College Completion in North Dakota: And the Impact on the Workforce and Economy

Prepared by

The Education Commission of the States (ECS)

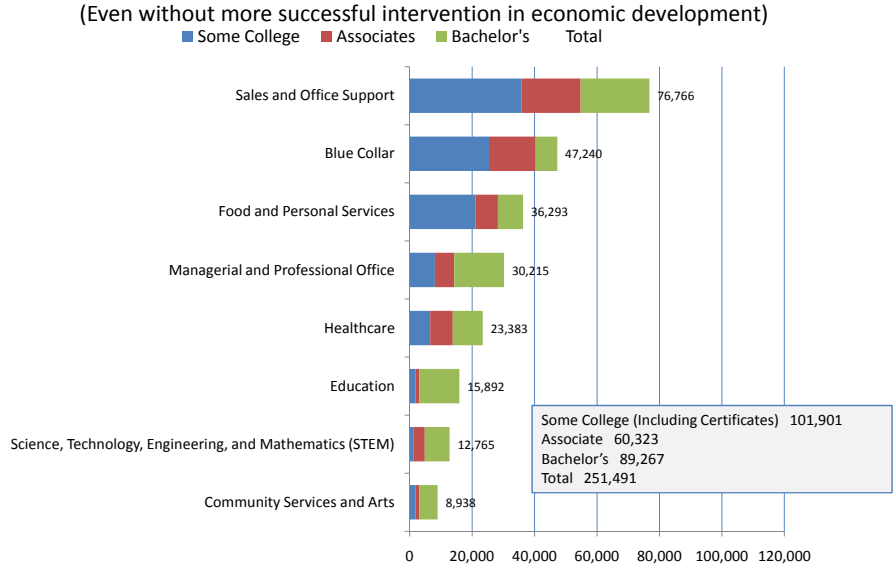
What are North Dakota's goals for its higher education system, how do they measure success and how do they get there?

. . . In Review

- North Dakota does better than most states in the percentage of its adult workforce with college degrees.
- North Dakota has the highest gap in education attainment between younger and older adults, with younger adults having a 11% advantage
- North Dakota produces below the national average in certificates.
- The median wages earned by college graduates are much lower than the U.S. average – particularly those with a bachelor's degrees or higher.
- The state is below the national average in the percent of workers in management/professional jobs and STEM jobs.
- Nearly 32 percent of college-educated workers in North Dakota are earning low wages – the second highest rate in the nation.
- North Dakota is losing a relatively high number of college-educated residents from out-of-state.
- 70% of jobs in North Dakota in 2018 will require some postsecondary education

Workforce Demand: Estimated Increases in Undergraduate Credentials Needed in North Dakota by 2018 – by Type of Occupation

(Even without more successful intervention in economic development)

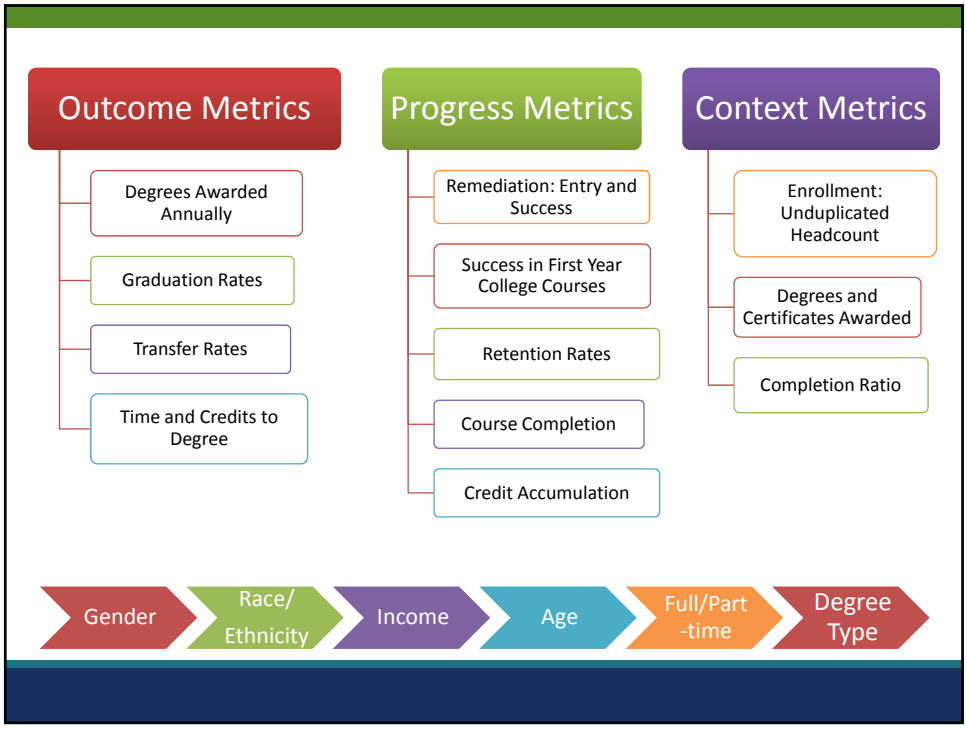


Source: Georgetown University, Center on Education and the Workforce. *Help Wanted: Projections of Jobs and Education Requirements through 2018*

