SOUTH DAKOTA BOARD OF REGENTS

Academic and Student Affairs

AGENDA ITEM: 5 – N

DATE: December 2-3, 2015

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SUBJECT: Graduate Placement Analysis

This analysis examines the extent to which regental degree completers are retained in the state of South Dakota following graduation. The report is made possible through the combined efforts of three different data providers: the South Dakota Board of Regents, the South Dakota Department of Labor and Regulation, and the National Student Clearinghouse.

For additional information, visit the interactive SDBOR Graduate Placement Dashboard at https://www.sdbor.edu/dashboards

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RECOMMENDED ACTION OF THE EXECUTIVE DIRECTOR

Information only.

*** Special Data Analysis ***

Graduate Placement Analysis

South Dakota faces a looming 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. With this issue in mind, the following analysis was undertaken to examine the extent to which graduates from the public 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 the economic importance of intensifying efforts to boost graduate production in the state.

Background

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

- **The supply of new jobs in the state is growing.** The South Dakota Department of Labor and Regulation projects that between 2012 and 2022, more than 33,000 new jobs will be created in South Dakota.[1] This amounts to an increase of approximately 7.0 percent in the total number of jobs available in the state.

- **New jobs will be increasingly knowledge-based.** Over the next decade, national job growth will be dominated by positions requiring a postsecondary degree. According to the US Bureau of Labor Statistics, the number of positions requiring a postsecondary degree will grow by 14.0 percent in the United States between 2012 and 2022, while jobs requiring a high school diploma will grow by only 7.9 percent.[2] By 2020, 65 percent of jobs in South Dakota are expected to require some level of postsecondary education.[3]

[1] South Dakota Department of Labor and Regulation (2014). *Occupational Employment Projections 2012-2022.*
[2] United States Bureau of Labor Statistics (2013). *Occupational Employment Projections to 2022.*
[3] Georgetown University Public Policy Institute, Center on Education and the Workforce (2013). *Recovery: Job Growth and Education Requirements through 2020.*

- **South Dakota's working-age population is not growing.** Recent population projections indicate that the size of South Dakota's working-age population (i.e., those between the ages of 20 and 64) will climb by only 0.3 percent – about 1,500 persons – between 2010 and 2030.[4] At the same time, the number of South Dakotans who are 65 or older will rise by a staggering 59.2 percent (roughly 69,000).

- **South Dakota lags in educational attainment.** While employment projections suggest that 65 percent of jobs in South Dakota will soon require some level of postsecondary training, only 39.1 percent of working-age South Dakotans currently hold an associate's degree or higher.[5] The US Census Bureau estimates that only 27.8 percent of adults in South Dakota hold a bachelor's degree or higher, and that a mere 7.8 percent of adults in South Dakota hold an advanced degree.[6] Many of the state's attainment rates fall well behind national averages. Overall, South Dakota's comparative lack of educational attainment is already economically consequential, given the vast advantages in earning power held by postsecondary degree holders.[7]

These trends may portend an approaching 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.

Clearly, the public university system must take the lead in working to meet the state's skilled workforce needs. And indeed, the university system already is hard at work to strengthen the state's supply of human capital. The operations of the six public universities are underpinned by a series of interconnected strategic initiatives – including a system-wide 65 percent postsecondary attainment goal – aimed at improving socioeconomic conditions in the state. As presented in the board's latest strategic plan, the university system has articulated its ambitions to take a proactive role in expanding both the size and the quality of South Dakota's homegrown workforce.

In this context, the study described in this report attempts to shed light on an obvious analytic question: How does the university system currently fare in its efforts to supply the state with an adequate pool of skilled workers?

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[4] University of Virginia, Weldon Cooper Center for Public Service (2013). *National Population Projections (2010-2040).*

[5] Georgetown University Public Policy Institute, Center on Education and the Workforce (2013). *Recovery: Job Growth and Education Requirements through 2020*; US Census Bureau, American Community Survey 1-Year Estimates (2014). *ACS Tables S1501.*

[6] US Census Bureau, American Community Survey 1-Year Estimates (2014). *ACS Tables R1502, R1503.*

[7] US Bureau of Labor Statistics (2014). *Earnings and Unemployment Rates by Educational Attainment.* According to BLS, American working-age adults with only a high school diploma currently earn about $35,000 per year. By comparison, workers with a bachelor's degree earn about $57,000 per year. Master's degree holders earn roughly $69,000 per year, while doctorate-holders earn $83,000 annually. (These figures represent weekly median earnings – as reported by BLS – multiplied by 52.2.)

