

Factors Affecting Four-Year National University Retention

Research Methods in Economics

Franz Varga

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Introduction

The retention rate for first year students at NIU has been falling (with exception in 2009) on a year over year basis since 2006 (Planning and Assessment, NIU). With the installment of a new president and the Bold Futures Workshops of 2013-2014, NIU is at a turning point in its battle against falling retention rates. This capstone paper will be a combination of research methods, surveys, and finding data from other information sources to find the most likely drivers of high and low retention. The project will focus on four-year universities, as this sample provides the simplest means to gather data. This focus is of particular interest because of its relevance to Northern Illinois University's student body and the future. Combining multiple sources of data, my work may present a source of suggestions and findings that could prove useful to the executive guidance and sustainability of the university. In particular, I plan to study the effect of crime rates on retention, as it was a high factor in Bold Futures Workshops for student concern. My hypothesis is that crime will not represent a significant factor to retention rates at four-year universities, and will only roughly correlate. Instead, it will be largely affected by local quality of living, first year engagement metrics, and tuition costs.

Literature Review

Falling retention rates play into policy decisions of universities across the country. With retention directly impacting operating budgets, research is prevalent and wide spread on a variety of different retention tools and causes of declines. As such, professionals at universities across the country turn to these sources for help finding specific solutions for their university. I will review below the academic and non-academic factors that have been identified as effecting retention, and then shift the focus to proposed policy shifts and action plans to help combat retention problems. With this approach, I can consider how my research, with a specific focus on crime as a factor of retention, might build on the shoulders of these giants.

Marcus (1997) highlights the importance of research into retention, listing it as one of three main approaches that universities can take to hedge against the falling 18-24 year old population (the other two pertaining to enrollment). He focuses his study on looking at factors that exist with students prior to enrollment, and how this relates to retention. He found that the most significant factor to retention was SAT scores, and additionally that acceptance rates were negatively correlated with retention, meaning a decrease in acceptance rates led to a higher level of retention for the students that were accepted. He suggests that using interviews, stringent application standards, and other candidate screening methods improves the students' likelihood to persist with their education towards a degree.

Lotkowski, Robbins, and Noeth (2004) analyze a variety of studies to create a comprehensive listing of factors affecting retention, referring to many of those listed above. Unique factors to this report were academic, such as high school GPA and ACT scores. They also found that universities, when identifying high-risk students, commonly

overlook non-academic factors. While students may be succeeding academically during their first year, these non-academic factors like self-confidence, academic goals, university commitment, and social support and involvement are just as much, if not more, critical to student success.

One very important role that plays into student retention is the availability of jobs. As I considered looking into unemployment rates and standards of living in my research, I found that Misra's (2009) study was particularly important. It examined the relationship of part-time job availability, the youth poverty rate, and college tuition rates on human capital development. Misra found that the availability of part-time jobs to college students has a positive effect on promoting human capital and subsequent economic growth. Alternatively, Crawford's (2015) study finds that library expenses prove to be a correlated variable that leads to higher overall retention and graduation rates. At this point, it is both relevant and useful to examine an editorial piece published in the New York Times, where The Editorial Board (2015) examines the growing debt crisis among law students. While the average debt levels continue to grow higher, job opportunities are shrinking and students are less able to pass the necessary professional certifications for a career in law. Thus, the increasing debt has dramatically lowered both enrollment and retention at law schools across the nation. We can view this as an example of tuition and fees playing a part in retention, in conjunction with lax admission standards.

Fike and Fike (2008) point to a few factors that play a significant role. They find that the strongest predictor is previous experience, with significant focus on a reading test. Additionally, they find that taking online courses is a strong predictor of success, while they didn't have any specific suggestions as to why it had an impact. Financial aid

and semester hours also proved to be significant. Uniquely, they realized that many demographic measures such as gender and ethnicity, while significant at a low level, prove inconsequential in the long run.

In a brief by Cravatta (1997), he identifies that retention rates from 1983 to 1997 had been declining slightly, and relates this fall in retention to the macro environment. He states that the retention of students is also tied to their education background and goals, citing a higher level of persistence at Ph.D.-granting institutions than those that focus on associate degrees. He also tackles the question of private vs. public colleges, indicating that private colleges will generally have higher persistence rates, but the gap is shrinking as private universities see falling rates of retention and public universities are working to become more selective and may turn around their retention rates. Private schools are not required to admit a set amount of students, and can thus be more selective about which students will be admitted, and how much is offered to the students in scholarships.