National Context

- Mismatch of skills with jobs available is primary driver of current unemployment rate
- Postsecondary policy is shifting from access to completion
- Growing sense among public that postsecondary education is not worth the cost
- However, evidence suggests that postsecondary education is the key to access to middle class
- Challenge is to increase value of higher education by:
  - *Redesigning system toward completion*
  - *Reducing cost through new structures that reduce time to degree*
  - *Align with workforce opportunities*

How can North Dakota fully leverage its high postsecondary attainment rate to ensure that its residents can benefit from the state's strong economy?



Strategy 1:
Eliminate or Accelerate Remediation

- Only 25% of students at community colleges who require remediation ever earn a credential.
- The primary barrier to student success is the amount of time students spend in remedial education.
- The goal of remediation should be success in college level courses within a program of study.
- The default should be enrollment in college level course
- For most students, remediation should not take longer than a semester
- Contextualization of remediation in certificate or degree program courses works.
- Measure success in remediation as part of state accountability structures.

It's the System, Not the Students

Fall 2007 Remedial Math Course	Number of New Freshmen Enrolled	Passed First Remedial Course	Enrolled in Subsequent Remedial Math	Passed Subsequent Remedial Math	Enrolled College-Math within 3-years	Passed College Math
3 levels below college	510	61.2%	40.0%	30.6%	15.5%	12.5%
2 levels below college	1348	66.1%	47.0%	32.1%	23.3%	18.0%
1 level below college	1276	71.0%			64.7%	51.8%

Austin Peay U Enrolls Students Directly into College Courses, with Academic Support

	Traditional-DSPM 0800	Traditional – DSPM 0850	Traditional College Ready	Redesign
Math Thought and Practice	11.6%	43.5%	85%	76.3%
Fundamentals of Statistics	7.5%	28.8%	56.2%	61.2%

Los Medanos Path2Stats Course Completes Remediation in Once Semester for ALL students

Student placement in math sequence	Path2Stats: % of students successfully completing Statistics	% of students who successfully complete college-level math course
Transfer-level	100% (3 of 3)	
Intermediate Algebra	90% (18 of 20)	29% (93 of 320)
Elementary Algebra	85% (22 of 26)	17% (49 of 292)
Pre-algebra or Arithmetic	31% (11 of 35)	5% (8 of 155)

Contextualization Remediation in Certificate Programs: I-BEST

I-BEST students were more likely to:

- continue into credit-bearing courses
- earn credits toward a credential
- earn a certificate
- improve their basic skills.
- *Probability of credential 50% greater for I-BEST Students*

Strategy 2:
Targeting Adults with Some College No Degree

- 26% of North Dakota adults have some college, but no degree
- Data does include certificates, but North Dakota produces certificates at lower rate
- Target North Dakota residents with some college
- Assessments for prior learning
- Connect credit and assessment into high demand certificates or degrees
- Partner with employers to align prior learning with skills required for high demand jobs, provide customized training toward credential

Strategy 3:
Create Structured, Cohort Based Programs

- 47% of public four year degree students complete in 6 years, 38% of public 2 year students complete in 3 years.
- Average credits to degree in the U.S. are well above those required to earn a credential
  - Average 65 for a certificate – 30 required
  - Average 79 for an associate degree – 60 required
  - Average 136 for bachelor's degree – 120 required
- Provide students option into degree/certificate programs with consistent schedule, cohort of students and specific exit point from program
- Align with high demand credentials

Strategy 4:
Direct Students into a Program of Study

- Students who take 3 courses in a program of study are far more likely to earn a credential
- Choice is valued in higher education, but too much choice can be a bad thing
- Encourage all students to decide on a broad program of study upon enrollment.
  - 4 year: Liberal Arts, Social Sciences or STEM
  - 2 year/Certificate: Industry Clusters
- Construct all curriculum within program of study
- Utilize technology to guide students into courses consistent with program of study.

