

## **Nineteen-year Analysis of Tuition Costs to an Average In-State Student at University of Tennessee Knoxville**

Louis J. Gross  
Chair, UTK Faculty Senate Budget Committee  
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The objective of this analysis is to consider the impact of the Tennessee Lottery (HOPE) scholarship on the 4-year costs to students at UTK. This is a follow-up analysis to one I carried out in 2007 while I was Senate President (the prior report is posted at <http://www.tiem.utk.edu/~gross/facsenate/tuitionreport.pdf> ). Differences between this and the earlier report include the inclusion of fees rather than just tuition in this report and the inclusion of the history of retention data for the Hope scholarship that has been obtained over the past 10 years.

The first year that students were eligible to obtain such a scholarship was 2004-2005 (Fiscal Year 2005). Since that time, essentially every entering in-State first year student at UTK had a HOPE scholarship at the time of entrance. Over the years the program has been in existence, many students have not however maintained a sufficient GPA while at UTK to qualify to keep the scholarship. There has also been modifications in the amounts of the scholarship. Here I indicate, under the below assumptions, what the 4-year tuition and fees cost (this does not include housing costs, books, or other costs to students in attending UTK) would be for an in-State student.

### Assumptions:

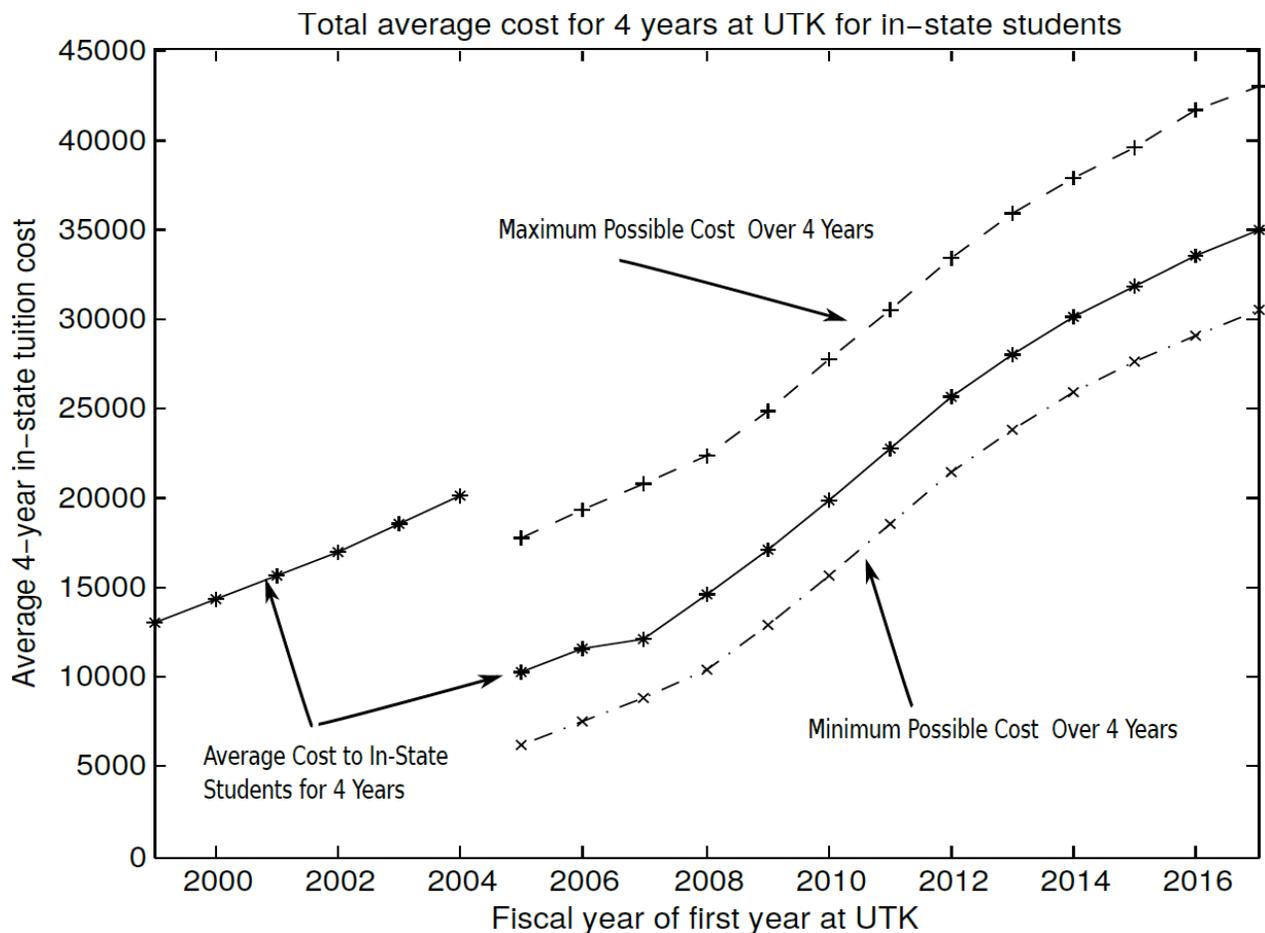
1. All in-State students enter with a HOPE scholarship. The fractions retaining the scholarship each year are taken as the average fraction retaining these based on data from the 2005-2006 cohort through the 2014-15 cohort. Retention data were supplied by the UTK Office of Institutional Research and Assessment and are available from the Budget Committee website (<http://www.nimbios.org/~gross/SenateBudgetPlanningCommittee2015-16.html>) These data give an average retention of 70.4% for their second year, 66.9% retain it through the third year and 57.6% retain it through their fourth year. While there is some variation from year to year in the retention fractions, this variation is not large and does not have any trend over time. Therefore, this analysis uses the average retention fractions computed over the 10 years of cohort data.
2. The tuition costs are the historical ones since the 1999 Fiscal year with the assumption of a 3% increase per year for the 2017, 2018 and 2019 Fiscal years. The costs used are tuition and all fees for a full-time, In-State student attending for Fall and Spring semesters. The Committee web page has a document containing the tuition and fees data utilized.
3. All other forms of scholarships are ignored. A significant fraction of the UTK operating budget has been used to supply additional scholarships of various types over the past, in addition to various scholarships from endowment funds. The annual UTK expenditures from Unrestricted funds (e.g. not counting endowments) for scholarships and fellowships has increased from \$11.9M in FY1999 to \$50.9M in FY2014. This is by far the component of the UTK budget with the largest percentage increase. It is expected that a significant fraction of the increase of \$39M in scholarships have been used to assist in-State undergraduates, however these are not included in the below analysis. Coarsely, even if only 50% of these funds were used for in-State undergraduates, there are about 21,100 undergraduates of which approximately 18,600 are in-State, so that on average the cost per student would be additionally decreased by \$1300 per year.
4. The total tuition cost is calculated for an “average” student, in that this is the mean cost per