Data Notes

What becomes of students who complete degrees at the state's public universities? Examining the placement outcomes of regental degree completers is vital for understanding the public university system's contribution to the state's human capital. Further, and apart from its macroeconomic implications, the question of graduate placement also is intensely important for prospective students and their families.[8] Consequently, this study centers on the analysis of post-graduation placement data for recent university system graduates.

Of primary interest to this analysis is the extent to which regental graduates either 1) are hired into the South Dakota workforce one year after graduation or 2) enroll in further collegiate coursework at an in-state institution one year after graduation.

Data for this project were gathered from three main sources: the South Dakota Board of Regents (SDBOR), the South Dakota Department of Labor and Regulation (SDDLR), and the National Student Clearinghouse (NSC). Analysis focuses on the placement outcomes of undergraduate and graduate degree completers from the FY2013 university system graduation cohort.[9]

In the initial step of the placement search, SDDLR employment data systems are queried to determine the first-year job placement outcomes of all recent (FY2013) degree completers identified by SDBOR.[10] For each degree completer in the SDBOR dataset, SDDLR 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 graduation.[11] 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 SDDLR 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.

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[8] A 2013 Gallup poll found that job placement rates are among Americans' highest considerations in choosing a college or university. See http://www.gallup.com/poll/163268/americans-say-graduates-jobs-status-key-college-choice.aspx

[9] Fiscal years include data from summer, fall, and spring terms. Consequently, the FY2013 cohort comprises graduates from SU2012, FA2012, and SP2013. 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.

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

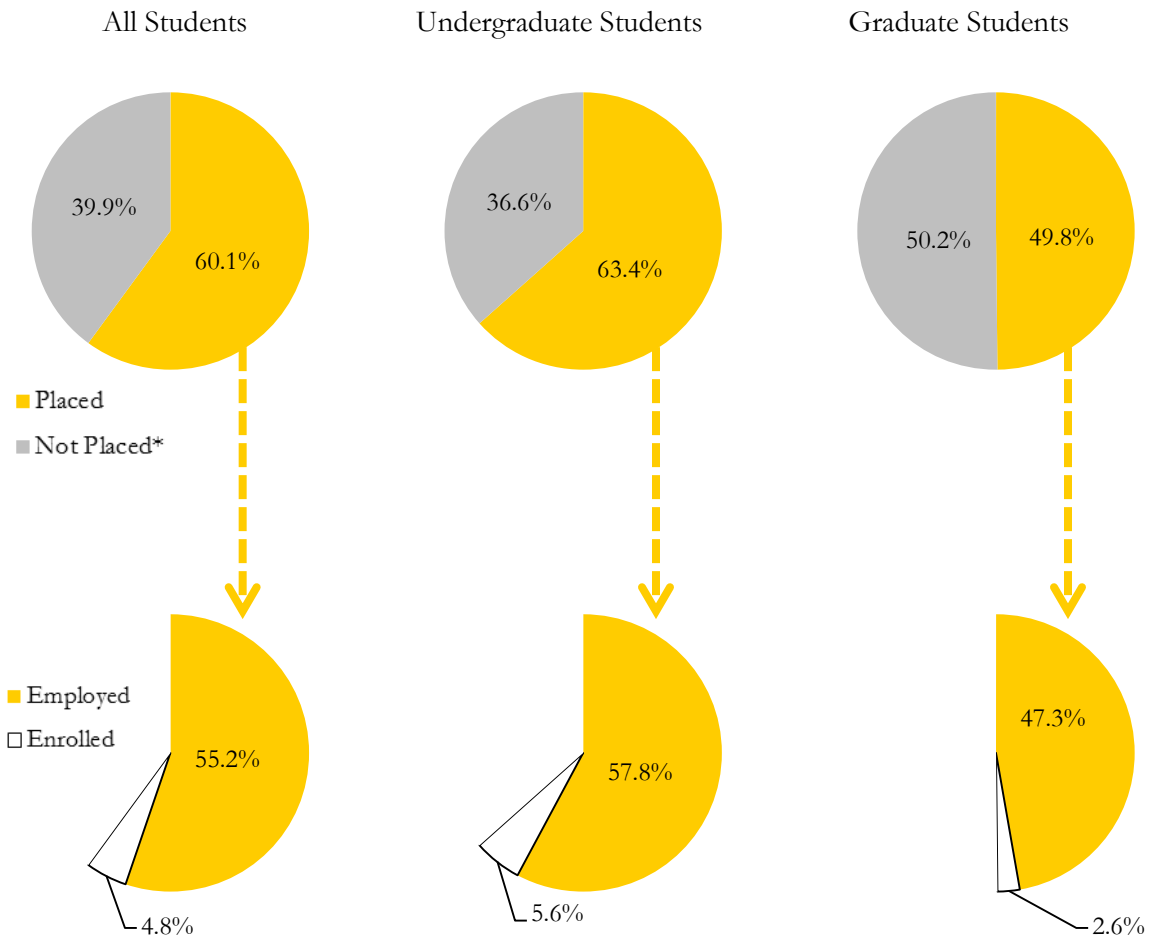
[11] As of Fall 2015, approximately 3,600 US postsecondary institutions report enrollment data to NSC. NSC asserts that its data stores account for more than 98 percent of all US college students.

