



*** Special Data Analysis ***

Placement Outcomes of Regental Graduates

South Dakota faces a workforce problem. Although the supply of new jobs in the state is projected to grow considerably over the next decade, uncertainty exists as to whether the state can supply an adequate pool of skilled workers to fill these positions. South Dakota's shrinking youth population, coupled with its need to significantly improve degree attainment, combine to suggest that the state will struggle to address its future workforce needs. The following analysis was undertaken to examine the extent to which graduates from the Regental university system ultimately remain in South Dakota following graduation, either as a worker or as a continuing student. Results of the analysis indicate that a robust majority of students do remain in the state following the completion of a degree. This finding underscores both the social and the economic importance of bolstering the number of degree completions in the state.

Context

South Dakota finds itself at an important juncture on the road to economic vitality. A number of interacting demographic trends – both observed and projected – are forcing the state to grapple with an unpleasant possibility: that the state's long-term economic health soon will be threatened by a shortage of qualified human capital. Consider the following evidence:

- **The supply of new jobs in the state is growing.** The US Bureau of Labor Statistics (BLS) projects that between 2008 and 2018, more than 41,000 new jobs will be created in South Dakota.¹ This amounts to an increase of approximately 8.8% in the number of jobs available in the state. Nationally, the pool of new jobs created over this period will be dominated by those requiring a postsecondary degree. According to BLS, the number of positions requiring an associate's degree will climb by 19.1% in the United States by 2018.² Similar increases are expected for jobs requiring a bachelor's degree (16.6%), master's degree (18.3%), doctoral degree (16.6%), and professional degree (17.6%). These rates of growth greatly exceed those for jobs requiring on-the-job training only.
- **The next generation of South Dakota's homegrown workforce is smaller than the incumbent workforce.** From 2000 to 2010, the number of South Dakotans in the 10-14 and 15-19 age brackets fell by 9.3% and 7.7% respectively.³ At the same time, members of the 55-59 and 60-64 age groups rose by 61.3% and 51.6%. The US Census Bureau has estimated that while membership in South Dakota's 14-17, 18-24, and 25-44 age groups

¹ South Dakota Department of Labor and Regulation, Labor Market Information Center (2010). Retrieved from http://dlr.sd.gov/lmic/occupation_projections.aspx

² US Bureau of Labor Statistics, Employment Projections Program (2009). Retrieved from <http://www.bls.gov/opub/mlr/2009/11/art5full.pdf>

³ U.S. Census Bureau (2010). Data from the 2000 Census were retrieved from http://factfinder.census.gov/servlet/QTTable?_bm=n&_lang=en&q_r_name=DEC_2000_SF1_U_DP1&ds_name=DEC_2000_SF1_U&geo_id=04000US46. Data from the 2010 Census were retrieved from <http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>

will either remain flat or fall modestly between 2010 and 2030, the number of South Dakotans who are 65 or older will climb by a staggering 61.7%.⁴ From 2000 to 2030, South Dakota's median age will rise from 35.6 to 41.5.

- **South Dakota lags in educational attainment.** As of 2009, 25.1% of South Dakotans over 24 years old had earned a bachelor's degree or higher.⁵ South Dakota currently ranks 34th among all US states by this measure, falling short of the national rate of 27.9%. A mere 7.3% of South Dakotans hold an advanced degree, compared to 10.3% nationally; only six states had a lower proportion in 2009. Since 1990, improvements in the state's national standing in these measures have been marginal. South Dakota's comparative lack of educational attainment no doubt poses socioeconomic problems for the state's population, given the vast advantages in earning power held by postsecondary degree holders. The Bureau of Labor Statistics reports that in 2010 the median annual salary for high school graduates was \$32,677, compared to \$40,037 for associate's degree holders, \$54,184 for bachelor's degree holders, \$66,398 for master's degree holders, and \$80,910 for doctoral degree holders.⁶ In an increasingly knowledge-based, global economy, South Dakota's comparative lack of degree holders may place the state at a major competitive disadvantage.

These trends combine to form the image of a state on the brink of a workforce deficit. While *jobs* are the engine of economic growth, South Dakota's economic prospects would seem to hinge equally on the availability of skilled *workers*. If current trends persist, South Dakota's emerging workforce may be both numerically and educationally insufficient to meet the state's occupational demands. Such a condition might seriously undermine the state's long-term economic aspirations.

This looming problem is not without a solution. A defining characteristic of the SDBOR system lies in its efforts to strengthen the state's supply of human capital. The operations of the six Regental institutions are underpinned by a series of interconnected strategic initiatives aimed at improving socioeconomic conditions in the state. As presented in the Board's latest strategic plan, SDBOR has articulated its ambitions to take a proactive role in enhancing the state's economic resources by improving the educational attainment of South Dakota's workforce.