Strategy 5:
Career Pathways

- Partner with employers to align skills, postsecondary training and jobs
- Create stackable credentials aligned with specific jobs along career ladder in high demand field
- Utilize employee partnerships to move employees between training and next credential along career ladder

Strategy 6:
Student Incentives

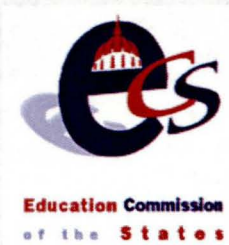
- Leverage student financial aid and tuition to incent degree completion
- Set credit limits for subsidized tuition
- Provide incentives for students to enroll full time – same tuition amount for 15 credits as 12 credits
- Provide additional financial incentives who pursue high demand fields
- Partner with employers to provide direct transitions into jobs.

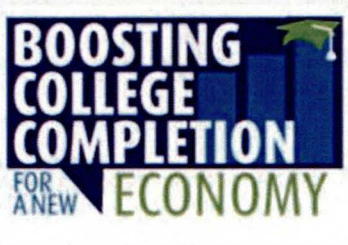
Strategy 5:
Technology Based Invasive Advising

- Identify student actions related to success and drop out (metrics)
- Use technology to intervene with students
  - Automatic emails when students miss class
  - Electronic mentors
  - Alerts on student registration choices inconsistent with program of study
  - Use assessments to inform students about programs of study

College Completion in North Dakota: The Impact on the Workforce and the Economy

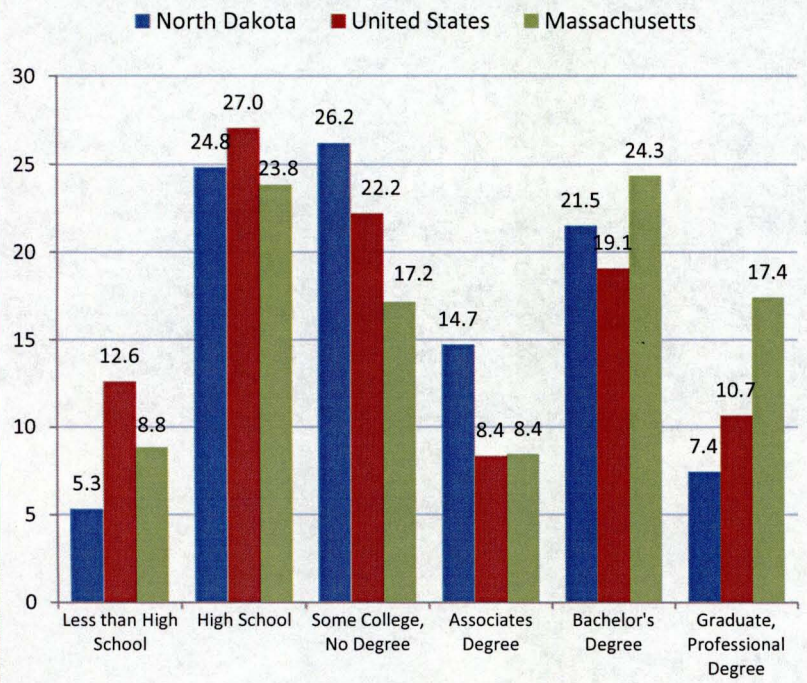
November 2011





Higher Levels of Education and Skills Needed for Today's Economic Recovery and Tomorrow's Economic Vitality

Educational Attainment of Working Adults Aged 25 to 64 – North Dakota, the U.S., and Most Educated State (2009)