Seidman (2005) suggests that retention has not been a recognized issue to be addressed by universities until roughly the end of the '50s. He also insists on using groupings of "cohorts" to create more accurate subgroups of students to use in research. The most recent turns of events across the country have brought the study of retention rates to the forefront as it is "a source of prestige that can be converted into other kinds of symbolic, material, and human resources – particularly in the competition for more and better students" (Seidman, 2005, p5). The afterword to his book includes a statement by Tinto (2005) calling universities to action by moving from theorizing about retention to utilizing their tools to improve on retention at their individual firm levels.

In his own work, Tinto (2006) continues to build on the research of his peers by identifying ways that schools can improve retention through methodical approaches. He suggests universities focus more on their investment into their faculty and their first year engagement opportunities for students. The investment into faculty is cited as a means of improving student education and the environment of teaching. Additionally, it leads students to believe they are getting more value and remaining. Alternatively, focusing on first year engagement metrics can lead a university by encouraging it to promote first year involvement classes, student organization requirements of involvement, a higher level of extracurricular activities, and more opportunities for students to network with one another. He also recommends universities look at the difference in student life between high income and low income students. He mentions that this gap also affects retention, as lower income students are less likely to come back the following year. It is also possible to expand on his recommendation, and look at other key characteristics between the two groups and analyzing ways to lessen the divide in statistics to hopefully also lessen the gap in retention rates. Lotkowski et al. (2004) outline a four step approach to helping universities better understand what issues their students face. These steps are to identify who your students are, develop a successful program set to help their needs, incorporate both academic and non-academic factors into your model, use early risk factors from high school performance to build complete profiles on students that may risk dropping out, and use cost-benefit analysis to identify how decisions are made by students and how the university can help with intervention to promote higher levels of retention. With these steps, schools will be able to effectively work to increase retention in a strategic manner.

While the research on this subject has been extensive, its application of economic theory to college retention rates is minimal at best. I hope to apply labor economics to identify why, theoretically, students might want to leave university with one year of sunk costs. I will look at the opportunity costs of the remaining three years, the benefits students obtain from additional years of college enrollment, and how it relates to the student decision.

Research into the subject of retention rates has proven to be effective in finding factors that affect retention. The main factors highlighted by the above articles were pre-enrollment academics, at university academics, non-academic factors, and outside student involvement. Additionally, many researchers presented options to create action plans for universities to reverse falling retention rates. These work mainly by addressing a smaller subset of students, and offering more engagement opportunities to help students with their education and lives. I plan to build upon this research by incorporating the effects of crime rates on university retention, and working to provide relevant economic theories to my findings and previous research done by others.

Theory

We will first look at the Theory of Choice, as this ultimately plays the biggest role in deciding whether or not to return to college for a second year. I assume that students are rational, utility maximizing individuals, leading to the simple conclusion that the value of utility they receive from leaving college to pursue another career path is more important to them than the additional income and utility they could receive upon graduating. One idea that might explain why students attend for one year and then leave

after that year is because students are not entirely aware of the disutility of effort from attending college. Logically, they should have made this decision to pursue another course of employment prior to their first year, as now their tuition is a sunk cost. Students may have information asymmetry by not fully understanding challenges they might face taking coursework at the university level.

One concept, while not as likely, is that the opportunity cost of attending is slowly shifting, and we are seeing a change in the equilibrium level of college students. I think it is more likely that with the financial downturn of '08 families found they were not able to pay tuition costs to send students to university. It may also be interesting to consider if many students went to college after high school in the late '00s because of the lack of jobs available for high school grads, and have started shifting back because there has been an increase in jobs for those without high school degrees.

As to theories on why certain factors have more impact than others, it is likely due to their impact on current and future utility. For instance, social involvement and interacting at university boosts overall happiness and utility by connecting students with their peers. Alternatively, the benefits to future utility of attaining a college education may not be so easily noticed. It may be that many of these students value present income significantly more than future income, and thus their discount rate makes it so that they would rather earn today than earn more in the future. However, this would also lead to subsequent decreases in admissions. In my research I will look into the correlation between these two factors.

Lastly, I would like to consider the increasing education level of the average American worker. When faced with a work force where it is becoming more and more

necessary to pursue graduate work to distinguish a student from the multitude of undergraduate degree holders, students may decide it is more worth their time to strike out on their own and pursue personal growth that will differentiate them from other students in the competitive workforce.