The Regental university system clearly will play a pivotal role in meeting the state's future skilled workforce needs. In this light, the study described in this report attempts to shed light on an obvious analytic question: How does the university system fare in its efforts to supply the state with an adequate pool of skilled workers?

⁴ US Census Bureau (2005). Retrieved from <http://www.census.gov/population/www/projections/files/SummaryTabB1.pdf>

⁵ US Census Bureau, Statistical Abstract of the United States: 2012 (2011). Retrieved from <http://www.census.gov/compendia/statab2012/tables/12s0233.pdf>

⁶ US Bureau of Labor Statistics (2011). Retrieved from http://www.bls.gov/emp/ep_chart_001.htm. Values reported by BLS are in the form of median weekly earnings; values were multiplied by 52.2 to calculate median annual earnings reported here.

Study Overview

One method for assessing the university system's successes in fostering the state's skilled workforce is the analysis of the post-completion outcomes of Regental graduates. What becomes of students who complete degrees from the South Dakota university system? Examining the placement outcomes of Regental degree completers is vital for understanding SDBOR's contribution to the state's human capital. Consequently, this study centers on the analysis of placement data for recent undergraduate and graduate degree completers.

Of primary interest to this analysis is the extent to which Regental graduates either 1) *are hired into the South Dakota workforce* or 2) *continue their education by enrolling in post-graduation coursework* one year after graduation.

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Data for this project are gathered from three main sources: *Regents Information Systems (RIS)*, the *South Dakota Department of Labor and Regulation (DLR)*, and the *National Student Clearinghouse (NSC)*. Analysis focuses on the placement outcomes of undergraduate and graduate degree completers from the FY2011 SDBOR graduate cohort (n=5,571).⁷

In the initial step of the placement search, DLR employment data systems are queried to determine the first-year job placement outcomes of all recent (FY2011) degree completers identified by RIS.⁸ For each degree completer in the RIS dataset, DLR provides industry and wage data for up to three in-state job placements. Next, the same graduate list is submitted to the NSC to gather enrollment information on any students attempting collegiate coursework after (Regental) graduation.⁹ The resultant NSC dataset contains institutional information for each student matriculating to an NSC-reporting college or university.

It is important to note at the outset that “placement rates” cited in this report do not account for degree completers who are hired out-of-state, are self-employed, are employed by the federal government (including armed services), or are employed or enrolled outside the three-month query window used by DLR and NSC. It also should be noted that some postsecondary institutions do not report enrollment information to NSC. The rates presented in this analysis are, then, conservative estimates of actual completer placement.

⁷ Fiscal years include data from summer, fall, and spring terms. Consequently, the FY2011 cohort comprises graduates from SU2010, FA2010, and SP2011. All degree completion data were provided by RIS. Cohort counts may not match Fact Book figures precisely due to differing unduplication procedures; in this analysis, each cohort member is included once per institution per degree per term.

⁸ For record searches performed by both the DLR and the NSC, matched records are sought for a one-quarter (three-month) window one year following a student's Regental graduation date. Any employment/enrollment data returned for this time period – including part-time employment/enrollment – are included in the analysis.

⁹ As of Fall 2013, approximately n=3,500 US postsecondary institutions reported enrollment data to NSC. NSC asserts that its roll of participating institutions accounts for over 98 percent of all US college students.

Analysis: All Students

Of the $n=5,571$ degree completers in the FY2011 graduation cohort, 65.1% ($n=3,625$) were found to be either employed in South Dakota or enrolled in a post-secondary institution (in any state) one year after graduation (see Figure 1, Table 1).¹⁰ More specifically, 54.5% of Regental graduates had been hired into the South Dakota workforce, while an additional 10.5% had enrolled in further collegiate coursework. Undergraduate-level completers produced a higher net placement rate than did graduate-level completers (68.0% vs. 55.7%).

Figure 2 (next page) indicates that the FY2011 cohort’s net placement rate of 65.1% is consistent with rates recorded by other recent cohorts. Yet because these rates refer to increasingly larger cohorts, the *number* of placed students has climbed steadily since FY2006.