Source: U.S. Census Bureau, 2009 American Community Survey

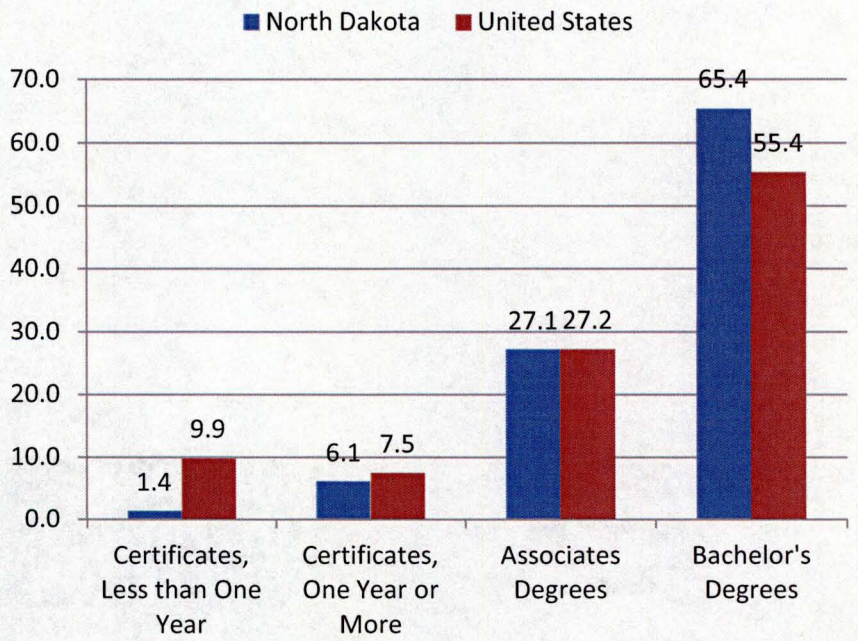
Overall Attainment High

- 44% of adults have a college degree, compared to 38% of adults nationally.
- Additionally, another 26% has enrolled in postsecondary education at some point. With proper incentives in place, adults in this group might re-enroll and complete a degree.
- Moving low-skill adults into the middle attainment strata (i.e., some college, associate degrees) could sustain economic growth and replace middle-skills workers who have left the state.

Associate Degrees Are High-Demand Credentials

- North Dakota colleges and universities, both public and private, produce more baccalaureate degrees than the national average.
- Postsecondary institutions produce certificates at a lower rate than the national average.
- Postsecondary completion is high in the state, so retaining graduates and improving their economic prospects are the principle ways of leveraging a productive higher education system.

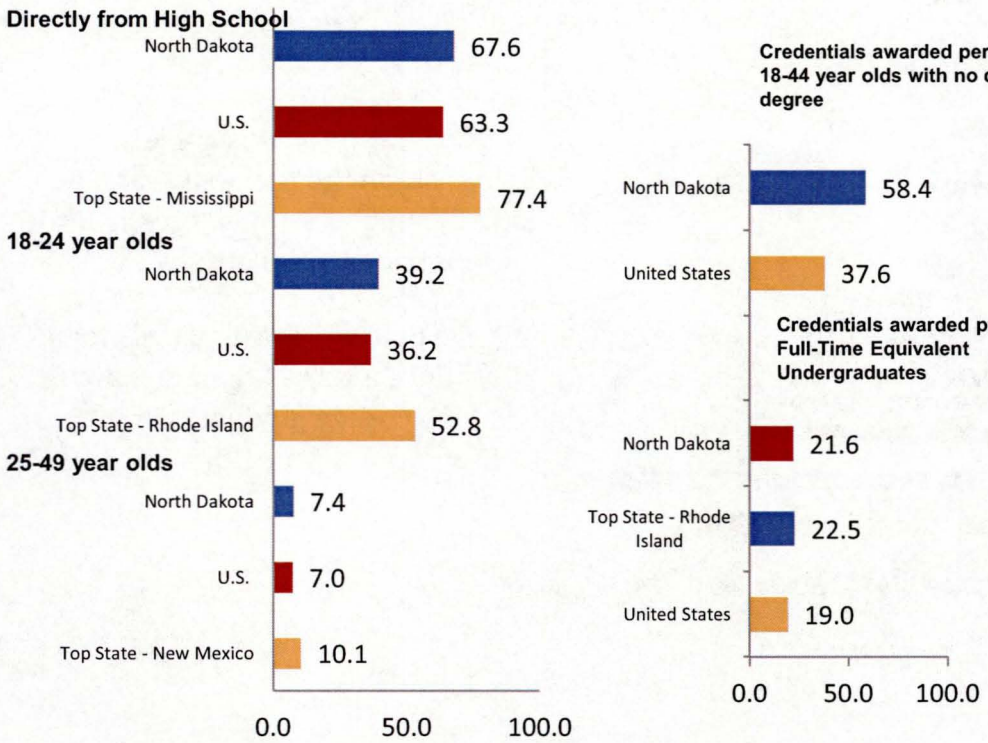
Distribution of Undergraduate Awards – North Dakota and the Nation (2008-09)



Source: U.S. Census Bureau, 2009 American Community Survey

How Well Does North Dakota Provide Postsecondary Education to Its Residents?

College Participation Rates and Degree Productivity in North Dakota by Age Group



Source: NCES CCD 2008; IPEDS 2008; 2008 IPEDS GRS

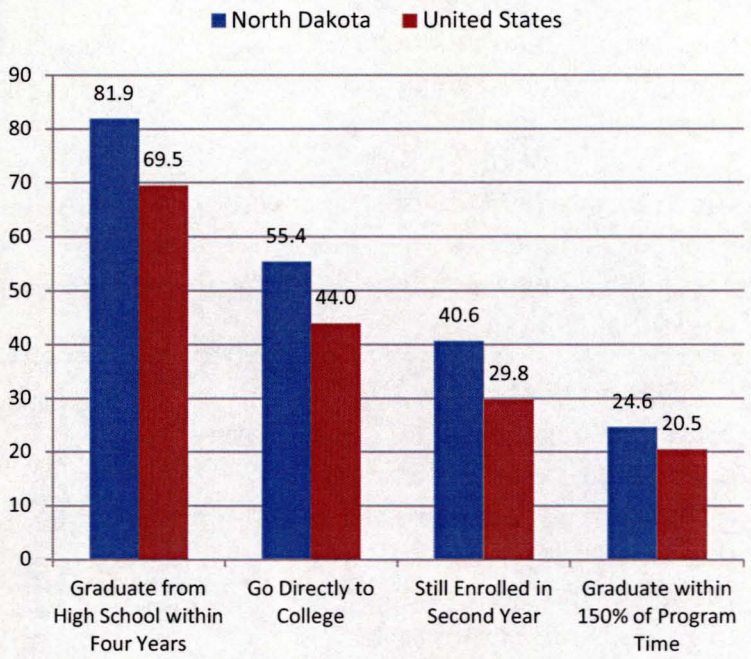
High Participation Main Contributor to Completion Successes