Data Collection and Regression

I will begin by explaining my process of data collection. As my original plan to incorporate two sets of data fell through, I worked instead to make one strong set of values to run regression analysis on. I began by pulling in the top 200+ schools from US News' National University rankings (schools that offer a full range of undergraduate majors, plus master's and doctoral programs, with commitment to research). I used this set of schools as my sample. I next brought in annual data for all four year universities using the Campus Safety and Security Data Analysis Cutting Tool, produced by the US Department of Education. I combined this data by joining on campus, off campus, and local police reports into ten-year totals (2004-2013), and used Index-Match-Match to pull in all values to my main data sheet. I manipulated the data by grouping similar variables (Violent Criminal Offenses, Nonviolent Criminal Offenses, Total Criminal Offenses, Total Arrests, and Total Disciplinary Action) and then created a new variable that divided the totals by the student enrollment to allow for easier comparison from school to school, as a bigger body of students is likely to have more crime, even if the percentage of crime in the population remains the same. I also removed the following universities, due to lack of data: Spalding University, Edgewood College, Yeshiva University, Worcester Polytechnic, SUNY College of Environmental Science and Forestry, Yale University,

Immaculata Pennsylvania, and Louisiana State at Baton Rouge. Another assumption I made was that all tuition rates were from out of state. This may be an oversimplification, but it helped to standardize values across all samples between public and private schools. Lastly, I decided it would be both useful and interesting to have income, unemployment, and other values for the cities that each university was in. I pulled in average temperature, average precipitation, income, cost of living statistics, and percent of renters (as the majority of college students off campus are often renting) using Google Sheets to scrape data from areavibes.com, which is comprised of 2012 survey estimates.

Having collected 88 different variables, I then set about finding which variables would be most useful to run together in a regression with retention as the dependent variable. My initial regression pulled a large variety of different variables, while my second regression used statistics that were meant to be irrelevant of size, with fewer variables. After the first two, I created an intuitive regression with variables I thought would be most impactful. Lastly, I used a regression that ran all of the previously found significant variables ($P \leq .05$) as independent variables against retention.

Analysis of Results

I will proceed by analyzing each regression separately, and then taking a holistic approach to see how these results support my conclusion and how they tie in economic theory. Each regression is included at the end of this document.

Regression 1: This regression had the second highest R Square values of any regression, indicating that ~90% of all data points lied along the line predicted by this regression. However, its F value is lower than the last two regressions, leading me to believe that it

included many insignificant variables. One of my professors suggested that the high R-Square might simply be due to throwing so many variables in that it mimicked data mining. This model also had a higher standard error than Regressions 3 or 4. Significant variables in Regression 1 were Average Temperature, Total Enrollment, Fall 2013 Acceptance Rates, and 6 Year Graduation Rates. The level of significance was highest for the 6-Year Graduation Rate, and lowest for Fall 2013 Acceptance Rates.

Regression 2: This regression was a test to see how much the significance would drop by removing total enrollment, which would show if schools were able to compete without worrying about school size. Unfortunately, this regression had a much lower R Square value (the lowest value for any of the regressions) indicating poor fit. It also, while being significant, was the least significant model run. However, it was interesting that as the number of variables was reduced, two new independent variables were recognized as significant: Unemployment Rates and Tuition and Fees.

Regression 3: For this regression, I picked variables that I had originally thought would be impactful in my proposal, and added total crime levels to test significance relative to other impactful variables. The F value for this regression was higher than any previously done, indicating a higher level of significant variables being tested, while its R Square was very close to the initial regression, with significantly less variables. I found that Total Enrollment, Fall 2013 Acceptance Rates, 6-Year Graduation Rates, the Poverty Level, and the US News Rank all proved to be significant when determining retention, with 6-Year Graduation rates once again being the most significant, and poverty being the least of the significant variables.

Regression 4: Lastly, I ran a regression using all of the previously found significant variables, using retention rates as the dependent variable. This regression had the highest R Square value, and is also the most significant using the F value as a determinant. When finding the “ultimate” significant variables of previously found significant variables, Total Enrollment, 6-Year Graduation Rate, Average Temperature, and US News Rank were all found to be significant. Additionally, Fall 2013 Acceptance Rates were very close to being significant, with .06 p value (higher than .05 acceptable levels).

