

Out-Migration:

How State Spending Drives College Graduates Away

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This paper will examine several complexities and issues related to North Dakota's higher education system and the economy, shedding light on their many paradoxes. The first and main focus of this study will look at the heavy inward migration of college students to North Dakota. Secondly, we will take a look at the other migration phenomena occurring in North Dakota: the outward migration of human capital. Taxpayers subsidize students over 250 million dollars a year only to see these same students leave the state upon graduation. Together, these migration issues are detrimental to the state and pose serious problems from a public policy perspective as the scarce resources North Dakota spends on building up human capital through higher education, in the long run, benefits neighboring states far more.

Of the fifty states in the Union, North Dakota surely is one of the most puzzling. It is a story of paradoxical social and economic successes and shortcomings. Several examples illustrate the mixed results for the state. Over the last thirty years, North Dakota has taxed its residents at a rate consistently below the national average for state and local taxation.¹ Despite the business friendly environment, which in theory should pave the way for innovation, North Dakota has one of the lowest amounts of patents per capita in the nation, a telltale sign of a lack of innovation.² The past several decades have seen North Dakotans graduate high school students with one of the highest rates in the country.³ However, despite this success in secondary education, North Dakota's adult educational attainment rates are typically below or just at the national average.⁴ Even throughout the tough economic climate of recent years, North Dakota has consistently placed among the lowest in unemployment rates in the country, usually coming

¹ State and Local Tax Burdens, All Years, One State 1977-2008, 2008, The Tax Foundation, 20 August 2010, <http://www.taxfoundation.org/taxdata/show/335.html>

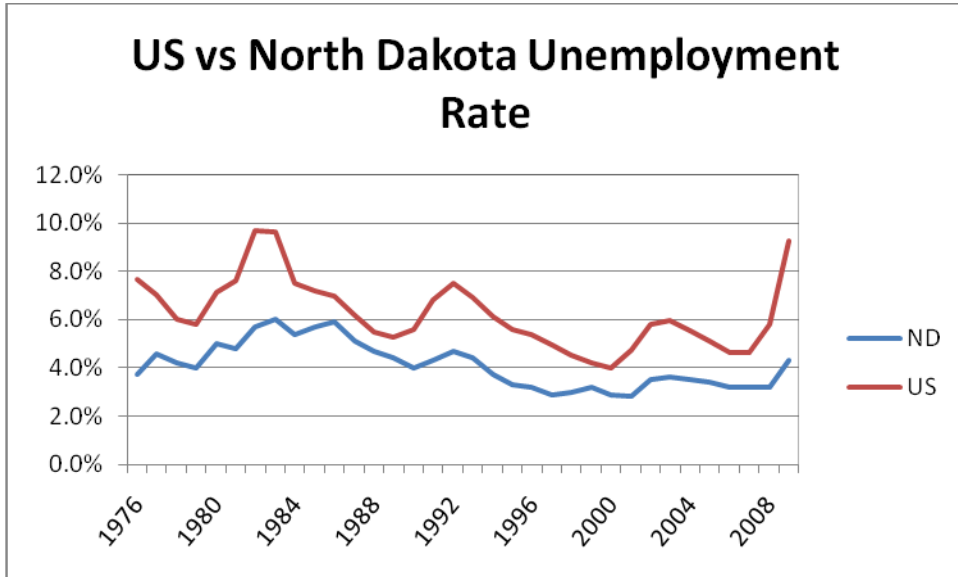
² Patents Issued(per capita) (most recent) by State, 2010, 25 July 2010, http://www.statemaster.com/graph/gov_pat_iss_percap-government-patents-issued-per-capita

³ Public High School Graduation Rates by State, 1981-2008, 2008, The Mortensen Seminar on Public Policy Analysis of Opportunity for Post Secondary Education, 15 August 2010, <http://www.postsecondary.org/topicslist.asp?page=1&od=&search=Graduation>

⁴ Educational Attainment By State, 1977-2009, 2009, The Mortensen Seminar on Public Policy Analysis of Opportunity for Post Secondary Education, 15 August 2010, <http://www.postsecondary.org/topicslist.asp?page=1&od=&search=Educational%20attainment>

in around half of the national average (see Figure 1).⁵ And over the first decade of the 21st century, North Dakota had the second highest growth rate out of all states, as measured by the growth in Gross State Product.⁶

Figure 1 - US vs. North Dakota Unemployment Rate



On the flip side, North Dakota residents earn considerably less than the national average income (10-20 percentage points less, in fact), ranking in the bottom ten states for median household income levels throughout the last decade.⁷ And while its economy has grown; in terms of population North Dakota has been effectively stagnant for more than a half century.⁸ In fact, North Dakota’s population today is actually smaller than it was during the 1920s. Recently, the state has been losing residents, as evidenced by its negative net migration rate and low birth to death ratio (see Figure 2).

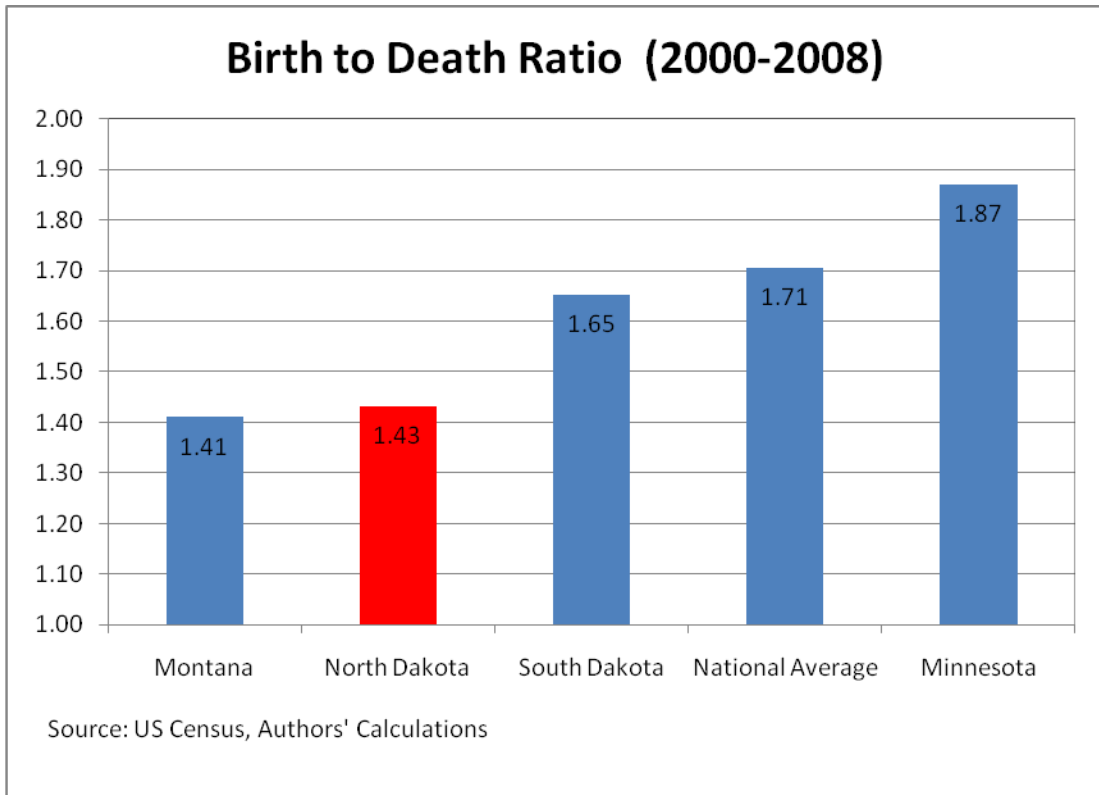
⁵ See Figure 1: Local Area Unemployment Statistics, 2010, The Bureau of Labor Statistics, 12 August 2010, <http://data.bls.gov/PDO/servlet/SurveyOutputServlet>

⁶ “US Chamber of Commerce Report Names North Dakota Nation’s Top Growth Performer Since 2000,” North Dakota Department of Commerce, 2010, Commerce Department, 25 May 2010, 2 August 2010 <http://www.commerce.nd.gov/news/detail.asp?newsID=737>

⁷ Median Family Income by State and Median Household Income by State, 1959-2008, The Mortensen Seminar on Public Policy Analysis of Opportunity for Post Secondary Education, 15 August 2010, <http://www.postsecondary.org/topicslist.asp?page=1&od=&search=Income>

⁸ See Population Estimates: State, U.S. Census Bureau, <http://www.census.gov/popest/states/states.html>.