Analysis

Placement in South Dakota

Of the 6,309 degree completers in the FY2013 graduation cohort, 60.1 percent (*n*=3,790) were found to be either employed in South Dakota or enrolled in a postsecondary institution in South Dakota one year after graduation.[12] Specifically, 55.2 percent of graduates had been hired into the South Dakota workforce, and an additional 4.8 percent had enrolled in further collegiate coursework at an in-state institution. Undergraduate-level completers (*n*=4,756) produced a higher placement rate than did graduate-level completers (*n*=1,553), at 63.4 percent and 49.8 percent, respectively.

Figure 1
First-Year SD Placement Rates

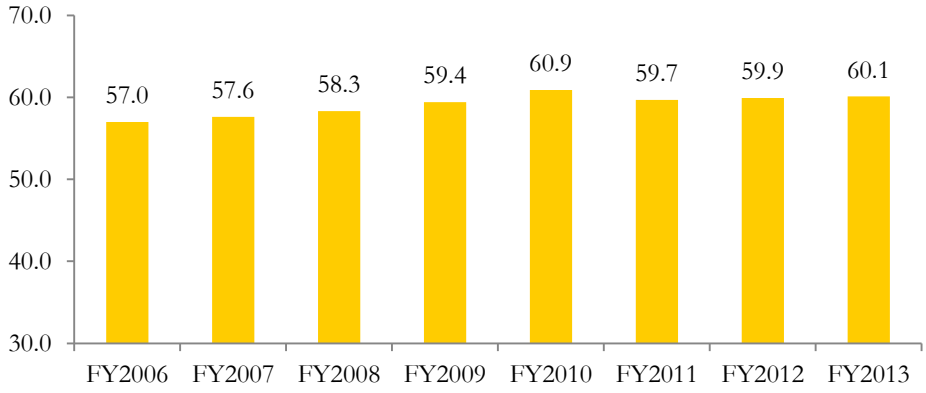


** The "Not Placed" category also includes all graduates who were employed out-of-state, were self-employed, were employed by the federal government (including armed services), or were employed or enrolled outside the three-month query window.*

[12] Altogether, 55.2 percent of cohort members were found to be employed in South Dakota, and 13.7 percent were found to be enrolled in subsequent postsecondary work in South Dakota. Graduates who were found to be both employed *and* enrolled are reported under the "Employed" category in this report.

Figure 2 indicates that the FY2013 cohort's in-state placement rate of 60.1 percent 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. In fact, these data indicate that nearly 1,000 additional graduates were placed in FY2013 than were placed in FY2006.

Figure 2
First-Year SD Placement Rates, Trend
(Percentages)



(Numeric)

