



**OBSERVATIONS AND INTERPRETATIONS OF THE FINANCIAL EFFECTS OF THE
NATIONAL SCIENCE FOUNDATION MATH/SCIENCE SCHOLARSHIP ON KSU'S PAST
RECIPIENTS**

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Introduction

In analyzing KSU's past recipients of the National Science Foundation (NSF) Math/Science Scholarship, three factors were examined to better reveal the impact that the funds were having in assisting students financially. The factors examined included the following:

1. The FISAP (Financial Operations Report and Application to Participate) total income of the past recipients to the median U.S. household income;
2. The percent of the academic year (AY) tuition and required fees paid by past recipients that were covered by the scholarship; and
3. The average gross need for financial aid of the past recipients.

Impact of the Factors Examined

The first factor examined in order to determine the financial impact the NSF Math/Science Scholarship had on past recipients was the FISAP total income of the recipients. This factor was chosen to see if the scholarship funds provided undergraduate degree-seeking opportunities in STEM (Science, Technology, Engineer, Math) for recipients whose household income was below the median U.S. household income of \$52,762 (as published by the United States Census Bureau for 2007-2011 and adjusted for inflation). Since all recipients were required to complete a U.S. Department of Education FAFSA (Free Application of Federal Student Aid), the recipients' household income was available for use in the analysis. Specifically, the FISAP total income was selected as it included the adjusted gross income (AGI) from all household wage earners (i.e., father, mother, and student) and provided a strong comparator variable across all past recipients. This data could be reliably used in the analysis as it was annually reviewed by auditors from the U.S. Department of Education.

As shown in Appendix A, over 50% of the past NSF Math/Science Scholarship recipients had a FISAP total income below the median U.S. household income (since KSU began awarding the scholarship in AY 2008-09). One third (1/3) of the scholarship recipients on average over the last five years had a FISAP total income below \$25,000. This indicates that the NSF Math/Science Scholarship provided academically qualified recipients from lower income groups' opportunities to seek an undergraduate STEM degree at KSU without incurring excessive student loan debt and/or to remain continuously enrolled. The average student loan debt as reported by American Student Assistance was \$26,600 for the class of 2011 (irrespective of institutional sector).

The second factor examined in order to determine the financial impact the NSF Math/Science Scholarship had on KSU's past recipients was the percentage of AY tuition and required fees covered by the scholarship. This factor was selected to assess if the scholarship funds were adequately assisting the recipient with the cost of their education as well as potentially eliminating the need for subsidized or unsubsidized student loans (and thereby avoiding unnecessary debt). Since all charges and payments made by the scholarship recipients were captured in KSU's Ellucian Banner student information system, this provided a reliable source of data for the actual tuition and required fees paid by past recipients'

each academic year. In addition, all financial aid awards, including the NSF Math/Science Scholarship, were captured in the same data source allowing for a dependable comparison of the data in the analysis. The reliability of the charges, payments, and financial aid captured was further strengthened by the fact that such data was audited annually by the Georgia Department of Audits as well as the University System of Georgia /Georgia Board of Regents. The currency used in the analysis was U.S. dollars.

As shown in Appendix B, over 50 % of the past recipient's AY tuition and required fees on average were paid for by the NSF Math/Science Scholarship over the last five years. Unfortunately, the overall trajectory of the trend line for the percentage covered by the scholarship funds for AY tuition and required fees slowly declined from 61% in AY 2008-09 to 47% in AY 2012-13 (a 14% decrease). This decrease was most likely due to the scholarship funds not taking into account the increasing educational costs brought on by inflation. A 33% rise in the NSF Math/Science Scholarship awarded each academic year (from \$3,000 to \$4,000), would potentially increase the percentage of AY tuition and required fees paid by the recipients' from 47% to 54% for AY 2013-14 (assuming a modest 1% increase in the AY tuition and required fees paid).

The third and final factor examined in order to determine the financial impact the NSF Math/Science Scholarship had on KSU's past recipients was the average gross need for financial aid. This factor was chosen to see if the scholarship funds had a significant effect in meeting the recipients' average gross need for financial aid. Again, since all past recipients were required to complete a FAFSA, gross need was calculated and captured in KSU's Ellucian Banner student information system. As with the FISAP total income, the FAFSA data could be reliably used in the analysis as it was annually reviewed by auditors from the U.S. Department of Education.