Figure 2 - Birth to Death Ratio



Higher Education and North Dakota's Economic Future

Previously, the Center for College Affordability and Productivity, in partnership with the North Dakota Policy Council, extensively studied the state of higher education in North Dakota. What we discovered is that North Dakota, in an effort to keep up with the times and enhance its economy, has fallen prey to the prevailing idea that spending on higher education drives economic growth. Through multiple regression analyses and examination of the data, we demonstrated that this belief is unfounded. State spending on higher education does **not** lead to economic growth; instead we demonstrated that there is some evidence that the impact is actually *negative*.⁹

⁹ Richard Vedder, *Higher Education and North Dakota's Economic Future*, October 27, 2009, <http://www.policynd.org/index.php?site/HigherEducationStudy/>

Not only did we find that North Dakota policymakers had succumbed to this erroneous belief, but that they were among its strictest adherents. North Dakota is spending significantly above the per capita national average on higher education, further squandering resources stemming from a misplaced belief about higher education's magic bullet effect on economic growth. This spending appears to be doing little good, as residents are choosing to leave the state. Each year, thousands of college educated North Dakotans move to South Dakota, Minnesota and its other neighbors, despite the state's lofty expenditures on higher education. Simply put, *North Dakota is footing the bill for the formation of much of the human capital of its neighbors.*

Overall, in our earlier study, we determined that North Dakota is **over-invested** in higher education. Their economic growth would have been higher without the excessive investment in education. Prudent policy would be to scale back higher education spending, and look at alternate ways of stimulating state economic growth, through reducing government restrictions on industries, corporate tax reductions, etc. It was also recommended that North Dakota look for innovative ways to educate its population such as encouraging distance learning programs or cooperative programs between universities to reduce redundant programs and services.

Inward Bound

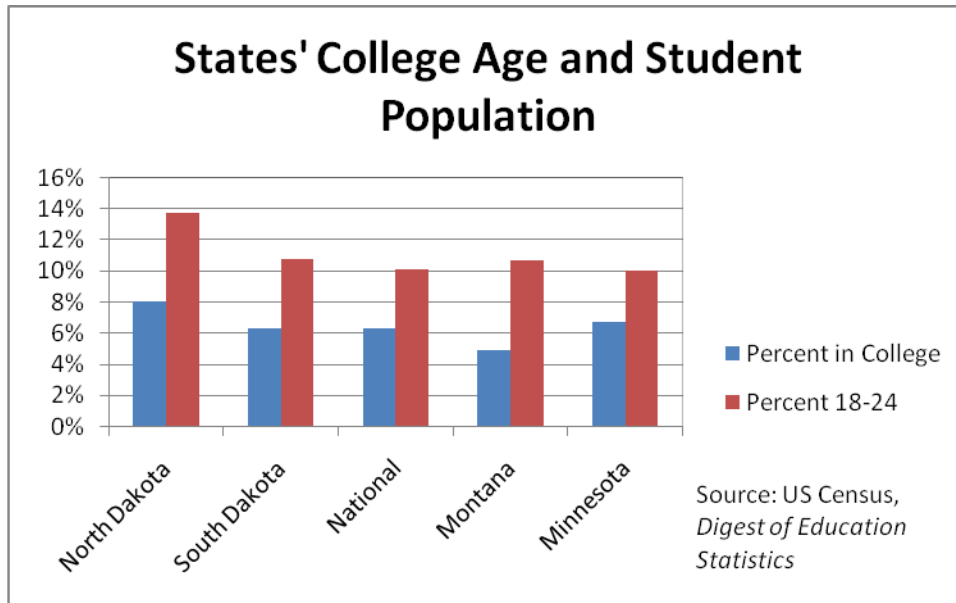
For a remote and sparsely populated state, North Dakota is teeming with college students. At 7-8 percent of its total population enrolled in some type of higher education, North Dakota ranks among the top five states in the entire country in this category.¹⁰

Closely related to its large college enrollment is North Dakota's extremely high percentage of 18-24 year olds (traditional college years) who comprise the state's population. At 13 percent, North Dakota ranks at the top for any state in the entire country (see Figure 3).¹¹ While it may be tempting to write off North Dakota's extensive college youth and student population as a natural occurrence, there is a better explanation for why these figures exist.

¹⁰ Authors' Calculation using data from the Digest of Education Statistics and the US Census Bureau

¹¹ Estimates of the Resident Population by Selected Age Groups for the United States, States, and Puerto Rico: July 1, 2009, United States Census Bureau, 3 August 2010, <http://www.census.gov/popest/states/asrh/SC-EST2009-01.html>.

Figure 3 - States' College Age and Student Population



North Dakota's inflated college student population is the result of a massive inward migration of out of state students. Annually, freshman from around the region flock to North Dakota to attend college. In the past several years, North Dakota has seen approximately 2,000 more college freshmen come into the state each year than leave.¹² After adjusting for state population size, in the most recent year of data availability (2008), North Dakota posted the third highest net freshman migration rate among the 50 states and the highest in its geographic region.¹³

¹² Residence and Migration of College Freshman Graduating From High School in the Past 12 Months, 2008, The Mortensen Seminar on Public Policy Analysis of Opportunity for Post Secondary Education, 16 August 2010, <http://www.postsecondary.org/topicslist.asp?page=1&od=&search=Interstate%20migration>.

¹³ *Ibid*, Note: Net Migration Rate defined as the number of immigrants less the number of emigrants in a state over a given period of time (1 year) divided by 1000.

Figure 4 - Net Freshman Migration Rate

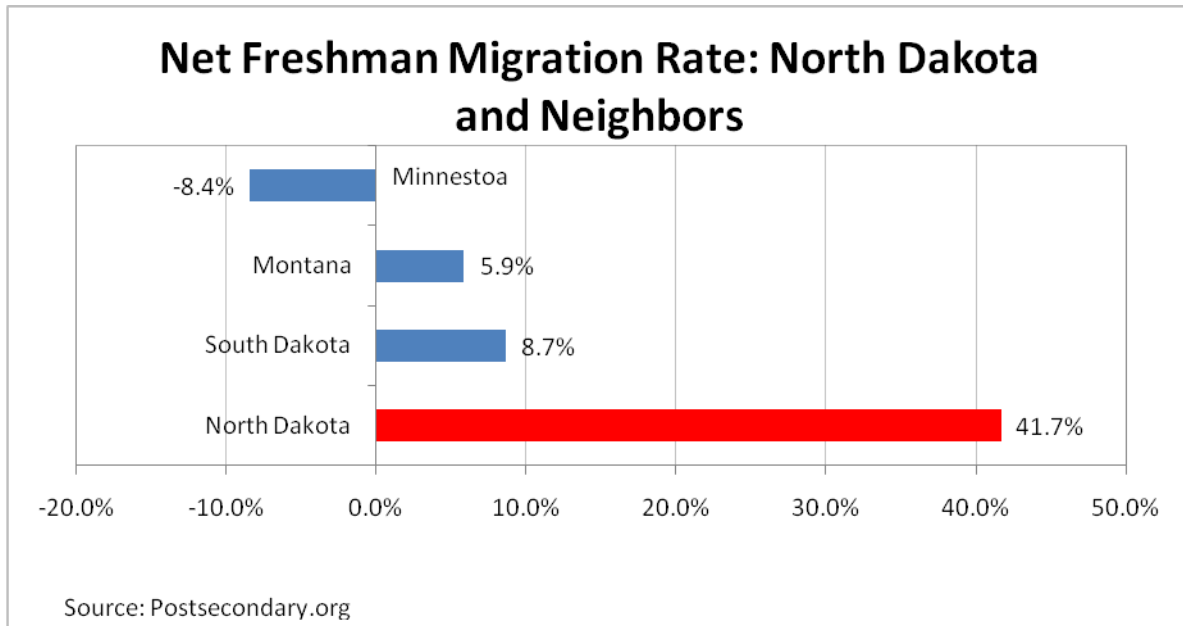
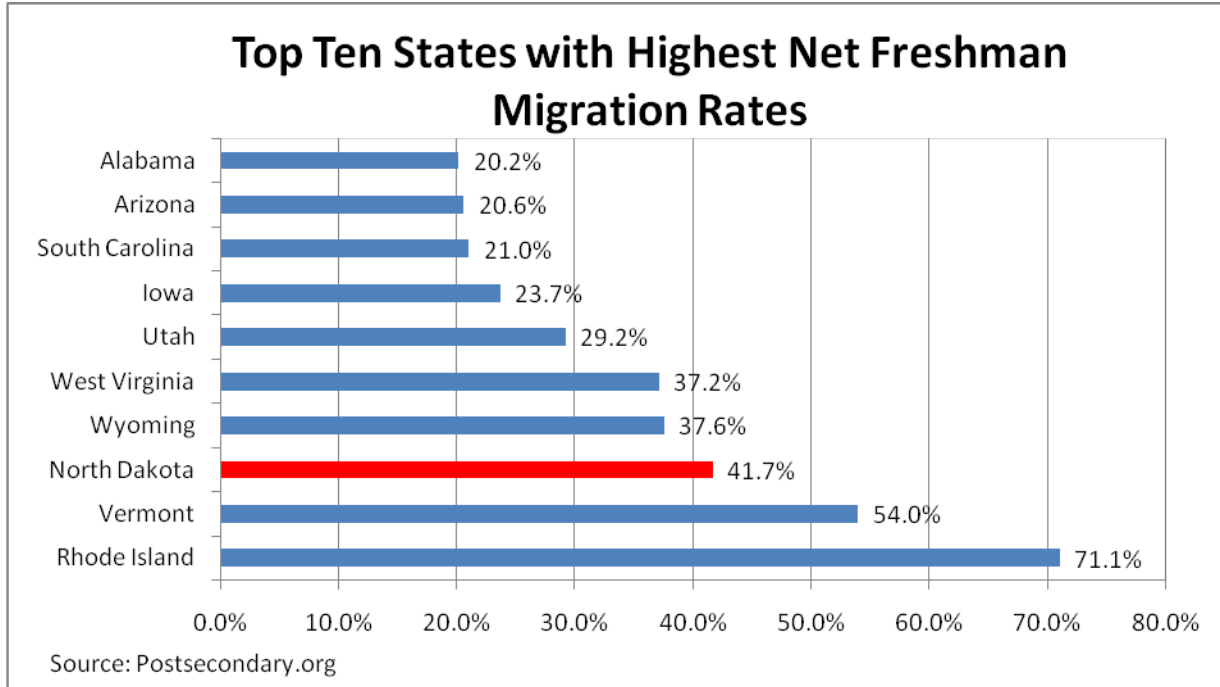


Figure 5 - Ten States with Highest Net Freshman Migration Rate



A look at the raw freshman net migration data shows that North Dakota is attracting students from both close and afar.

