Final Report to the University Senate on an Evaluation of a Proposed New University Budget Model

Prepared by:

The Ad Hoc Senate Committee on Strategic Budgeting
(AHSCSB)

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Committee Membership:

Olin Adams – Associate Professor, College of Education
Michael Baginski – Associate Professor, College of Engineering
Richard Burt – Professor & Head, School of Building Science
Drew Clark – Director, Institutional Research & Assessment
Randall Clark – Professor, School of Pharmacy
Royrickers Cook – Assistant V.P. University Outreach
Claire Crutchley – Associate Professor, College of Business
George Flowers – Dean, Graduate School
Constance Hendricks – Professor, School of Nursing
Claudine Jenda – Librarian IV, Library
Bernhard Kaltenboeck – Professor, College of Veterinary Medicine
Zhanjiang Liu – Associate V.P. Research & Associate Provost
Robert Locy – Professor, College of Sciences and Mathematics
James Prevatt – Extension Specialist Professor, College of Agriculture
Marcie Smith – Senior Associate V.P. Business & Finance
Barb Struempler – Professor, College of Human Sciences
Larry Teeter – Professor, School of Forestry & Wildlife Sciences, Chair
Joseph Vonasek – Assistant Professor, College of Liberal Arts

Committee's Charge

- …present a report to the University Senate by the end of March, 2015, with an analysis of the proposed budget model as well as of viable alternative budget models, if any, that will focus resources on institutional mission and priorities, along with its recommendations for the strategic budgeting initiative at Auburn University…

Background

- Auburn's current budget is made up of individual budgets for each of 4 Divisions
  - Division 1 – AU Main Campus
  - Division 2 – AU Montgomery
  - Division 3 – AL Agricultural Experiment Station
  - Division 4 – AL Cooperative Extension Service
- Division 1 consists primarily of state appropriations and revenues from student tuition
  - Long history of incrementally adjusting unit budgets up or down relative to the previous year in accordance with swings in revenues
  - Led to a situation where the Provost's office has few resources to respond to changes in enrollment or to fund new initiatives

A lot of reasons to look for budget model alternatives

- Reduced state support
- Increased tuition dependency risk
- Increased price sensitivity re: tuition increases
- Increased competition for students and faculty
- Increased faculty/staff salary compression
- Limited funds for strategic support of growing areas of research, instruction, or outreach

Findings of the Provost's Budget Committee

- A shift in the process for budgeting funds is needed to allow for:
  - Fund allocation that is based on planned priorities and not just history;
  - Long-term planning as opposed to short-term allocations that are simply reactive; and
  - Stake-holders such as departments, colleges, units being empowered to enhanced decision making with the needed authority, responsibility and accountability.

Guiding Principles for a New Budget Model

- Prioritize funding of strategic initiatives aligned with Auburn's mission;
- Deliver consistent, accurate and realistic financial projections, while allowing flexibility to respond to future opportunities and unknowns;
- Promote authority, responsibility, and accountability, both locally and University-wide;
- Provide incentives for effective management of both revenues and expenses and reward creativity and innovation;
- Be simple, transparent, and logical.

Responsibility Center Management (RCM) – Auburn version

- Colleges/Schools are centers, Deans are managers
- All Funds Model – Includes restricted and unrestricted revenues
- Revenues will be classified as Direct Revenues or Allocated Revenues

Direct Revenues

• **Differential tuition and course fees**	• **Gifts and private support**
• Graduate distance learning fees	• Investment income
• Contracts and grants	• Sales and services

Allocated Revenues

• **Gross tuition**	• **State appropriations**
• Mandatory fees	• Indirect cost recovery

The proposed RCM model does not weight Student Credit Hours (SCH), but the model does use an accounting of SCH to allocate tuition revenues to Colleges and Schools.

Revenue Allocation: Gross Tuition

- Divided into four separate allocation pools

Level	Residency	Allocation
Undergraduate	Resident	70% to College of Instruction
		30% to College of Record
	Non-Resident	70% to College of Instruction
		30% to College of Record
Graduate/Professional	Resident	0% to College of Instruction
		100% to College of Record
	Non-Resident	0% to College of Instruction
		100% to College of Record

Revenue Allocation: Student Aid and Waivers

- Total gross tuition is offset by the amount the university decides to spend on student aid and waivers.