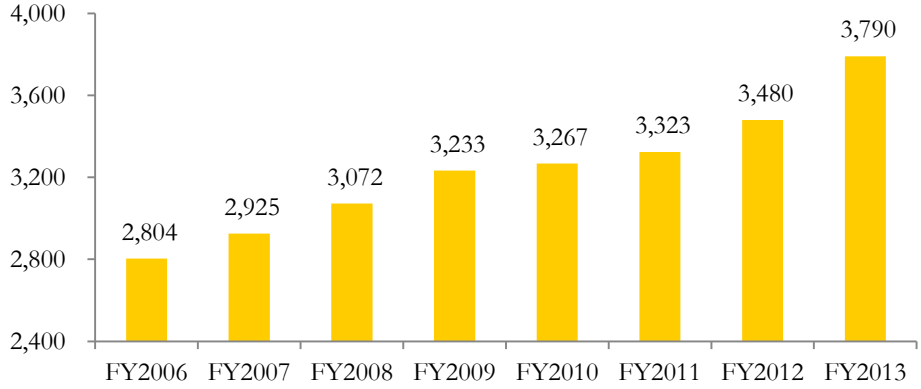
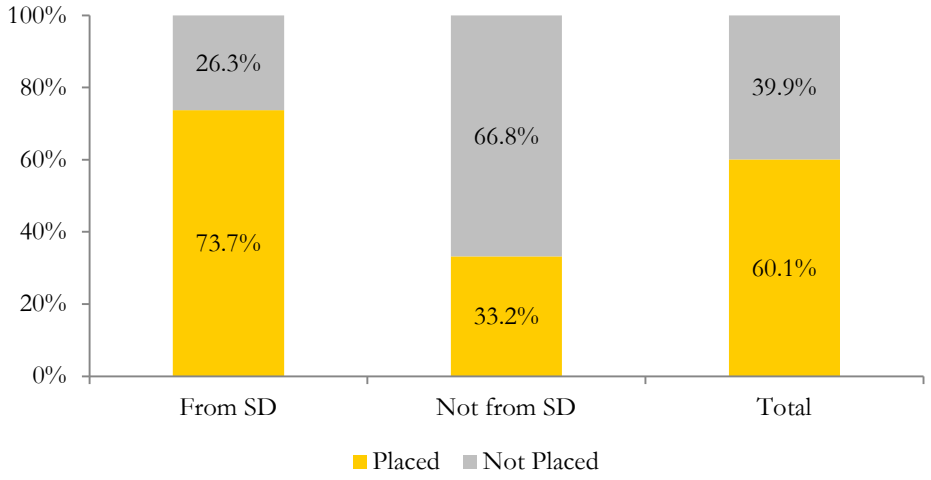


Figure 3 (next page) breaks down in-state placements by students' states of origin. Among degree completers matriculating from South Dakota (*n*=4,183), the in-state placement rate was 73.7 percent; among out-of-state degree completers (*n*=2,126), this figure was 33.2 percent. In practical terms, this means that more than 70 percent of in-state students graduating from a regental university 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. While these findings are encouraging, sustaining (and improving) these rates will be an important focus of the university system in the coming years.

Figure 3
First-Year SD Placement Rates by State of Origin



Looking further at the differences between in-state and out-of-state students, Table 1 shows again that 73.7 percent of in-state students were placed in South Dakota (69.7 percent employed, 4.0 percent enrolled), compared to 33.2 percent of out-of-state students (26.8 percent employed, 6.4 percent enrolled).[13] For both groups, placement rates were somewhat lower for graduate students (GR) than for undergraduate students (UG). For example, only 22.8 percent of out-of-state graduate-level degree completers from the FY2013 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 numeric values associated with this group are relatively small in comparison with the groups that tend to remain in the state with dramatically higher frequency (e.g., in-state undergraduates).

Table 1
First-Year SD Placement Rates by State of Origin and Level
(Percentages)

	From SD			Not from SD		
	UG	GR	All	UG	GR	All
Placed	75.2	68.4	73.7	37.6	22.8	33.2
Not Placed	24.8	31.6	26.3	62.4	77.2	66.8
Employed	70.5	66.9	69.7	30.3	18.7	26.8
Enrolled	4.8	1.5	4.0	7.4	4.1	6.4
Not Placed	24.8	31.6	26.3	62.4	77.2	66.8
(n)	3,262	921	4,183	1,494	632	2,126

[13] The terms "in-state student" and "originally from SD" refer to those degree completers who either 1) held South Dakota residency at the time of graduation, or 2) graduated from a South Dakota high school.

Placement Locations

Enrollment and employment placements are further explored in Figures 4 and 5, which depict the top placement destinations of FY2013 graduates.

Figure 4 indicates that a majority of students enrolling in additional post-graduation education did so at an institution in South Dakota. Of the 1,243 graduates from the FY2013 cohort who enrolled in a postsecondary institution one year after graduation, 69.4 percent were enrolled at an in-state institution.