What do all of these values indicate? As there is quite a bit of data to look through, I will break the results down step by step. First and foremost, my initial hypothesis, that crime rates do not play a significant role in retention rates, was supported in all of the regressions (1-3 each had crime related variables included). This is a useful value to look into, as universities such as NIU have been appointing crime committees to work on reducing violence in an effort to reduce retention problems. Next, I would like to examine an interesting variable result I was not expecting: Average Temperature. My initial inclination is to tie this into the fact that there are more universities located in warmer climates, and it thus skews the data so that outliers have significant impact when looking at retention. However, it is possible that this surprising discovery could be true and not necessarily a flaw of the data. Researchers at Stanford and University of California, Berkley recently published a study that indicates that optimal performance is found at 55 degrees. As global warming has an effect on annual temperatures, the research predicts that income will begin to fall globally, up to 23% by 2100, due to this decrease in productivity. A similar study by the National Bureau of Economic Research also found that the optimum temperature in the US was 59 degrees, and that productivity

decreased by 1.7% for every 1.8 degrees above 59 degrees. These studies help to support temperature having an impact on retention, as less successful students at lower temperature universities would be more likely to leave college after the first year.

Let us consider the other significant variables. It makes sense that Total Enrollment would play a critical role in a school's retention, as a higher number of students at a school could potentially increase student involvement and buy-in into their educations. As well, they have a larger denominator value when determining retention rates, thus decreasing leverage of individual retention rate changes. I was surprised by how significant the 6-year graduation rate is on reducing retention falloff. It makes sense conceptually, and it's possible these two variables may be heteroskedastic. Lastly, it is interesting that the US News Rank would prove significant in determining rates. Realistically, as this variable is calculated via using other variables in the analysis, it doesn't confirm very much in the way of significance. Freshmen acceptance rates being near significant in all regressions ties in well with the research done by Marcus (1997) which suggested that more stringent admission standards lead to higher rates of retention. It was curious to see that unemployment and poverty level rates were occasionally significant, occasionally not. I think this indicates that Misra's study may be partially supported by the data I have found. With further research, part time job availability may prove more effective in increasing retention, as unemployment is only a weak indicator of part time job availability for students (there are better measures available). Unfortunately, I was unable to find any student involvement metrics that were easily attainable, and thus much of the works used during my literature review can be neither agreed or disagreed with.

Conclusion

The field of retention is an area of great concern for universities across the country. Plenty of previous work has been done in the area, pointing to a wide array of factors as affecting retention such as entrance GPA and scores, admission strictness, student involvement, income levels, and other variables. As such, research has been done to find ways in which universities might implement retention action plans. Using the previously done work as a way to figure out where to start my research, I found that crime does not have a significant impact on retention rates at national universities. This could lead to organizations reorganizing budgets to focus on more significant factors affecting retention.

If I had had additional time and effort to be able to devote to studying retention research, I would have run more regressions using median renter incomes, to see how poverty in students affects retention, as Tinto (2006) suggested by looking at the difference between low income and high income students. I would also run rankings for social mobility (the ability of individuals to move between socio-economic classes) as measured by the Washington Report as another variable. The work that I have done is also piece meal, in that data could be more specific (instead of city data, gather university data), some schools included satellite campuses while other schools with larger satellite schools did not have theirs included, and n/a marks were replaced with 0s to avoid shrinking the sample size. However, I feel that the data still was able to prove effective in producing results. This study leaves room for future research to determine other factors universities may target to improve retention.

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Regression 1

Regression Overview
 Dependent: Average Freshman Retention Rate
 Independent: Median Household Income, Renter Occupied, Unemployment Rate, Cost of Living, Median Rent Asked, Average Number of People per Household, Average Temperature, Average Precipitation, Tuition and Fees, Total Enrollment, Fall 2013 Acceptance Rate, 6-year graduation rate, Violent CO per Student, Nonviolent CO per Student, AR Total per Student, DA Total per Student

Confidence Level: 95%
 SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.95018614
R Square	0.9028537
Adjusted R Square	0.89407211
Standard Error	0.02366785
Observations	194