Figure 1
Placement of Regental Graduates
FY2011 Cohort, 1-Year Placement

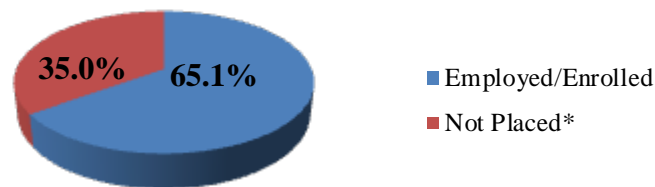


Table 1
Placement of Regental Graduates by Level
FY2011 Cohort, 1-Year Placement

<i>Outcome</i>	<i>UG</i>	<i>GR</i>	<i>All</i>
<i>Employed/Enrolled</i>	68.0%	55.7%	65.1%
<i>Not Placed*</i>	32.0%	44.3%	35.0%
Total (n)	4,235	1,336	5,571

<i>Outcome</i>	<i>UG</i>	<i>GR</i>	<i>All</i>
<i>Employed</i>	56.4%	48.4%	54.5%
<i>Enrolled</i>	11.6%	7.3%	10.5%
<i>Not Placed*</i>	32.0%	44.3%	35.0%
Total (n)	4,235	1,336	5,571

* Also includes all graduates who were employed out-of-state, were self-employed, were employed by the federal government (including armed services), or were employed or enrolled outside the three-month query window.

¹⁰ Altogether, 54.5% of cohort members were found to be employed in South Dakota, and 20.3% were found to be enrolled in subsequent postsecondary work. Graduates who were found to be both employed *and* enrolled are reported under the “Employed” category in this report.

Figure 2a. First-Year Placements (%), Historical Trend

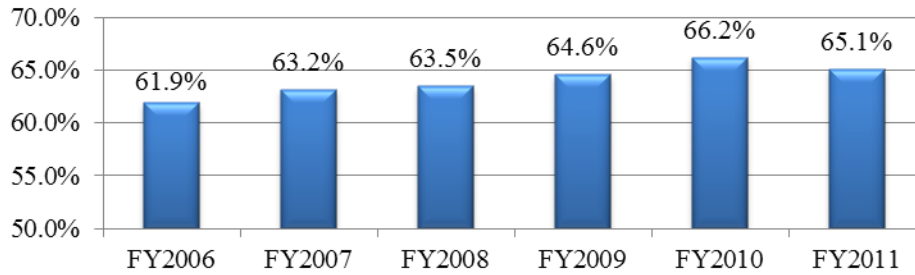
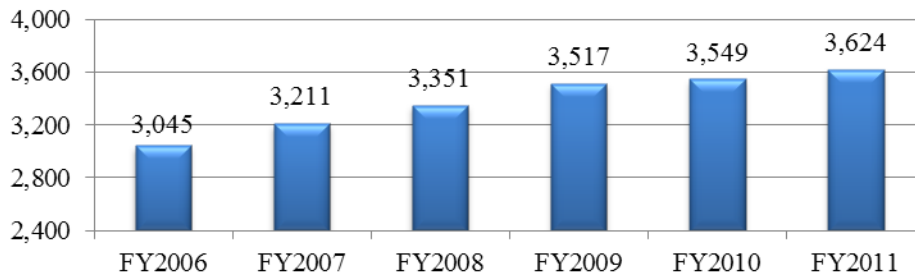


Figure 2b. First-Year Placements (n), Historical Trend



Placements in South Dakota

Looking at in-state placements only, Figure 3 indicates that 59.7% ($n=3,323$) of FY2011 Regental graduates were placed in South Dakota, either by employment or by enrollment. Again, because of the steadily increasing size of the university system's graduation cohorts, the number of placed students has notched up each year since FY2006.

Figure 3a. First-Year In-State Placements (%)

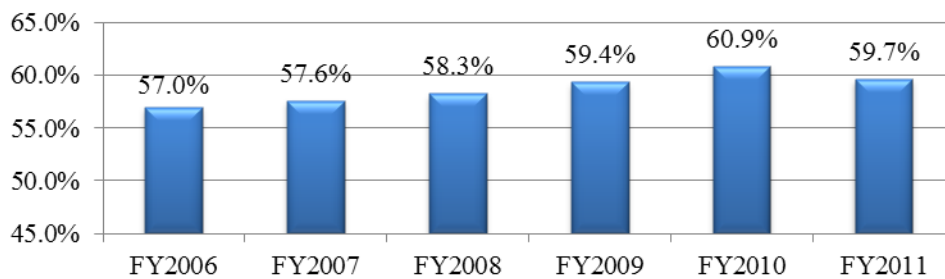


Figure 3b. First-Year In-State Placements (n)

