector firm or government agency also will be missed by the UI wage records.



Table 7:  
The Number and Per Cent of Employed Associate Degree Holders 20-26 Years Old Residing in Massachusetts Who Would Not Have an In-State UI Wage Record in 2009-2010

Group of Employed	(A)	(B)
	Number	Per Cent
All	27,462	100.0
Work outside of Massachusetts	1,203	4.4
Self-employed not incorporated	493	1.8
Working without pay in family business	333	1.2
Total Above Three Groups	2,029	7.4

A similar analysis was performed for employed Bachelor degree holders 25 and under in the state in 2009-2010 (Table 8). Of the nearly 103,600 employed Bachelor degree holders residing in the state, 3,700 or 3.6% worked outside of Massachusetts, close to another 1,700 were self-employed in non-incorporated businesses, and only 43 were working without pay in a family owned business. The total estimated number of employed in these three groups was 5,441 or 6.0%. Those Bachelor degree holders who moved out of the state are excluded from these totals.

Table 8:  
The Number and Per Cent of Employed Bachelor Degree Holders 25 and Under in Massachusetts in 2009-2010 Who Would Not Have an In-State UI Wage Record

Group of Employed	(A)	(B)
	Number	Per Cent
All	103,587	100.0
Work outside of Massachusetts	3,728	3.6
Self-employed not incorporated	1,670	1.6
Working without pay in family business	43	.8
Total Above Three Groups	5,441	6.0

We can derive an estimate of the likely number of such out-migrants by analyzing the ACS survey findings for the past few years. Unfortunately, the ACS survey does not provide any information on the college or university from which these young Bachelor degree holders obtained their degrees. Given higher shares of out of state college students in the private universities and colleges of the state, it is quite likely that the probability of a graduate leaving

Massachusetts in the first few years after graduation would be higher for graduates of the private colleges. Available follow-up data for graduates of state colleges and universities should be reviewed to test for evidence of these differentials.