student over 4 years accounting for the fraction of students who lose their HOPE scholarship at various times over the 4 years. No attempt is made to account for students who leave before completing 4 years – this analysis assumes the student remains at UTK for 4 years.

5. The Minimum and Maximum costs for a student were calculated since the start of the HOPE scholarship program by assuming for the Minimum cost that the student retains the HOPE scholarship over the entire 4 years and for the Maximum cost that the student only has the HOPE scholarship for their first year at UTK.
6. The value of the HOPE scholarship increased from \$3800 per year to \$4000 per year effective the 2008 Fiscal year for all students, including those who held the scholarship the previous year. For students entering 2015-16 and later, the value of the Hope scholarship is \$3500 per year for their 1<sup>st</sup> and 2<sup>nd</sup> years and increases to \$4500 for their 3<sup>rd</sup> and 4<sup>th</sup> years.

Results: These are summarized in the below Table and Figure which show the 4-year total costs for students entering UTK each Fiscal year.

<b>Year</b>	<b>Average Cost</b>	<b>Minimum Cost</b>	<b>Maximum Cost</b>
1999	12,994		
2000	14,306		
2001	15,652		
2002	17,038		
2003	18,544		
2004	20,110		
2005	10,270	6,192	17,792
2006	11,638	7,494	19,294
2007	12,140	8,854	20,854
2008	14,618	10,414	22,414
2009	17,082	12,878	24,878
2010	19,924	15,720	27,720
2011	22,758	18,554	30,554
2012	25,652	21,448	33,488
2013	28,042	23,838	35,838
2014	30,059	25,855	37,855
2015	31,818	27,614	39,614
2016	33,558	29,124	41,624
2017	34,911	30,478	42,978



As is evident from the above analysis, the cost to the average in-State student at UTK has been significantly lowered due to the availability of the Hope scholarships. The decrease was so substantial that the average cost to a student entering in Fall 2009 was lower than it was for a student entering in Fall 2003. For students who retained the Hope scholarship their entire 4 years at UTK, the total cost for students entering in Fall 2010 was lower than the total cost for students entering in Fall 2003. For a student entering in Fall 2016 who retains their Hope scholarship over 4 years, the projected total cost is about 51% higher than the cost was for a student entering in Fall 2003, 13 years earlier. This increase over 13 years is far lower than the average increase in tuition costs have been nation-wide over this time period for public universities (over 128% according to US News and World Reports data).

#### Implications:

The State of Tennessee, through the HOPE scholarship program, has greatly reduced the average cost of attendance at UTK for essentially every entering in-State student. The magnitude of this benefit, though most evident for those students who maintain their HOPE scholarship throughout their undergraduate career, is also very evident for the “average” student who may not retain their scholarship throughout the 4 years. This analysis does not include any accounting for discounting the value of money due to inflation (over the 13 years since 2003, the US inflation rate has been 30%), nor for the great increase in scholarship funds distributed by UTK. UTK represents a tremendous educational bargain to in-State students, given the rapid increases in costs at peer institutions over this time period.

Comments about this analysis are welcome – please send them to [gross@tiem.utk.edu](mailto:gross@tiem.utk.edu)

Note: Calculations were done using Matlab – the code is available from the author on request.