Figure 6 - Top 10 States One Year Freshman Net Migration into North Dakota

State of High School Graduation	One Year Freshman Net Total
Minnesota	1393
South Dakota	140
Montana	138
Wisconsin	68
Washington	34
Colorado	29
California	27
Alaska	22
Nevada	21
Texas	18

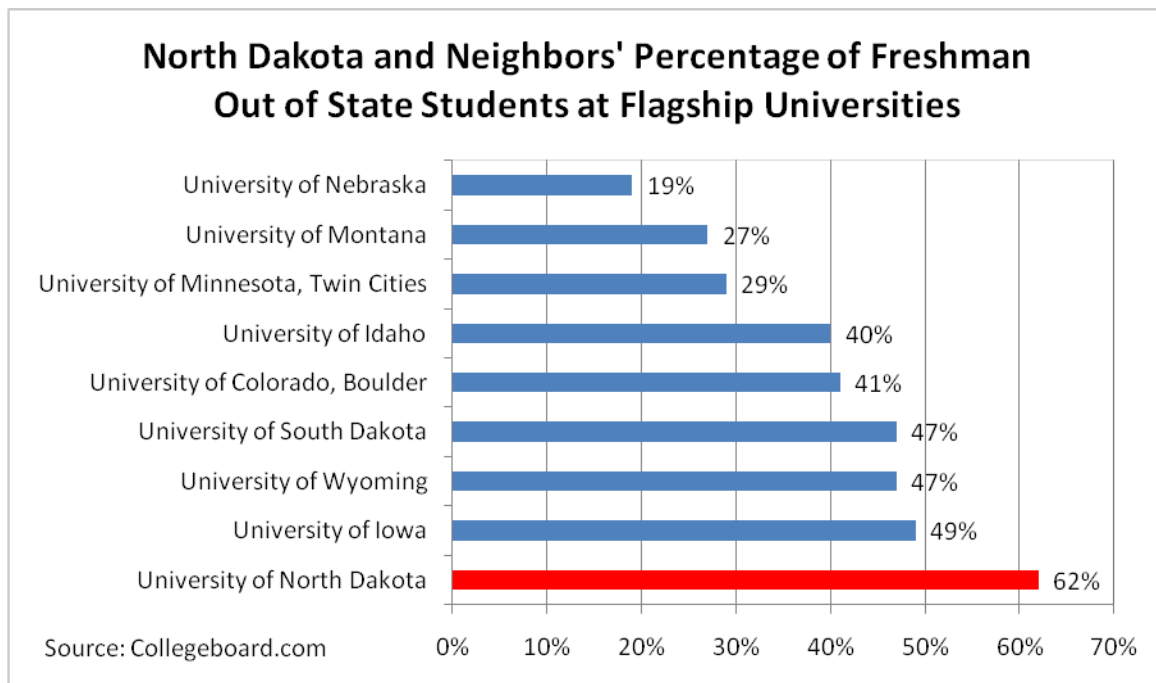
Source: Postsecondary.org

Because of the extremely high levels of student migration into North Dakota, it has one of the highest percentages of out-of-state student enrollment in the country. Nationwide, universities do not uniformly report data detailing the percentage of out of state students in the total student body. However, there is reliable and uniform data kept for entering freshman classes. It is safe to assume that this is a reasonable proxy for the rest of the student body, as there is little reason to suggest that out of state students differ dramatically in retention rates. Henceforth, this paper almost exclusively relies on data concerning the percentage of freshman from out of state, and uses this (with some additional estimates) as an estimated proxy for the whole student body of various universities.

Out-of-State Students

A quick glance at the percentage of out of state freshmen at the University of North Dakota, the state flagship, in comparison to other regional flagships tells a startling story.¹⁴ A national comparison shows that the University of North Dakota posts the third highest percentage of first year out of state students at a state flagship university. North Dakota’s other major state supported institution, North Dakota State University, is close behind with 60 percent of its first year students coming from outside the state.¹⁵

Figure 7 - Percentage of Freshman Out of State



¹⁴ The College Board, 2010, 2 August 2010, <http://www.collegeboard.com/>.

¹⁵ *Ibid*

The abnormally high levels of migration into North Dakota occur overwhelmingly into the heavily subsidized four-year public universities. This comes at a great cost to North Dakota taxpayers. Interestingly, North Dakota actually posts a negative net migration rate for both private institutions and two year public schools, meaning that on net, it loses students to schools of these types in other states.¹⁶ This is evidence that students are coming to North Dakota, not to relocate permanently to North Dakota, but for some other reason, specifically the highly subsidized and cheap education.

Non-resident (out of state) students make up about one half of North Dakota's total college enrollment. In 2008, 49.4% of traditional freshman (those who had recently graduated from high school) enrolled in North Dakota institutions came from other states, the third highest percentage in the nation and nearly double the national average.¹⁷ These numbers have risen considerably in recent years. In 1996, only 34.7% of recently graduated freshman came from out of state. Between 1996-2008, North Dakota experienced the largest absolute gain in the percentage of out of state freshman, a 14.7 percentage point increase.¹⁸

So why are these out of state students coming in droves to North Dakota? After examining a number of alternative possibilities, we conclude that North Dakota attracts people because it spends incredible sums of money. Out of state students are heavily subsidized on the backs of North Dakota's taxpayers. No matter which way one looks at the numbers, North Dakota spends enormously on education. In 2008, North Dakota's 641,481 residents were, on average, each accountable for \$395.80 worth of higher education spending, placing it as the 7th highest spending state in terms of per resident spending.¹⁹ Since 1970, this number has gone up 89 percent after adjusting for inflation, while nationally, it only increased by 62 percent. Even more shocking, state tax appropriations per \$1000 dollars of personal income in North Dakota have gone up by 4 percent since 1980, while the national average for this measure fell by 32 percent during this same time.²⁰ More and more of North Dakotans' hard-earned income is being taxed away to fund an already swollen higher education system.

In tandem, North Dakota's high level of educational spending and high proportion of out of state students leads them to spend the second highest amount per capita on non-residents. North Dakota spends \$177 dollars per resident on out of state students, while neighbors South Dakota and Minnesota; they spend only \$74 and \$59 respectively.²¹

¹⁶ Residence and Migration of College Freshman Graduating From High School in the Past 12 Months, 2008, The Mortensen Seminar on Public Policy Analysis of Opportunity for Post Secondary Education, 16 August 2010, <http://www.postsecondary.org/topicslist.asp?page=1&od=&search=Interstate%20migration>.

¹⁷ *Ibid.*

¹⁸ *Ibid.*

¹⁹ Authors' Calculation: Additional data from Grapevine.com and US Census Bureau.

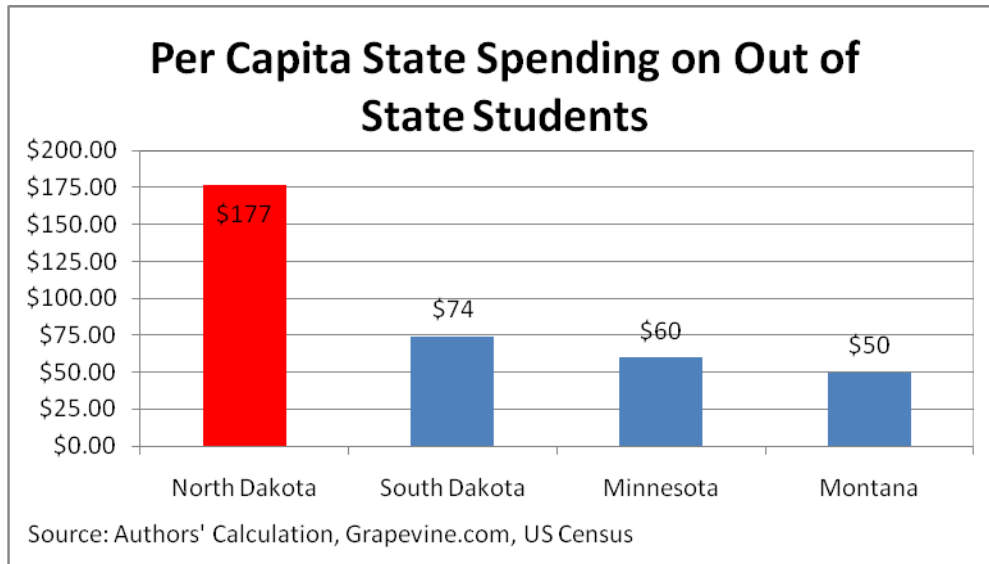
²⁰ State, Local and Federal Fiscal Support for Higher Education, 2008, The Mortensen Seminar on Public Policy Analysis of Opportunity for Post Secondary Education, 17 August 2010, <http://www.postsecondary.org/topicslist.asp?page=1&od=&search=State%20appropriations>.