- High school graduates and young and middle-aged adults are enrolling in postsecondary education at rates greater than the national average.
- North Dakota ranks first among states in producing degrees relative to the population in need.
- Regardless of age group, productivity rates are substantially higher in North Dakota than the national average.

Student Academic Preparation Leads to Substantially Higher Completion Rates Than The National Average

- Primary driver of high college-going rates is the percentage of students graduating high school.
- Once in college, North Dakota students persist and complete at similar rates as students nationally.
- With the high school graduation rate already in the nation's top 10, retention strategies are one of the effective ways of improving college completion rates.
- Nearly 25% of North Dakota's students graduate with a college degree within 150% of program time, which is above the national average.

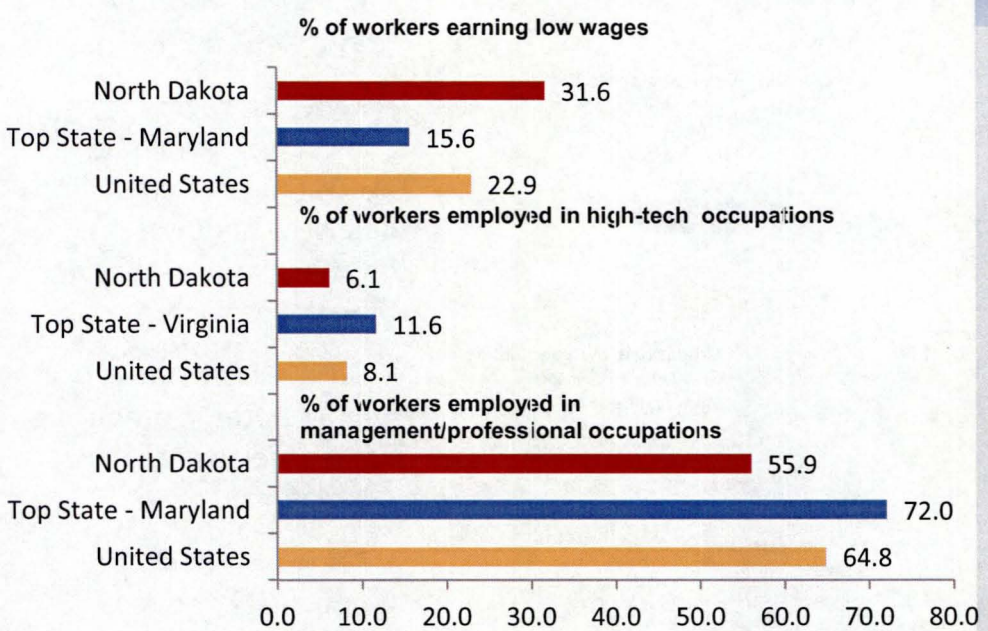
Student Pipeline – For Every 100 9th Graders…



Source: NCES CCD 2008; IPEDS 2008; 2008 IPEDS GRS

How Competitive Are North Dakota's Work Conditions for College Graduates?

Percentages of College Educated Workers in the Workforce



Source: U.S. Census Bureau, 2009 American Community Survey (Public Use Microdata Samples)