As shown in Appendix C, the average gross need for financial aid of past recipients' increased nearly 50% since AY 2008-09. This increase in average financial need is directly related to the lower household income groups receiving the NSF Math/Science Scholarship. Given that 60% of KSU's past recipients also received a Pell Grant (see Appendix C); the NSF Math/Science Scholarship proved to be KSU's strongest source of providing academically qualified students from those lower income groups with the opportunity to seek an undergraduate STEM degree. Since the academic year awarding amount of NSF Math/Science Scholarship has remained at \$3,000 over the last four years, the percentage of the scholarship meeting recipient average gross need for financial aid has decreased by 6% during the same time period (17% in AY 2008-09 to 11% in AY 2012-13). If the NSF considered increasing the scholarship amount to \$4,000 per academic year, it would potentially meet 15% of the recipients' average gross need for financial aid (assuming the average recipient gross need for financial aid increases only slightly). This would be an increase of 4% over AY 2012-13 (currently 11%).

Appendix A

FISAP Income Range for KSU's NSF Math/Science Scholarship Recipients

FISAP Income Range for KSU's NSF Math/Science Scholarship Recipients for Academic Years 2008-09 through 2012-13					
FISAP Total Income Range	Academic Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
1-Less than \$10,000		1	6	13	9
2-\$10,000-\$14,999		2	4	4	1
3-\$15,000-\$24,999	2	7	7	12	1
4-\$25,000-\$34,999	1	3	2	4	2
5-\$35,000-\$52,999	4	8	9	13	4
6-\$53,000-\$74,999	3	6	8	6	4
7-\$75,000-\$99,999		5	12	9	5
8-\$100,000-\$149,999		1	6	6	4
9-\$150,000 or more			1	1	
Grand Total	10	33	55	68	30

Number and Percentage of KSU's NSF Math/Science Scholarship Recipients Below the Median U.S. Household Income for Academic Years 2008-09 through 2012-13					
Income Range	Academic Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
# Income < \$25,000	2	10	17	29	11
% Income < \$25,000	20%	30%	31%	43%	37%
# Income < \$53,000	7	21	28	46	17
% Income < \$53,000	70%	64%	51%	68%	57%

SOURCE: Ellucian Banner Student and Financial Aid Modules

NOTE(S):

Median U.S. household income is \$57,762 as published by the U.S. Census Bureau for 2007-2011 and is adjusted for inflation.

Appendix B

Tuition Charges, Required Fee Charges, and NSF Math/Science Scholarship Awards for KSU Recipients

Tuition Charges, Required Fee Charges, and NSF Math/Science Scholarship Awards for KSU Recipients for Academic Years 2008-09 through 2012-13					
Charges and Awards	Academic Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
# of NSF Math/Science Scholarship Recipients	10	33	55	68	30
Tuition Charges	\$30,225	\$108,666	\$202,188	\$228,429	\$114,325
Required Fee Charges	\$9,906	\$34,588	\$67,300	\$85,240	\$42,484
Total Tuition and Required Fee Charges	\$40,131	\$143,254	\$269,488	\$313,669	\$156,809
NSF Math/Science Scholarship Awards	\$24,300	\$79,600	\$132,000	\$163,384	\$74,427
% of NSF Math/Science Scholarship Awards to Tuition and Required Fees Charges	61%	56%	49%	52%	47%

SOURCE: Ellucian Banner Student and Accounts Receivable Modules

Appendix C

Gross Need for Financial Aid and Pell Grants of KSU NSF Math/Science Scholarship Recipients

Average Gross Need for Financial Aid of KSU's NSF Math/Science Scholarship Recipients for Academic Years 2008-09 through 2012-13					
Amount	Academic Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
Average Gross Need for Financial Aid	\$18,031.36	\$21,555.08	\$25,005.71	\$25,819.06	\$26,995.78
NSF Math/Science Scholarship Amount	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00
% of NSF Math/Science Scholarship Awards to Average Gross Need for Financial Aid	17%	14%	12%	12%	11%

NSF Math/Science Scholarship Recipients at KSU with Pell Grants for Academic Years 2008-09 through 2012-13					
Amount	Academic Year				
	2008-09	2009-10	2010-11	2011-12	2012-13
# of NSF Math/Science Scholarship Recipients	10	33	55	68	30
# of Scholarship Recipients with Pell Grants	6	22	29	46	19
% of Scholarship Recipients with Pell Grants	60%	67%	53%	68%	63%

SOURCE: Ellucian Banner Student and Financial Aid Modules