Additional Authors' Calculation.

²¹ Authors' Calculation. Data From: Grapevine.com, Digest of Education Statistics and Postsecondary.org.

While North Dakota spends huge sums on out of state students, this is not at the expense of resident students. In-state students in North Dakota receive one of the highest amounts in the nation of subsidies per student, coming in around \$9,000 per enrollee in 2008.²²

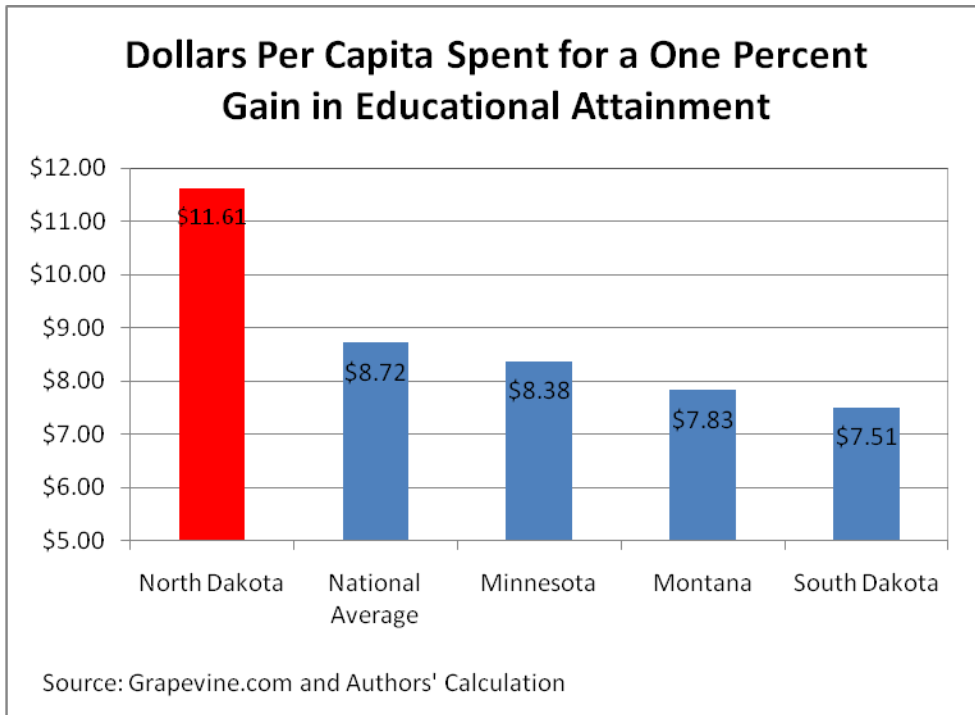
Figure 8 - Per Capita Spending on Out of State Students



To add insult to injury, North Dakota expenditures on higher education are among the least efficiently spent in the nation. When states appropriate hundreds of millions to billions of dollars annually to higher education, they do so with the desire to increase the human capital stock of their state economy. This can be measured by the percentage of adults with college degrees in the population, or the adult educational attainment rate. In North Dakota's case, for each additional percentage point gain in state educational attainment, its residents each pay \$11, a figure considerably above their neighbors and the national average.

²² *Ibid.*

Figure 9 - Dollars for Educational Attainment

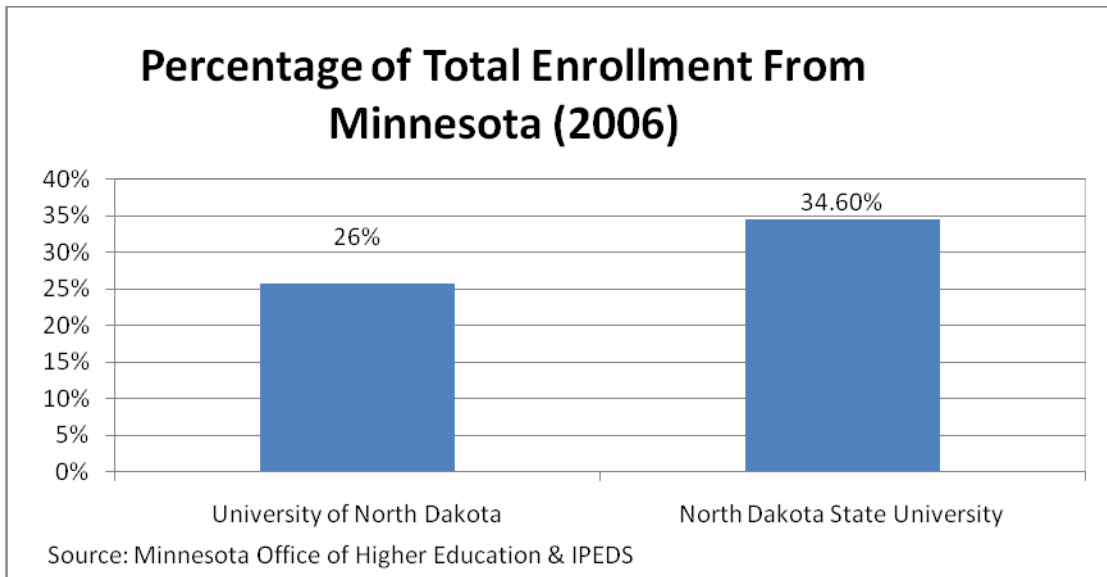


Tuition Reciprocity Agreements

Tuition reciprocity programs are contributing to the prodigious amount of non-resident students in North Dakota. Out of state tuition at four year public institutions in North Dakota is already low when compared to that of other states. However, this tuition is further lowered by tuition reciprocity agreements. These agreements allow out of state students to pay their native state's resident tuition to the institution they actually attend in North Dakota. North Dakota's only true tuition reciprocity program is with its much larger neighbor, Minnesota, a state that sends thousands of students to North Dakota. In 2006, Minnesota students made up 19.4 % of North Dakota's total public enrollment.²³ At the major North Dakota institutions, Minnesota students make up an even greater proportion of the student body.

²³ Authors' Calculation: Data from Minnesota Office of Higher Education, 5 August 2010 <http://www.ohe.state.mn.us/mPg.cfm?pageID=1403>, and Digest of Education Statistics.

Figure 10 - Enrollment from Minnesota



These Minnesotans annually pay artificially low out of state tuition to North Dakota. The forms and requirements for this program are minimal, posing little time or financial barrier to students wanting to attend school in North Dakota. While there may be benefits to tuition reciprocity partnerships, the disparity in size between North Dakota and Minnesota places many burdens (lots of out of state students) on the dwarfed North Dakota.

There are some transfer payments made between the states to help compensate the other for accommodating the other's residents. In 2008, Minnesota paid North Dakota \$3.1 million dollars.²⁴ This may seem like a large sum of money, but it needs to be put in perspective. Minnesotans made up 19% of the state's public enrollment and state appropriations for higher education totaled over \$250 million.²⁵ The transfer payment is a trivial amount when considering the sheer amount of systemic accommodations that are undertaken for Minnesotans. Our calculations lead us to believe that this number should be closer to \$11 million.²⁶

On top of the already low tuition paid, these students also receive considerable financial aid. Much of this comes both from the state and the institution, further ratcheting up the state's spending on higher education. North Dakota appears to be a very generous state when it comes to financial aid. For example, Minnesota State University-Moorhead and North Dakota State University are the two schools with the highest amount of out-state students from either North Dakota or Minnesota in the respective states. North Dakota State University awards far more on

²⁴ *Ibid.*

²⁵ Data from Minnesota Office of Higher Education, 5 August 2010 <http://www.ohe.state.mn.us/mPg.cfm?pageID=1403>; additional data from Grapevine.com.

²⁶ Authors' Calculator: (Number of Minnesotans in ND)- (Number of North Dakotans in MN) * appropriations per enrollee

average in institutional grants to its students than does the Minnesota school. NDSU also awards these grants to a higher percentage of students than Minnesota State-Moorhead (see Figure 11). The comparison is not just confined to these two institutions either. Statewide, North Dakota public institutions give aid to a much higher percentage of students than do neighboring states (see Figure 12).