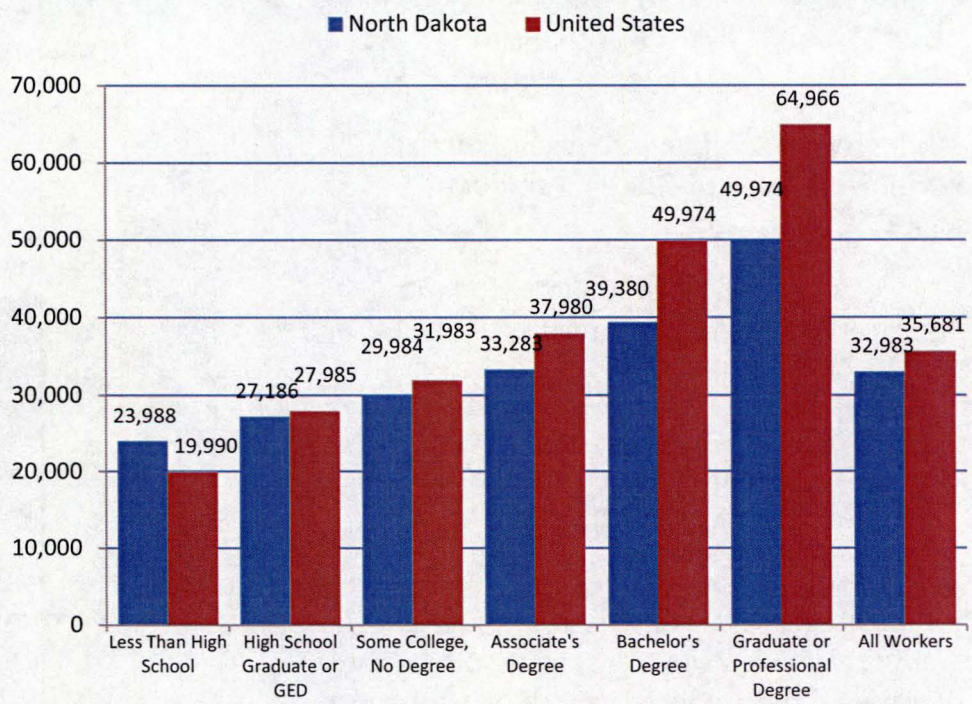
Degree Productivity High But Median Wages Are Low

- 32% of college graduates earn less than $28,000 a year.
- College graduates are less likely than the national average to be employed in high-tech and professional occupations.
- On balance, these two sectors produce a wage premium above which college graduates in other fields would get paid.

An Economic Disincentive For College Graduates To Stay in North Dakota?

- According to projections from the Georgetown Center for Education and the Workforce, 70% of jobs in North Dakota (80,000 jobs) in 2018 will require some college or a postsecondary credential.
- College graduates may command a higher salary outside of the state. The disparity in wages between the state and the national average could induce out-migration among those with a bachelor's degree.

Median Annual Wages for Employed Workers Aged 25 to 64 by Level of Education (2009)



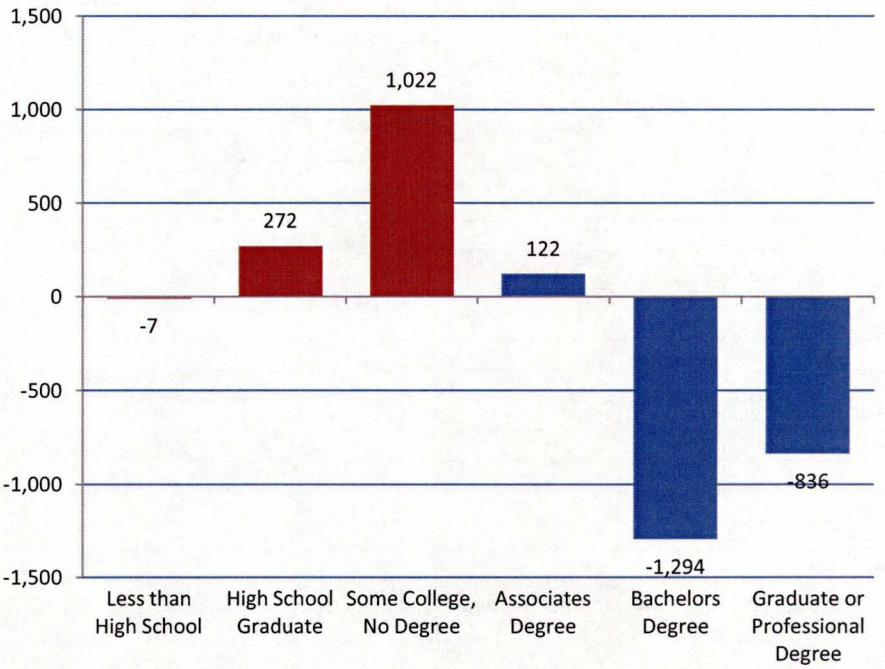
Source: Georgetown University, Center on Education and the Workforce. Help Wanted: Projections of Jobs and Education Requirements through 2018

Coming and Going: Do Educated Workers Stay in North Dakota?

Migration Data Tell Two Different Stories

- A substantial number of bachelor's and graduate degree holders are leaving the state.
- Middle-skills workers (i.e., some college, associate degree) are entering the state.
- It is probable that both groups are responding to workforce demand.
- The "wild card" is whether economic growth brought about by agribusiness, mining and oil/natural gas will change the out-migration pattern for college graduates.