ANOVA					
	df	SS	MS	F	Significance F
Regression	16	0.92147134	0.05759196	102.812136	1.3806E-80
Residual	177	0.09914955	0.00056017		
Total	193	1.02062089			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	0.52006068	0.03304086	15.739926	1.774E-35	0.45485596	0.58526541	0.45485596	0.58526541	Sig
Median Household	3.083E-07	2.0535E-07	1.5013394	0.13504961	-9.695E-08	7.1355E-07	-9.695E-08	7.1355E-07	Not Sig
Unemployment Rate	0.05537346	0.09503041	0.58269204	0.56084221	-0.132165	0.24291191	-0.132165	0.24291191	Not Sig
Cost of Living Index	-8.049E-05	8.2162E-05	-0.9796346	0.32860361	-0.0002426	8.1654E-05	-0.0002426	8.1654E-05	Not Sig
Median Rent Asked	2.5327E-06	1.0185E-05	0.24866986	0.80390446	-1.757E-05	2.2633E-05	-1.757E-05	2.2633E-05	Not Sig
Average Number of	-0.0040017	0.00555026	-0.7209841	0.47187049	-0.0149549	0.00695156	-0.0149549	0.00695156	Not Sig
Percent Renter Occ	-0.0242558	0.0168732	-1.4375331	0.15233208	-0.0575543	0.00904275	-0.0575543	0.00904275	Not Sig
Av. Temp.	0.00069119	0.00026654	2.593141	0.01030594	0.00016517	0.0012172	0.00016517	0.0012172	Sig
Av. Precip.	-0.0006392	0.00119681	-0.5340825	0.59395463	-0.003001	0.00172265	-0.003001	0.00172265	Not Sig
Tuition and Fees Ou	1.3076E-07	2.9884E-07	0.43756598	0.66223439	-4.59E-07	7.2052E-07	-4.59E-07	7.2052E-07	Not Sig
Total Enrollment	5.5364E-07	1.8135E-07	3.05283513	0.0026166	1.9575E-07	9.1153E-07	1.9575E-07	9.1153E-07	Sig
Fall 2013 Acceptan	-0.0262674	0.01318125	-1.9927878	0.0478214	-0.0522801	-0.0002548	-0.0522801	-0.0002548	Sig
6-year graduation	0.45659161	0.02553232	17.8828905	1.6047E-41	0.40620467	0.50697854	0.40620467	0.50697854	Sig
Violence CO Per St.	0.26242468	0.54177233	0.48438185	0.62871373	-0.8067398	1.33158918	-0.8067398	1.33158918	Not Sig
NonViolent CO Per	-0.0562564	0.08428352	-0.6674667	0.5053434	-0.2225864	0.11007348	-0.2225864	0.11007348	Not Sig
Arrests Per Studen	0.00447388	0.01923133	0.23263527	0.81631342	-0.0334783	0.04242608	-0.0334783	0.04242608	Not Sig
Disc. Act. Per Stud	0.00107316	0.00644133	0.16660551	0.86787063	-0.0116385	0.01378485	-0.0116385	0.01378485	Not Sig

Regression 2

Regression: Does Size Matter?
 Dependent: Average freshman retention rate
 Independent:

different types of crimes per student, median enter income, unemployment, tuition and fees, poverty level, median rent asked

Confidence Level: 95%

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.67995136
R Square	0.46233385
Adjusted R Square	0.43603496
Standard Error	0.05461094
Observations	194

ANOVA

	df	SS	MS	F	Significance F
Regression	9	0.47186758	0.05242973	17.5799771	7.9059E-21
Residual	184	0.54875331	0.00298235		
Total	193	1.02062089			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	0.73864631	0.02624034	28.1492677	1.3552E-68	0.68687568	0.79041693	0.68687568	0.79041693	Sig
Violent Per Student	1.67075524	1.20814148	1.38291356	0.16836728	-0.7128361	4.05434654	-0.7128361	4.05434654	Not Sig
Nonviolent Per Student	-0.244855	0.19127443	-1.2801242	0.20211299	-0.6222281	0.13251806	-0.6222281	0.13251806	Not Sig
AR Per Student	-0.0405654	0.04318717	-0.9392925	0.34881201	-0.1257711	0.04464034	-0.1257711	0.04464034	Not Sig
DA Per Student	-0.0028805	0.01459269	-0.1973916	0.84373901	-0.031671	0.02591003	-0.031671	0.02591003	Not Sig
Unemployment Rate	-0.7015811	0.19392325	-3.6178287	0.00038369	-1.0841801	-0.318982	-1.0841801	-0.318982	Sig
Median Household Income	4.9496E-07	4.7761E-07	1.03632628	0.30140998	-4.473E-07	1.4372E-06	-4.473E-07	1.4372E-06	Not Sig
Tuition and Fees Out of Pocket	4.5318E-06	4.6164E-07	9.81666277	1.4753E-18	3.621E-06	5.4426E-06	3.621E-06	5.4426E-06	Sig
Poverty Level	0.06514748	0.04109476	1.58529906	0.11461552	-0.01593	0.146225	-0.01593	0.146225	Not Sig
Median Rent Asked	1.0153E-06	1.6632E-05	0.06104479	0.95138979	-3.18E-05	3.3829E-05	-3.18E-05	3.3829E-05	Not Sig