Figure 11 - Average Amount of Institutional Grant Awarded

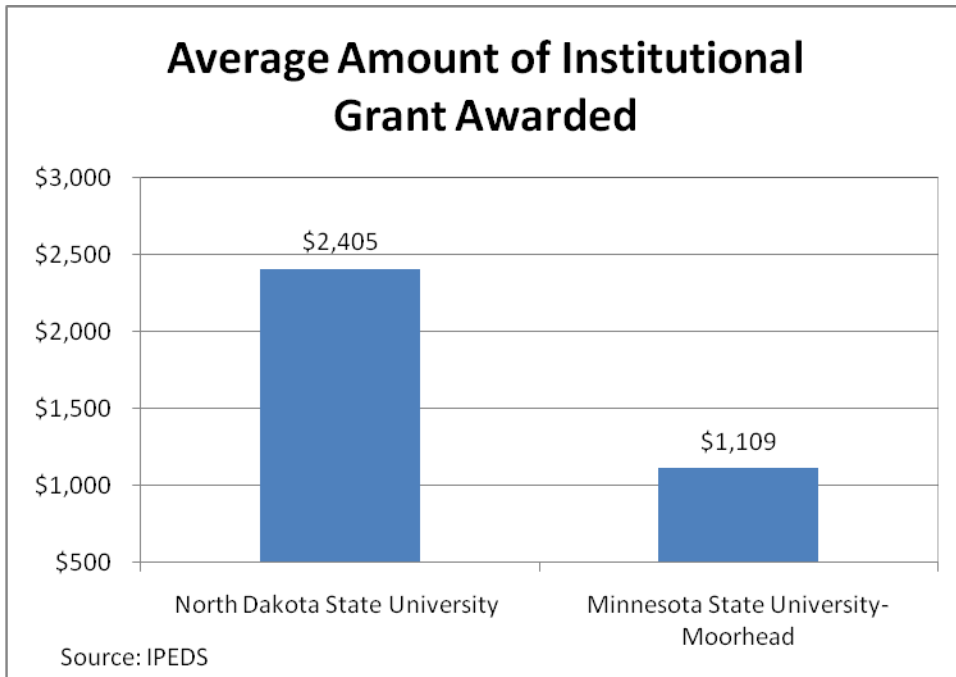
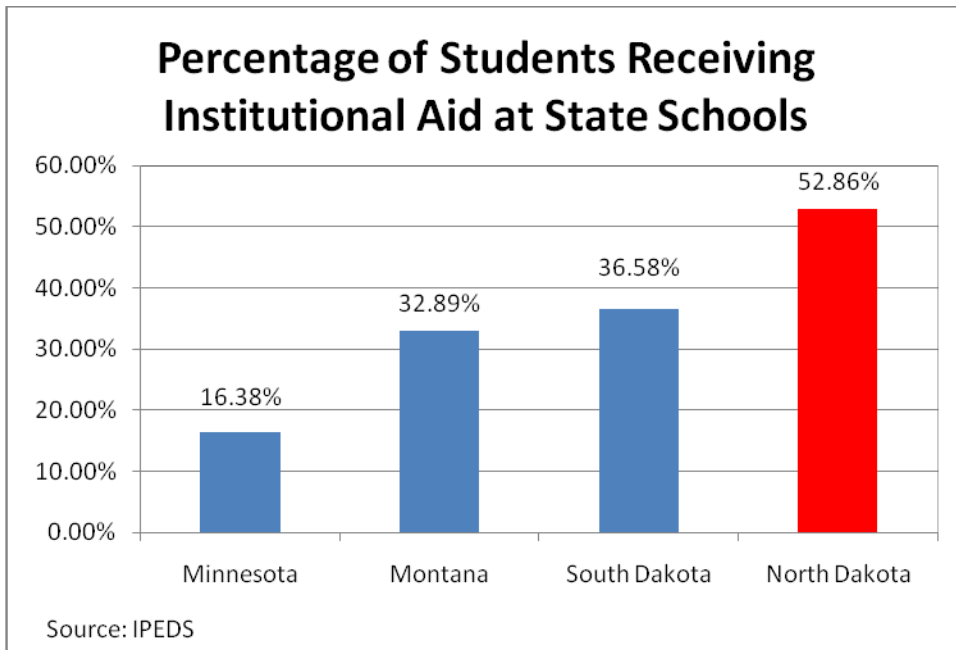


Figure 12 - Percentage of Students Receiving Institutional Aid at State Schools



While Minnesota is the only state with which North Dakota shares a true reciprocity program, students from neighboring states (and countries) do not pay full out of state tuition. The University of North Dakota website says:

Although residents of South Dakota, Montana, Manitoba and Saskatchewan are not covered by reciprocity agreements, they pay lower tuition and fees than do other non-residents.²⁷

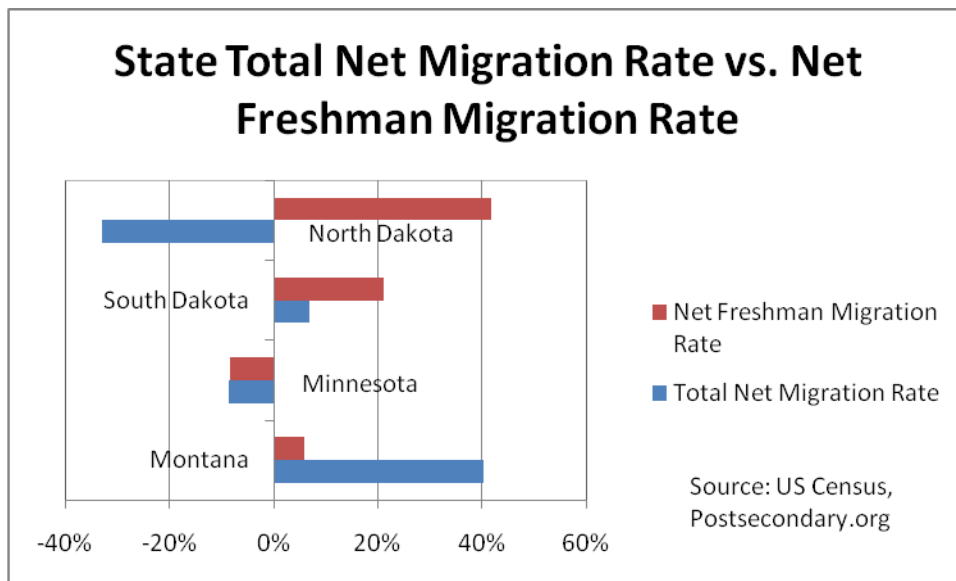
On net, North Dakota gains college freshman from both South Dakota and Montana. Additionally, North Dakota gains students from outside of the United States. Unlike true reciprocity agreements, where some interstate transfer payments are made, this does not occur when Canadian, South Dakotan, or Montanan students enroll in North Dakota schools. The low tuition rate these students pay is completely shouldered by North Dakota's taxpayers.

²⁷ University of North Dakota, 2010, 20 August 2010, <http://www.und.nodak.edu/dept/registrar/catalogs/catalog/geninfo/tuition.htm>.

Defying Typical Explanations

North Dakota's overall migration trend cannot help explain the migration rate of college students. From 2000-2008, North Dakota lost more residents than it gained and hence had a negative migration rate for the overall population. Through this very same time period, North Dakota always had a positive net migration of incoming college students. In 2008, it had the largest disparity in the country between the overall rate of net migration and that of incoming college freshmen, with the overall population rate at -32% and the freshman rate at over 40% (see Figure 13).²⁸

Figure 13 - State Total Net Migration Rate vs. Net Freshman Migration Rate



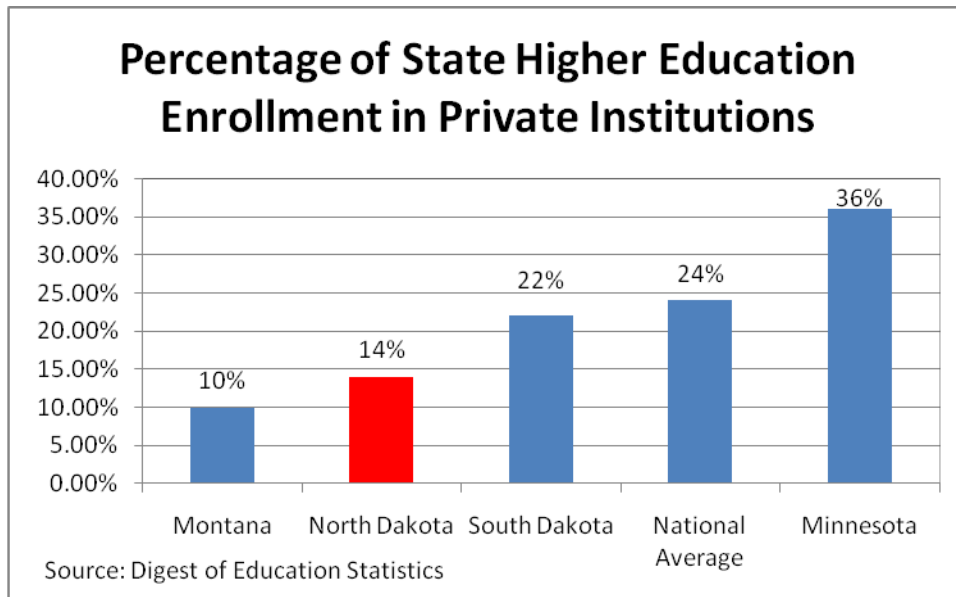
Typically, states that have a very high percentage of out of state students have a considerable amount of private enrollment (the Commonwealth of Massachusetts is an example). Private universities do not give tuition discounts to in-state students. Private schools often get many out of state students comparatively because the financial advantages of being an in-state student do not exist; at private schools, there is no meaningful distinction between out of state and in-state students.²⁹ Although North Dakota has the highest number of universities per capita in the nation, there are few private schools in the state, and they do not contribute to student enrollment significantly. Of neighboring states, only Montana has proportionally fewer college students enrolled in private institutions; even South Dakota's proportion is much higher than

²⁸ See footnote 12 for an explanation of the definition of net migration rates.

²⁹ Another reason why private colleges and universities attract many out of state students is that, typically, private schools are more highly regarded than public colleges and universities, as evidenced by the dominance of private schools in most college rankings.