Average Annual Net Migration of 22 to 64 Year Olds by Education Level (2005-09)



Source: U.S. Census Bureau, 2009 American Community Survey (Public Use Microdata Samples)

Observations and Policy Diagnosis

The college attainment rate in North Dakota is substantially higher than the national average. Growth in agribusiness, mining, and oil/natural gas extraction have attracted middle-skills workers to North Dakota. However, a substantial number of adults with bachelor's and graduate degree holders are leaving the state, presumably for higher-paying jobs. The state might consider how to "deepen the roots" of the growth industries in their state. Further, diversifying within the industries that promote economic growth and bring in high volume of tax revenue might ensure that those industries remain prosperous, especially through boom-and-bust cycles.

To sustain economic growth and to better leverage the state's high postsecondary productivity, state leaders should consider strategies that:

- Leverage resources to evaluate the effectiveness of existing postsecondary and workforce systems in accomplishing state goals.
- Provide incentives for North Dakota's adults with some college but no degree to re-enroll in postsecondary education and complete.
- Move low-skill adults into middle-skill positions through participation in customized and accelerated degree and certificate programs.
- Develop a multi-tier approach to economic development, wherein the state attracts and retains high-skilled workers in the short-term, while producing credentials that are specifically aligned with industries that are already the engines of economic growth.
- Strengthen partnerships with the private sector to create career pathways that attract adults to high-earning occupational fields.

Appendix: Measures for College Completion and Impact on the Economy with Notation for Top 10 and Bottom 10 State Ranks

State	Percent of Adults 25 to 64 with College Degrees (2009)	Difference in College Attainment between Young and Older Adults (2009)	Difference in College Attainment between Whites and Minorities (2009)	Percent of High School Graduates Going Directly to College (Fall 2008)	18-24 Year Olds Enrolled in College (2009)	25-49 Year Olds Enrolled in College (2009)	Adults 18 to 64 with Just a High School Diploma or Less, Living in Families Earning Less than a Living Wage	Adults 18 to 64 with Some College, No Degree, Living in Families Earning Less than a Living Wage	Adults 18 to 64 with No College Degree, Who Speak English "Not Well" or "Not at All"
Alabama	44	30	6	14	19	20	45	46	17
Alaska	32	50	26	50	50	29	11	11	14
Arizona	36	47	34	45	28	9	38	39	47
Arkansas	49	21	8	28	35	33	47	49	24
California	21	40	49	19	6	6	35	32	50
Colorado	3	48	48	27	33	3	16	16	40
Connecticut	2	33	46	10	38	47	3	2	37
Delaware	24	37	33	15	9	44	21	18	26
Florida	29	34	5	38	31	21	37	35	44
Georgia	30	32	17	7	45	32	40	36	36
Hawaii	12	35	11	29	36	28	4	7	34
Idaho	38	46	38	47	48	31	29	38	25
Illinois	15	6	45	40	25	7	24	24	42
Indiana	41	13	12	17	14	14	32	29	20
Iowa	17	2	43	22	3	26	10	12	19
Kansas	18	24	36	20	11	12	20	23	33
Kentucky	45	8	3	32	29	22	48	48	13
Louisiana	48	14	15	21	44	48	42	41	11
Maine	23	39	14	31	26	40	27	26	5
Maryland	8	22	19	25	24	18	8	3	29
Massachusetts	1	9	41	2	4	39	6	4	38
Michigan	31	28	18	34	13	13	34	34	15
Minnesota	4	4	47	8	12	5	7	8	23
Mississippi	47	26	16	1	37	34	50	50	12
Missouri	33	7	10	33	20	15	30	31	10
Montana	25	10	13	44	46	35	28	33	1
Nebraska	16	12	50	18	10	10	18	21	30
Nevada	46	44	21	43	49	38	33	30	48
New Hampshire	5	23	29	23	22	50	2	1	9
New Jersey	7	18	42	5	34	41	9	5	45
New Mexico	39	49	27	11	27	1	43	45	43
New York	6	5	40	3	15	37	25	22	46
North Carolina	27	25	23	16	40	27	36	37	32
North Dakota	10	1	20	12	8	11	1	6	4
Ohio	37	11	9	26	17	25	31	28	7
Oklahoma	43	36	7	42	39	30	39	42	27
Oregon	19	45	31	49	30	8	22	27	39
Pennsylvania	28	3	24	24	7	49	23	19	16
Rhode Island	13	17	44	13	1	42	19	14	41
South Carolina	34	29	25	6	32	46	41	40	22
South Dakota	22	20	35	4	18	19	26	25	6
Tennessee	42	19	4	30	42	43	46	44	18
Texas	40	43	37	41	43	36	44	43	49
Utah	20	41	39	39	23	2	13	20	31
Vermont	9	31	2	48	2	45	12	10	3
Virginia	11	27	30	9	21	16	15	9	28
Washington	14	42	28	46	47	23	14	17	35
West Virginia	50	15	1	37	5	4	49	47	2
Wisconsin	26	16	32	36	16	24	17	15	21
Wyoming	35	38	22	35	41	17	5	13	8