Regression 3

Regression Intuitive Factors
 Dependent: Average freshman retention rate
 Independent:

Total offenses per student, Tuition and fees, Total enrollment, Fall acceptance rates, Six-year graduation rate, Cost of living, Poverty level, U.S. News Rank

Confidence Level: 95%

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.94816089
R Square	0.89900907
Adjusted R Square	0.8946419
Standard Error	0.02360411
Observations	194

ANOVA

	df	SS	MS	F	Significance F
Regression	8	0.91754744	0.11469343	205.855969	8.0737E-88
Residual	185	0.10307345	0.00055715		
Total	193	1.02062089			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	0.68111155	0.04581507	14.8665382	2.0953E-33	0.59072437	0.77149873	0.59072437	0.77149873	Sig
TuitionandFees(Ou	-1.234E-08	2.8271E-07	-0.0436577	0.96522437	-5.701E-07	5.4541E-07	-5.701E-07	5.4541E-07	Not Sig
PERSTUDENTS	0.00163203	0.00257013	0.63499969	0.52621319	-0.0034385	0.00670256	-0.0034385	0.00670256	Not Sig
Total enrollment	5.3079E-07	1.6394E-07	3.23776803	0.00142783	2.0736E-07	8.5422E-07	2.0736E-07	8.5422E-07	Sig
Fall 2013 acceptan	-0.0353108	0.01250357	-2.8240532	0.00526189	-0.0599787	-0.0106428	-0.0599787	-0.0106428	Sig
6-year graduation	0.33264263	0.04479605	7.42571274	3.9811E-12	0.24426584	0.42101942	0.24426584	0.42101942	Sig
Cost of living ind	-3.743E-05	5.1297E-05	-0.7296216	0.46654431	-0.0001386	6.3775E-05	-0.0001386	6.3775E-05	Not Sig
Poverty level	-0.0339199	0.01641542	-2.0663427	0.04018935	-0.0663054	-0.0015344	-0.0663054	-0.0015344	Sig
U.S. News Rank	-0.0002929	0.00010851	-2.6995817	0.00758627	-0.000507	-7.885E-05	-0.000507	-7.885E-05	Sig

Regression 4

Regression Model: Impactful Variables (P<=.05)
 Dependent: Average Freshman Retention Rate
 Independent:

Total Enrollment, Acceptance Rates, Six Year Graduation Rate, Average Temperature, Unemployment, Tuition and Fees, Poverty Level, U.S. News Rank

Confidence Level: 95%

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.95074562
R Square	0.90391723
Adjusted R Square	0.8997623
Standard Error	0.02302338
Observations	194

ANOVA

	df	SS	MS	F	Significance F
Regression	8	0.9225568	0.1153196	217.552899	8.1785E-90
Residual	185	0.09806409	0.00053008		
Total	193	1.02062089			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	0.61880672	0.04772019	12.9673972	8.9774E-28	0.52466098	0.71295246	0.52466098	0.71295246	Sig
Total Enrollment	3.6366E-07	1.5965E-07	2.27783803	0.02387982	4.8688E-08	6.7862E-07	4.8688E-08	6.7862E-07	Sig
Fall 2013 Acceptance	-0.0239172	0.0126668	-1.8881806	0.06056695	-0.0489072	0.00107274	-0.0489072	0.00107274	Not Sig
6-year Graduation	0.35376962	0.04410487	8.02110155	1.1639E-13	0.26675645	0.44078279	0.26675645	0.44078279	Sig
Avg. Temp.	0.00075912	0.00024933	3.04459966	0.00266965	0.00026722	0.00125102	0.00026722	0.00125102	Sig
Unemployment Rate	0.06652774	0.08485824	0.78398683	0.43405046	-0.1008865	0.23394201	-0.1008865	0.23394201	Not Sig
Tuition and Fees (Out)	-2.074E-07	2.8277E-07	-0.7334197	0.46423086	-7.653E-07	3.5048E-07	-7.653E-07	3.5048E-07	Not Sig
Poverty Level	-0.0290894	0.01544001	-1.8840265	0.06113	-0.0595505	0.00137174	-0.0595505	0.00137174	Not Sig
U.S. News Rank	-0.0003004	0.00010622	-2.8278526	0.00520245	-0.00051	-9.082E-05	-0.00051	-9.082E-05	Sig