North Dakota (see Figure 14). Consequently, North Dakota has a very modest private enrollment, at odds with traditional explanations for high out of state enrollment.

Figure 14 - Percentage of Enrollment that is Private



This high percentage of out of state students does not result from a lack of North Dakota's own residents attending institutions of higher education. North Dakota posts one of the highest high school graduation rates in the country, and its high school students have one of the highest rates of college continuation. Combined, these two factors give North Dakota high school students the second highest chance of attending college in the nation.³⁰

Regression Analysis

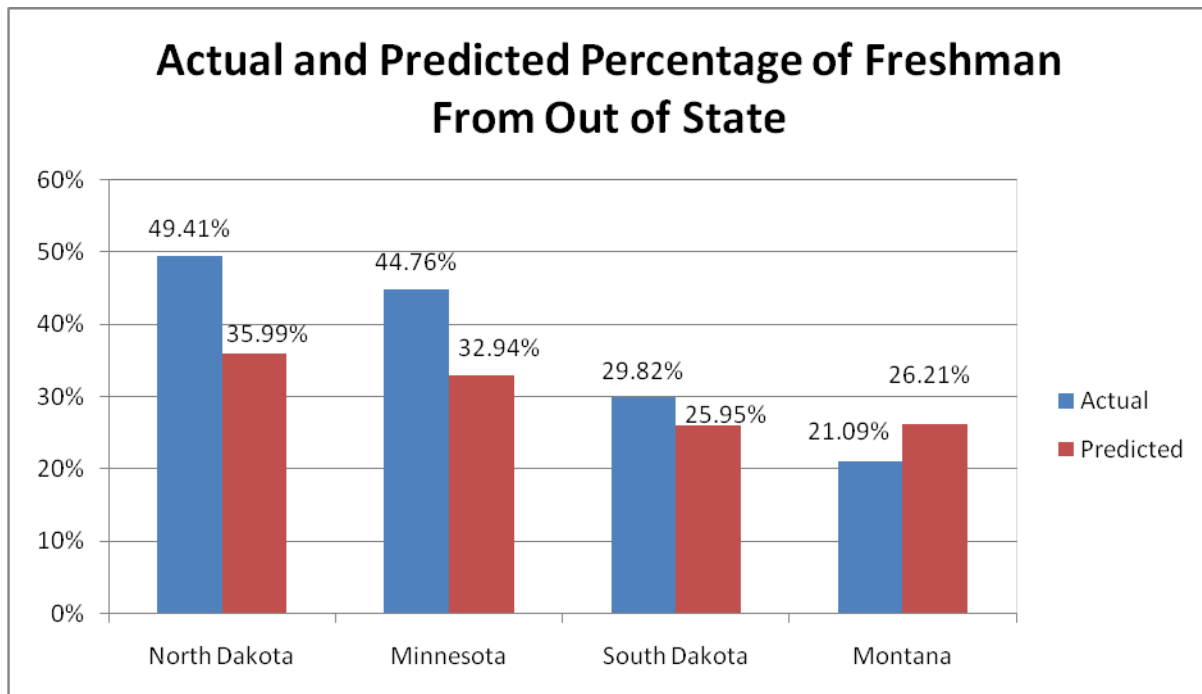
In order to better understand the factors affecting the migration of college students, we constructed a statistical model that identifies likely causal factors of interstate student migration. Our model predicts the percentage of non-resident traditional freshman in a given state's colleges and universities. Several control variables were used in this model, including real state appropriations per capita, percentage of African American enrollment, the number of higher education institutions per capita, state population, the percentage of total enrollment that is private, relative tuition (average in-state tuition in contiguous states), differences between in and out of state tuition and several regional dummies. The model is very robust, with an R squared of .745, meaning that it predicts about 75 percent of the variation in the dependent variable.

³⁰ Chance for College by Age 19, 1986-2006, 2006, The Mortensen Seminar on Public Policy Analysis of Opportunity for Post Secondary Education, 20 August 2010, <http://www.postsecondary.org/topicslist.asp?page=1&od=&search=College%20participation>.

The model had some very interesting results. First of all, it indicated several factors that appear to be significantly impacting North Dakota’s student composition. For example, North Dakota has the most institutions of higher education of any state in relation to the size of population. In our analysis, institutions per capita were found to have a significant positive effect (more institutions per capita, the higher the percentage of out of state students). Also, the model shows that as real per capita appropriations increase, so does the percentage of out of state students. The percentage of state private enrollment, mentioned earlier as a possible causal factor for high levels of out of state enrollment, appears to have a significant positive effect; however, this still does not help explain North Dakota’s numbers.

While this model is pretty good at prediction, it is not perfect. Most interestingly, North Dakota’s predicted percentage of freshman from out of state was about 35 percent, instead of the actual rate of 49.4 percent. The predicted rate is nearly two standard errors away from the actual, providing compelling evidence that North Dakota has an abnormally high percentage of students from out of state, even controlling for several possible causes of that phenomenon (see Figure 12).³¹ In other words, North Dakota, in comparison to other states, has more out of state students than would typically be expected. This, we would surmise, is a consequence of the unusual step North Dakota has taken with respect to pricing to lure students. Inexpensive and heavily state supported higher education does entice students to come to a state.

Figure 15 - Actual vs. Predicted Out of State



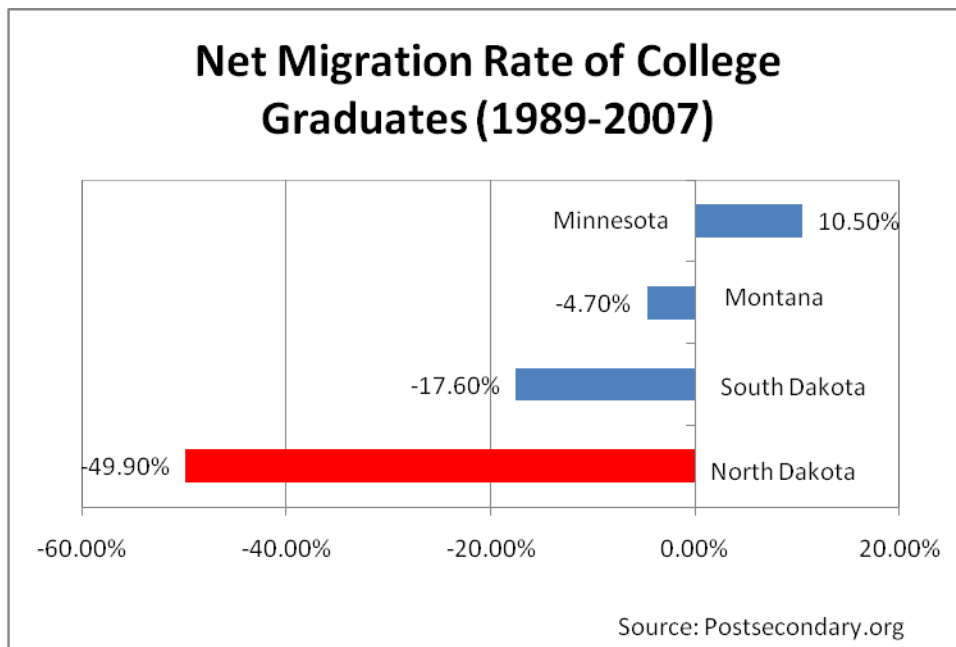
In They Come: And Out They Go

³¹ Note: For more in-depth information on our model, see regression in Appendix

Drawing students into the state for college would not be a bad thing if those students remained in the state following graduation. However, this is not the case in North Dakota. Rather, the state loses vast amounts of its human capital to outward migration as shown by its overall population net migration rate. Graduates of North Dakota’s universities frequently and quickly leave the state after graduation. This leaves the state with an average (or often below average) adult educational attainment rate and little to show for its investment in higher education. Educated workers cannot advance a state’s economy when they immediately move away.

Placing just behind West Virginia, North Dakota has the second highest outward migration rate of college educated adults in the entire nation.³² As the graph below shows, North Dakota hemorrhages college graduates, losing them at a rate of 50 percent.