Figure 5 shows the ten most common industrial placements of FY2013 degree completers who found employment in South Dakota (*n*=3,584). Importantly, the ordering of these industrial areas is illustrative of the social and economic benefits that flow from the retention of college graduates. Several of the highest-ranked sectors (e.g., health care; professional, scientific, and technical services) correspond to industries that have been projected by the South Dakota Department of Labor and Regulation to be highly demanded in the state through 2022.[14] That the university system currently is producing and placing a large number of graduates in these areas speaks to the university system's responsiveness to the state's pressing workforce needs.

Figure 4
Enrollment by State
(Percentages)

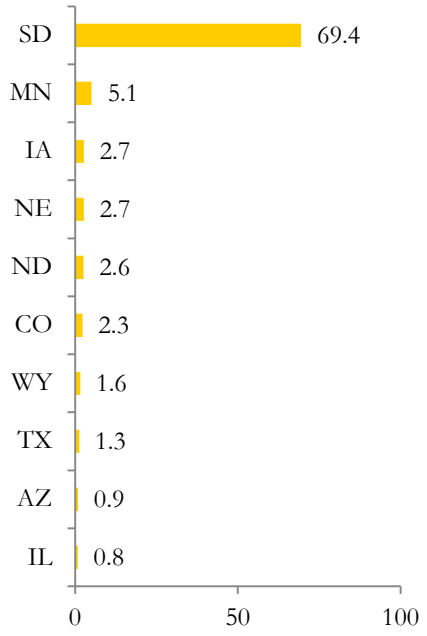
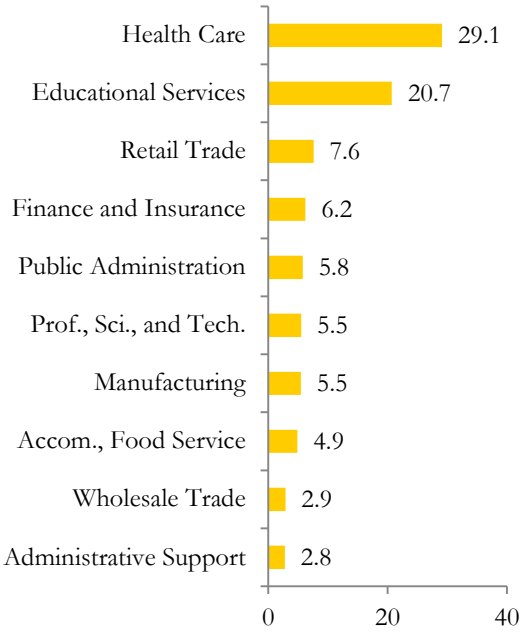


Figure 5
Employment by (SD) Industry[15]
(Percentages)



[14] SDDLR Labor Market Information Center (2014). See http://dlr.sd.gov/lmic/industry_projections_fastest_growth.aspx
[15] Areas are binned by two-digit federal NAICS (North American Industry Classification System) code. Workers with multiple jobs are reported under the industry of their highest-paying job.

Appendix A
Supplemental Tables

Table A1
First-Year SD Placement Rates by Institution

Outcome3	Inst BHSU	DSU	NSU	SDSMT	SDSU	USD	Total
Empl/Enrl	444	248	224	118	1,465	1,291	3,790
	65.78	66.49	64.18	34.01	60.64	60.07	60.07
NotPlaced	231	125	125	229	951	858	2,519
	34.22	33.51	35.82	65.99	39.36	39.93	39.93
Total	675	373	349	347	2,416	2,149	6,309
	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table A2
First-Year SD Placement Rates by Gender

Outcome3	Gender F	M	Total
Empl/Enrl	2,325	1,465	3,790
	64.78	53.86	60.07
NotPlaced	1,264	1,255	2,519
	35.22	46.14	39.93
Total	3,589	2,720	6,309
	100.00	100.00	100.00

Table A3
First-Year SD Placement Rates by Race[16]

Outcome3	Ethnic AmerInd	Asian	Black	Hispanic	White	Oth/Ref	Total
Empl/Enrl	73	30	15	42	2,872	52	3,084
	65.77	66.67	68.18	71.19	74.23	67.53	73.73
NotPlaced	38	15	7	17	997	25	1,099
	34.23	33.33	31.82	28.81	25.77	32.47	26.27
Total	111	45	22	59	3,869	77	4,183
	100.00	100.00	100.00	100.00	100.00	100.00	100.00

[16] This table includes only those students who were originally from South Dakota.