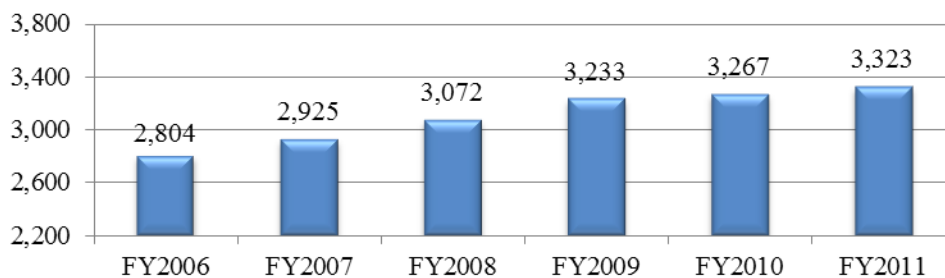


Table 2 breaks down in-state placements by student state of origin. Among those completers matriculating from South Dakota, the in-state rate was 71.7%; among all other completers, this figure was 32.8%. *In practical terms, this means that more than 70 percent of in-state students graduating from a Regental institution will remain in South Dakota after graduation, either to work or to pursue additional education. The same can be said of more than 30 percent of out-of-state students, meaning that approximately 3 of every 10 out-of-state students the Regental system is able to attract ultimately will remain in the state following graduation.* Overall, these results are encouraging, and illustrate the state’s current ability to retain a substantial segment of its own college completers. *Sustaining (and improving) these post-graduate placement rates will represent a key driver of the state’s success in ongoing workforce development efforts.*

Table 2
In-State Placement by State of Origin
FY2011 Cohort, 1-Year Placement

<i>State of Origin →</i>	<i>from SD</i>	<i>not from SD</i>	<i>Total</i>
<i>Employed/Enrolled in SD</i>	71.7%	32.8%	59.7%
<i>Not Placed in SD</i>	28.3%	67.2%	40.4%
<i>Total (n)</i>	3,844	1,727	5,571

Looking further at FY2011 Regental degree completers *originating in South Dakota*, Table 3 (next page) shows that 73.0% ($n=2,182$) of these graduates were – one year after graduation – either employed or enrolled in additional post-secondary schooling in South Dakota (67.4% employed, 5.6% enrolled).¹¹ Table 4 indicates again that in-state placement rates were lower for out-of-state students, particularly among graduate students. For example, only 21.6% of out-of-state graduate-level degree completers from the FY2011 cohort remained in the state one year after graduation.

That graduate students would show lower rates of in-state placement perhaps should not be surprising, given that the specialized nature of many graduate degree programs require correspondingly specialized job opportunities (which in some cases may be limited in South Dakota). However, it is important to note that the *n*-values associated with this group are relatively small in comparison with the demographic groups (e.g., in-state undergraduates) that tend to remain in the state with dramatically higher frequency.

¹¹ The designation “originating in South Dakota” refers to those degree completers for whom the original RIS dataset indicated either 1) being listed as a South Dakota resident at the time of graduation, or 2) having graduated from a South Dakota high school.

Figure 4
In-State Placement of Graduates (from SD)
FY2011 Cohort, 1-Year Placement

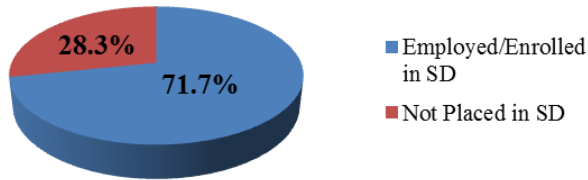


Figure 5
In-State Placement of Graduates (not from SD)
FY2011 Cohort, 1-Year Placement

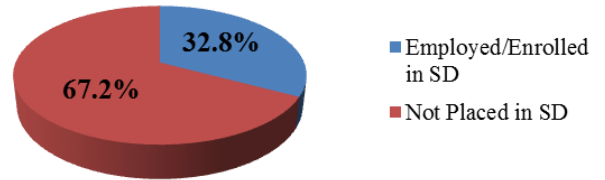


Table 3
In-State Placement of Graduates (from SD) by Level
FY2011 Cohort, 1-Year Placement

<i>Outcome</i>	<i>UG</i>	<i>GR</i>	<i>All</i>
<i>Employed/Enrolled in SD</i>	73.0%	67.3%	71.7%
<i>Not Placed in SD</i>	27.0%	32.7%	28.3%
<i>Total (n)</i>	2,990	854	3,844

<i>Outcome</i>	<i>UG</i>	<i>GR</i>	<i>All</i>
<i>Employed in SD</i>	67.4%	66.0%	67.1%
<i>Enrolled in SD</i>	5.6%	1.3%	4.6%
<i>Not Placed in SD</i>	27.0%	32.7%	28.3%
<i>Total (n)</i>	2,990	854	3,844

Table 4
In-State Placement of Graduates (not from SD) by Level
FY2011 Cohort, 1-Year Placement