Figure 16 - Net Migration Rate of College Graduates (1989-2007)



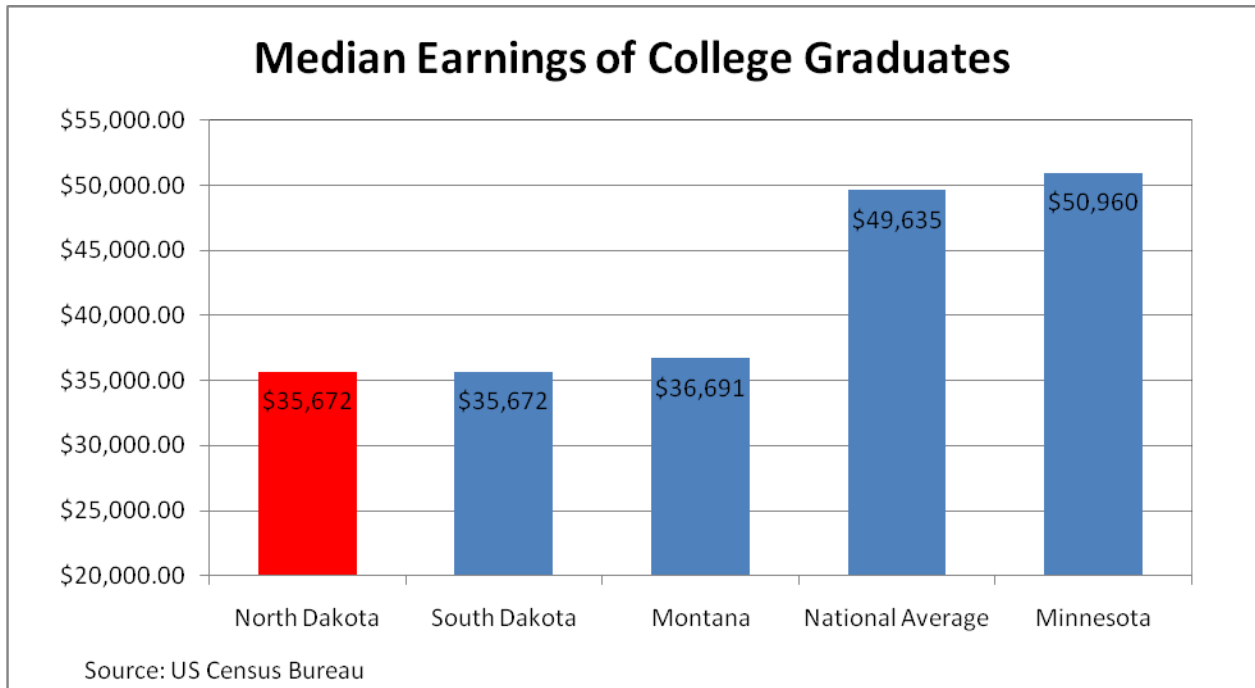
Between the years 1989 and 2007, North Dakota had a net loss of nearly 60,000 college graduates.³³ Millions of North Dakota taxpayer dollars were, in essence, used to finance other states’ human capital stock. This exodus of college graduates brings into question the heavy state financing of higher education in North Dakota. After all, why should North Dakota taxpayers be responsible for subsidizing the education of people who have no long term commitment to the state’s economy and exit the state as soon as they complete their heavily subsidized education? We will briefly look into why people are leaving, the ramifications of outward migration and finally suggest public policy prescriptions to deal with this problem.

³² Stock and Flow of Bachelor’s Degrees by State, 1989-2007, 2008, The Mortensen Seminar on Public Policy Analysis of Opportunity for Post Secondary Education, 21 August 2010, <http://www.postsecondary.org/topicslist.asp?page=1&od=&search=Interstate%20migration>.

³³ *Ibid.*

One of the chief reasons individuals attend college is to increase their future earnings potential. From a personal standpoint, college is a huge investment, both in time and in money, and requires significant pay-outs in the future to pass any cost-benefit tests. Although North Dakota's public education is inexpensive, the state's college graduates are, on average, not compensated well in comparison to other states. *College graduates living in North Dakota earn less than in any other state in the nation* (see Figure 17).³⁴ From an earnings perspective, it makes sense for graduates to migrate to a state where compensation is considerably higher.

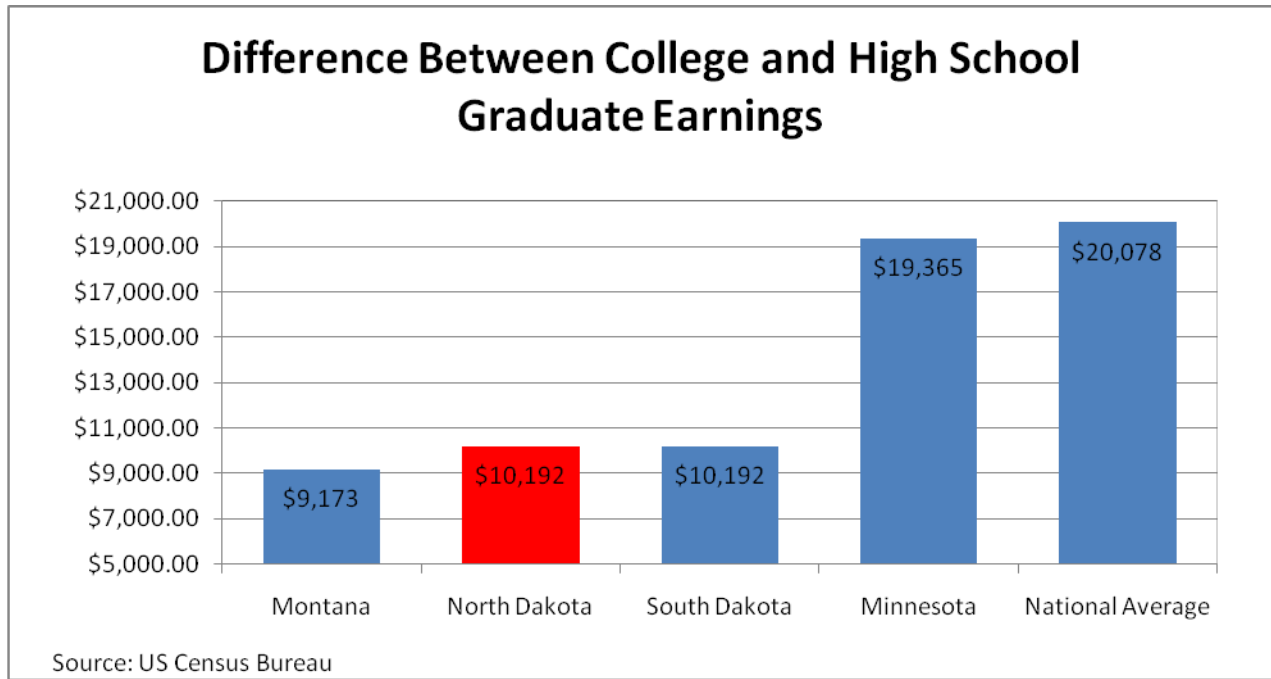
Figure 17 - Median Earnings of College Graduates



The difference in earnings between a college and high school graduate in North Dakota is one of the smallest in the nation as well. Nationally, the earnings differential is around \$20,000 annually; however, on average, college graduates in North Dakota annually earn only \$10,000 more than their high school graduate counterparts (see Figure 18). After accounting for lost wages due to time in college and the cost of attending, the benefits of earning a college degree to work in North Dakota may be very small, if indeed there are benefits at all.

³⁴ Median Earnings by Educational Attainment for the Population Age 25-64, 2005, United States Census Bureau, 1 August, 2010, http://factfinder.census.gov/home/en/acs_pums_2005.html. North Dakota is actually tied for last with South Dakota.

Figure 18 - Difference Between College and High School Graduate Earnings



The low premium paid to college graduates is evidence that there really is not much demand in North Dakota for college graduates. If there truly were a shortage of college graduates relative to the demand for them, they would be paid much more. If the outward migration of college graduates from North Dakota were to cease, a surplus would likely exist, further driving down the wage premiums for those with college degrees.

Wages are determined by labor productivity. Other things equal, a more productive worker (as measured by the dollar value of the output she adds to her employer's revenue stream) gets paid more. What that suggests in this context is that the productivity gains associated with a college education are dramatically smaller in North Dakota than the nation as a whole.

Nationally, employment projections foresee large job growth in the future in fields that do not require a college degree. North Dakota is no exception to this. In terms of total growth, three out of the top four are industries that require very few college graduates.³⁵ These fields, Accommodation and Food service, Food service and Drinking places and Construction, account for over 27 percent of all projected total job growth in the next eight years.³⁶ Additionally, the

³⁵ North Dakota Employment Projections, 2010, North Dakota Work Force Intelligence, 2 August 2010, <http://www.ndworkforceintelligence.com/gsipub/index.asp?docid=357>.

³⁶ *Ibid.*

largest job growth is projected to be in Health Care and Social Assistance. This industry employs a significant percentage of non-Bachelor's holders since much of the work can be done by Technical and Associate degree holders.

For individual occupations, eight of the ten projected largest growth occupations require less than a Bachelor's degree.³⁷ When accounting for this, the employment projections for college graduates look even less promising. Also, and not surprisingly, given the public sector's unusually large investment, education accounts for about 8 percent of projected job growth.

Further evidence of the employment effects is apparent in the overall migration numbers. College graduates are leaving North Dakota at a much higher rate than their less educated counterparts. Overall, between 2000 and 2008, North Dakota lost about 700 residents total net of those moving in.³⁸ During this same time period, however, it lost well over 12,000 college graduates.³⁹ This indicates an in-migration of uneducated workers during this time, while the state lost residents overall because of the exodus of the human capital.

North Dakota's low unemployment rate can partially be attributed to the outward migration of many of its residents. Unemployment rates are low if there are not people looking for jobs. It is likely that many of the people who are looking for jobs move elsewhere and therefore are not included in unemployment reports.

There are some considerable ramifications resulting from the combination of excessive educational spending and an outward migration of productive workers. For instance, because a significant portion of young people leave the state, North Dakota has the second smallest percentage of its population in the traditionally productive age brackets (25-64) and, accordingly, the highest population-adjusted dependency population in the country (0-24, 65+).⁴⁰ North Dakota is one of only two states in the US that has a higher percentage of its population in ages that are traditionally dependent on others than in ages traditionally associated with productive working years (see Figure 19).