Appendix (cont.): Measures for College Completion and Impact on the Economy with Notation for Top 10 and Bottom 10 State Ranks

State	Undergraduate Awards (One Year and More) per 100 FTE Undergraduates, 2008-09	STEM Credentials Awarded per 1,000 STEM Employees (2008-09)	Health Credentials Awarded per 1,000 Health Employees (2008-09)	Undergraduate Credentials Awarded per 1,000 18 to 44 Year Olds with No College Degree, 2008-09	Adults 25 to 64 with College Degrees Employed in Management and Professional Occupations	Adults 25 to 64 with College Degrees Employed in High Tech Occupations	Percent of Workers with College Degrees Earning Low Wages (2009)	Percent of Workers with Some College, No Degree Earning Low Wages (2009)	Annual Migration Rates of College Degree-Holders (2005-09)	Personal Income per Capita (2010)	State New Economy Index (2010)
Alabama	47	19	23	42	35	24	23	34	22	42	47
Alaska	49	50	49	50	11	41	14	12	50	8	31
Arizona	19	8	1	22	37	11	22	16	2	40	20
Arkansas	35	16	12	36	14	43	35	47	18	46	48
California	48	41	25	35	16	6	10	10	19	12	7
Colorado	13	38	5	11	28	4	21	17	14	14	9
Connecticut	29	40	48	33	9	18	3	2	21	1	5
Delaware	25	42	40	26	8	20	6	24	13	20	6
Florida	9	28	14	18	47	34	39	36	10	24	21
Georgia	42	29	11	30	15	22	16	20	11	37	19
Hawaii	16	39	46	43	50	45	12	8	7	17	40
Idaho	3	31	27	31	41	17	47	50	29	49	27
Illinois	28	25	16	12	23	19	13	15	27	11	15
Indiana	27	11	20	25	40	26	32	28	41	41	35
Iowa	7	7	10	3	42	31	37	32	28	28	38
Kansas	22	26	4	7	18	15	30	25	36	21	26
Kentucky	24	5	6	17	25	36	38	41	25	44	43
Louisiana	41	4	8	27	4	46	15	27	49	26	44
Maine	15	37	39	37	34	47	44	38	34	29	28
Maryland	23	46	43	32	1	2	1	1	12	4	3
Massachusetts	21	30	36	8	3	8	4	6	26	2	1
Michigan	26	14	31	24	39	13	34	37	46	36	17
Minnesota	12	36	7	4	33	14	11	14	31	13	13
Mississippi	32	3	21	45	32	50	42	44	47	50	50
Missouri	8	21	15	20	17	28	27	30	30	32	33
Montana	34	12	47	39	45	48	50	49	15	38	36
Nebraska	30	10	17	6	43	35	33	39	40	22	34
Nevada	50	43	42	49	49	42	19	5	1	31	30
New Hampshire	4	49	38	13	20	5	18	4	32	9	11
New Jersey	36	48	50	46	6	7	2	3	20	3	4
New Mexico	44	35	33	44	12	12	45	46	16	43	32
New York	10	17	41	16	26	40	7	9	39	5	10
North Carolina	46	27	37	29	22	27	25	42	9	35	24
North Dakota	6	2	13	1	48	37	49	26	48	18	37
Ohio	33	18	22	28	13	25	26	33	42	34	25
Oklahoma	14	13	35	40	31	38	31	40	24	33	42
Oregon	39	47	26	38	38	10	48	31	4	30	14
Pennsylvania	17	15	32	14	10	23	20	18	33	16	22
Rhode Island	1	6	44	2	19	21	9	13	44	15	16
South Carolina	45	32	34	41	44	30	40	43	8	45	39
South Dakota	31	1	19	21	46	44	46	45	38	25	45
Tennessee	40	34	30	47	24	33	28	35	17	39	41
Texas	38	33	24	48	5	9	8	21	5	23	18
Utah	11	22	2	9	30	16	43	23	23	48	12
Vermont	5	23	45	5	7	32	29	29	45	19	23
Virginia	37	44	9	23	2	1	5	7	6	7	8
Washington	20	45	18	19	29	3	17	11	3	10	2
West Virginia	43	9	28	34	21	39	36	48	43	47	49
Wisconsin	18	24	3	10	36	29	24	19	35	27	29
Wyoming	2	20	29	15	27	49	41	22	37	6	46

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