<i>Outcome</i>	<i>UG</i>	<i>GR</i>	<i>All</i>
<i>Employed/Enrolled in SD</i>	37.1%	21.6%	32.8%
<i>Not Placed in SD</i>	62.9%	78.4%	67.2%
<i>Total (n)</i>	1,245	482	1,727

<i>Outcome</i>	<i>UG</i>	<i>GR</i>	<i>All</i>
<i>Employed in SD</i>	30.1%	17.2%	26.5%
<i>Enrolled in SD</i>	7.0%	4.4%	6.3%
<i>Not Placed in SD</i>	62.9%	78.4%	67.2%
<i>Total (n)</i>	1,245	482	1,727

Placement Locations

Enrollment and employment placements are further explored in Table 5 and Table 6, which provide lists of the top placement destinations of Regental graduates from the FY2011 cohort. Table 5 indicates that a majority of students enrolling in additional post-graduation education did so at an institution in South Dakota. Of the $n=1,131$ graduates from the FY2011 cohort who enrolled in a post-secondary institution one year after graduation, 68.4% were enrolled at an in-state institution.

Table 5
Enrollment by Inst. State and State of Origin
FY2011 Cohort, 1-Year Placement

State	SD		not SD	
	(n)	(%)	(n)	(%)
South Dakota	583	53.2%	190	75.3%
Minnesota	19	6.2%	22	2.5%
Nebraska	23	4.5%	16	3.0%
Iowa	20	4.8%	17	2.6%
North Dakota	16	2.2%	8	2.1%
Colorado	11	2.2%	8	1.4%
Kansas	11	1.7%	6	1.4%
Illinois	6	2.5%	9	0.8%
Wyoming	5	2.8%	10	0.7%
Arizona	12	0.6%	2	1.6%
California	8	1.7%	6	1.0%
Texas	4	2.2%	8	0.5%
Ohio	2	2.0%	7	0.3%
Idaho	3	1.4%	5	0.4%
Montana	4	1.1%	4	0.5%
Kentucky	4	0.8%	3	0.5%
Florida	2	1.1%	4	0.3%
Missouri	4	0.6%	2	0.5%
New York	4	0.6%	2	0.5%
All Others	33	7.8%	28	4.3%
Total	774	100.0%	357	100.0%

Table 6
In-State Employment by Sector (NAICS) and State of Origin
FY2011 Cohort; 1-Year Placement

Industrial Sector	SD		not SD	
	(n)	(%)	(n)	(%)
Health Care and Social Assistance	756	29.3%	119	26.0%
Educational Services	567	22.0%	79	17.3%
Retail Trade	209	8.1%	48	10.5%
Public Administration	164	6.4%	26	5.7%
Manufacturing	136	5.3%	42	9.2%
Finance and Insurance	143	5.6%	24	5.2%
Accommodation and Food Services	132	5.1%	28	6.1%
Professional, Scientific, & Technical	116	4.5%	29	6.3%
Admin and Support	82	3.2%	14	3.1%
Wholesale Trade	61	2.4%	14	3.1%
Construction	53	2.1%	6	1.3%
Arts, Entertainment, and Recreation	33	1.3%	10	2.2%
Other Services	37	1.4%	5	1.1%
Information	33	1.3%	3	0.7%
Transportation and Warehousing	20	0.8%	4	0.9%
Real Estate and Rentals, and Leasing	9	0.4%	3	0.7%
Agriculture, Forestry, Fishing, & Hunting	8	0.3%	3	0.7%
Utilities	10	0.4%	0	0.0%
Management of Companies	5	0.2%	1	0.2%
Mining, Quarrying, Oil, & Gas	3	0.1%	0	0.0%
Total	2,577	100.0%	458	100.0%

With respect to vocational placements, Table 6 shows that the *health care* and *educational services* industrial sectors attracted the largest proportions of FY2011 Regental degree completers who found employment in South Dakota.¹² Importantly, the ordering of these industrial areas is illustrative of the social and economic benefits that flow from the retention of college graduates. Both of the two highest-ranked sectors (health care and education) are close analogs to occupations that have been projected by the South Dakota Department of Labor and Regulation to be highly demanded in the state through 2018.¹³ That the Regental system has shown a capacity to produce and maintain a large number of graduates in these areas speaks to the university system's responsiveness to the workforce needs of the state.

¹² Areas are binned in Table 6 by two-digit federal NAICS (North American Industry Classification System) code.

¹³ South Dakota Department of Labor and Regulation, Labor Market Information Center (2010). Retrieved from http://dlr.sd.gov/lmic/occupation_projections_high_demand_all.aspx