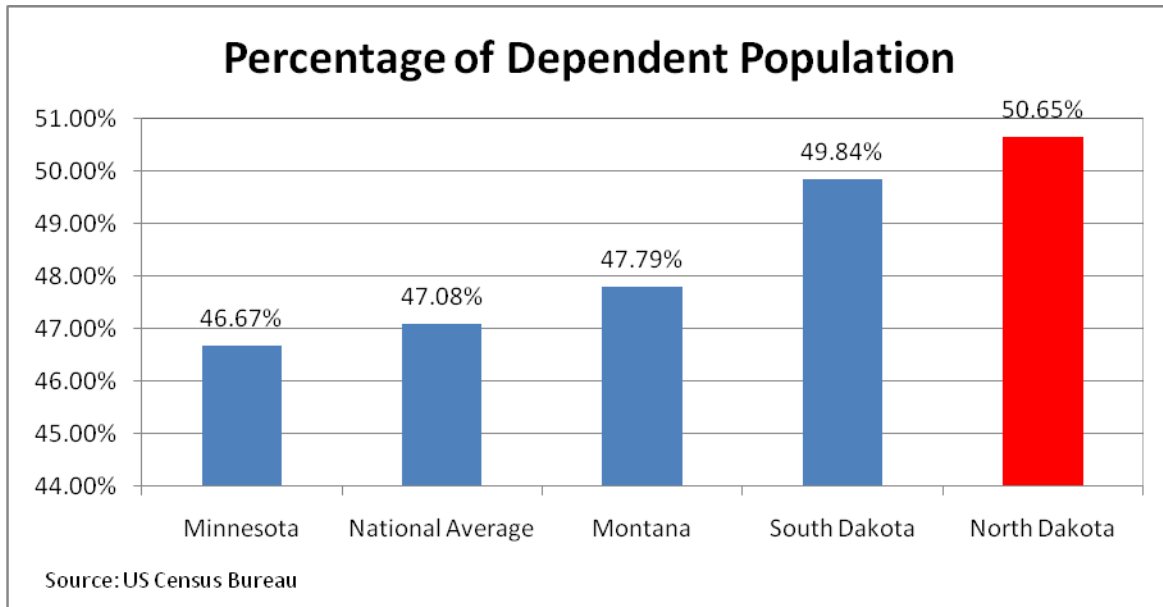
³⁷ *Ibid.*

³⁸ Estimates of the Resident Population by Selected Age Groups for the United States, States, and Puerto Rico: July 1, 2009, United States Census Bureau, 3 August 2010, <http://www.census.gov/popest/states/asrh/SC-EST2009-01.html>.

³⁹ Authors' Calculation and Stock and Flow of Bachelor's Degrees by State, 1989-2007, 2008, The Mortensen Seminar on Public Policy Analysis of Opportunity for Post Secondary Education, 21 August 2010, <http://www.postsecondary.org/topicslist.asp?page=1&od=&search=Interstate%20migration>.

⁴⁰ Authors' Calculation and Estimates of the Resident Population by Selected Age Groups for the United States, States, and Puerto Rico: July 1, 2009, United States Census Bureau, 3 August 2010, <http://www.census.gov/popest/states/asrh/SC-EST2009-01.html>.

Figure 19 - Percentage of Dependent Population



Because of this numerical disparity between workers to non-workers, an increasingly smaller percentage of people are supporting the state (and education) with their tax dollars (not to mention that as the relative size of the dependent population grows, the state will incur higher welfare costs to support this segment of the population). This will continue to drive productive people from the state and further exacerbate the problem. Rhetoric from Governor Hoeven and others champions spending on higher education as a savior for the state's economy.⁴¹ In all likelihood, an increase in spending will finance even more out of state students relative to in-state students, who will then leave the state at an alarmingly high rate. This type of situation is likely unsustainable in the long run. Too few will pay for too many.

Conclusion

Spending on higher education is not the key to state economic growth. Although North Dakota's economic growth during the past decade has been admirable, there are much more efficient ways to achieve higher levels of economic success. North Dakota squanders millions of dollars inefficiently, highly subsidizing both in-state and out of state students. If the goal of spending on higher education was to provide philanthropic aid to neighboring states in the form of providing cheap out of state access to its colleges, North Dakota would be a stunning success. However, this is not the case. By financing the education and human capital formulation of other states' residents, North Dakota is losing ground relative to these states. In order to grow more

⁴¹ Governor Hoven's Six Pillars, 2010, 14 August 2010, <http://governor.nd.gov/init/ed-init.html>

efficiently and sustainably relative to other states, public policy in North Dakota is in need of reform.

Higher education funding in North Dakota needs to be slashed. That would enable tax reductions that would increase entrepreneurial incentives to expand business opportunities, ultimately reducing the out-migration problem. Well over \$100 million is being spent on educating out of state students to the exclusion of much benefit for North Dakotans.

Given the extraordinarily high out of state admissions rates of state institutions in North Dakota, some consideration might want to be given to imposing limits on out of state enrollments; say a 35 percent limit at any single institution with no more than 25 percent from any single state (other than North Dakota). Alternatively, state subsidy payments to institutions could be reconfigured to provide financial incentives for existing universities to modify their excessively generous policies relating to out of state admissions. While some geographic diversity amongst student bodies has some modest positive effects on providing broadening experiences for North Dakota students, that can be achieved with much smaller numbers of out of state students. Still another option would be to insist on dramatically higher reciprocity payments from neighboring states.

Additionally, we believe a strong case can be made for some consolidation of North Dakota's public university system. With an increasing amount of education being delivered through distance learning, it is making less and less sense to finance remote and sub-par public universities (a subsequent study will look at qualitative dimensions of higher education in North Dakota). These often even serve the same market as many for-profit schools do. Public universities are also increasing their online presence nationwide; this could be used at the major North Dakota institutions (UND, NDSU) in lieu of financing and supporting the lesser state schools. Western Governors University (WGU) is an example of a relatively high quality not-for-profit private online institution; it would make more sense and save money if North Dakota closed some smaller institutions and gave vouchers to in-state students to attend such schools as WGU, for-profit institutions such as the University of Phoenix or Kaplan University, or online programs at the University of North Dakota or North Dakota State University.

Lastly, when formulating public policy, employment projections for the future need to be kept in mind. With large numbers of jobs being added in fields that do not need four year degrees, money diverted from four year institutions could be sent to vocational schools or training programs that might offer more relevant training at lower costs than North Dakota's higher education institutions. Just as this study questions funding at the higher education level, it may well be that funding for K-12 education also needs to be reconsidered. Native North Dakotans are leaving the state as well. Does it make wise fiscal sense to heavily subsidize people early in life (K-12) when they will leave the state anyway? There may not be a clear or popular answer to this question; however, it is something that needs to be considered.

In conclusion, relative to its peers and the rest of the nation, North Dakota spends excessive amounts of public monies on higher education. It is past the optimal point of financing higher education and is over-invested. A very large proportion of the marginal tax dollars are used to subsidize out of state students who leave North Dakota shortly after graduating. This situation is analogous to buying a good at a store and then leaving it at the cash register by

accident. In order to enhance North Dakota's long term economic future, a divestment from higher education is needed, perhaps along with related reforms as suggested above.

Appendix: Regression Results

Independent Variable	Coefficient	Standard Error	T-Ratio	P-Value
Constant	-.385604	.236844	-1.628	.1125
West Dummy	-.0210641	.0704424	-.2990	.7667
Mid-West Dummy	-.102026	.0451571	-2.259	.0302**
South Dummy	.0123990	.0626363	.1980	.8442
Real State Appropriation Per Capita	.000307834	.000197478	1.559	.1280
State Population	-4.91829 e^-09	2.9915e^-09	-2.139	.0395**
Educational Attainment Rate	.309031	.287856	1.074	.2904
Relative Tuition	5.41173e^-06	1.3036e^-05	.5252	.6027
Percent Black	-.00167864	.00229238	-.7323	.4689
Percent Pell	-.0391037	.0452921	-.8634	.3938
Percent White	.00293457	.00125747	2.334	.0255**
Institutions Per Capita	.00756958	.00239076	3.166	.0032**
State Migration Rate	.000197328	.000325379	.6065	.5481
Percent Private Enrollment	.392308	.141585	2.771	.0089***
Difference Between In and Out of State Tuition	6.8107e^-06	3.49524e^-06	1.949	.0594*

Mean Dependent Variable .256608

Sum Squared Residual .216101

R-Squared .745450

F(14, 35) 7.321262

Log-Likelihood 65.15383

Schwarz Criterion -71.62731

S.D. Dependent Variable .131627

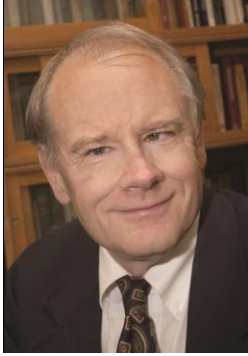
S.E. of Regression .078577

Adjusted R-squared .643630

P-Value (F) 8.96e^-07

Akaike Criterion -100.3077

Hannan-Quinn -89.38602



Richard Vedder studies higher education financing, labor economics, immigration, government fiscal policy and income inequality. A distinguished professor of economics at Ohio University, he is the author of several books, including *Going Broke by Degree*, and is the Director of the Center for College Affordability and Productivity (CCAP) Dr. Vedder earned his Ph.D. in Economics from the University of Illinois.