<table>
<tr><th>Expense</th><th>Consideration</th><th>Cost Assignment</th></tr>
<tr><td>Student Aid</td><td rowspan="2">Decision to award is made centrally by Administration</td><td rowspan="2">Share assigned to college/school is based on its share of gross undergraduate tuition.</td></tr>
<tr><td>Undergraduate Waivers</td></tr>
<tr><td>Graduate Waivers</td><td>Decision to award is made by college or school awarding</td><td>Share assigned is based on actual waivers awarded by a college/school</td></tr>
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Revenue Allocation

- Division 1 State Appropriation
  - 70% to resident instruction and academic support
  - 30% to sponsored programs support

    Based on college's share of gross resident tuition & college's share of total sponsored program direct revenues
- Indirect Cost Recovery
  - 100% of sponsored program's indirect costs recovered back to recovering unit

Direct & Allocated Expenses

- Direct expenses include the following examples:
  - Salaries, wages, and benefits
  - Equipment and supplies
  - Repairs and maintenance
  - Travel
  - Other expenses

Allocated Expenses

- Model will pool the indirect costs of administration and support services (6 separate pools) and allocate them to the colleges

Central Support Pool	**Allocation Base**
Academic and student services *Examples: Libraries, Student Affairs*	Credit hours taught
Administration *Ex: President's Office, EVPs Office*	Total direct expenses
Alumni affairs and development	Student headcount
Facilities *Ex: Maintenance, depreciation*	Adjusted square footage
Sponsored program support *Ex: VP for Res.& Econ. Devel, C&G Acctg.*	Research expenditures
University-wide support *Ex:OIT, HR, Public Safety*	Total FTEs, Divisions 1, 3, & 4 *(employees + student workers)*

Mission Enhancement Fund

- Under RCM, a college or school's total revenues may be less than the full cost of its programs, resulting in a negative margin.
- The basic intent of the MEF is to contain the amount determined as necessary to provide those colleges and schools with negative margins adequate support to begin their fiscal year at a break-even funding level, plus any identified resources required for strategic investments

MEF (continued)

- The MEF is generated through application of a participation rate to eligible budgeted revenues of all Schools & Colleges

Included Revenues	Excluded Revenues
Gross tuition and fees	Sponsored program revenues
(less) Student aid and waivers	Indirect cost recovery
Appropriations	Gifts, private support, and investment income
Sales and services	
Other revenues	

Ad Hoc Senate Committee's Evaluation of the Currently Proposed RCM Budget Model

1) There is concern that the model could produce swings in the annual resources available for a college or school's operational expenditures that would make it difficult for them to plan.
2) There is concern about the magnitude of the shortfalls associated with higher cost programs under the approach to tuition (and other allocated revenues) allocation being recommended. Under the currently proposed allocation method, it is unlikely that many colleges will reach the breakeven level without MEF funding.
3) How will the historical distributions of funds by deans within the colleges compare to the proposed RCM model distributions? Will there be comparable incentives in place for departments and will they be rewarded for increased efficiency?
4) More detail is needed about procedures for monitoring the effectiveness of any new modeling framework that is ultimately adopted. Fixed cost charges and bases for those charges will require regular oversight.

Tuition/Fees Allocation and Basic Modeling Suggestions

- High cost programs will likely never get to breakeven without help from the MEF and, as a result, seldom (if ever) be in a position to build reserves with carryover funds.
- The committee sought alternative ways to allocate resources so that fewer units were left with large negative margins and so that the sum of the negative margins was less.
- Two approaches were examined

Method 1: Weighted Student Credit Hours

- Acknowledges that there are differences in the cost of instruction per student credit hour across the 65 departments on campus.
- Other universities implementing RCM have chosen some approach to weighting
- According to the National Study of Instructional Costs and Productivity (Delaware Cost Study), national norm costs per student credit hour (by department) range from $158 to $618 per SCH in those disciplines in which Auburn University has instructional programs.

Weighting SCH

- Since the 2012 fiscal year has been evaluated using the RCM model, this method used Delaware data from that year
- Weights were determined by normalizing the cost of instruction for each unit to the mean cost of instruction for the 65 departments
- These weights were used in combination with data on SCH taught by department to determine weighted SCH for each department
- Aggregating weighted SCH at the college level allowed determination of shares of university total weighted SCH for each School/College. These shares were used to reallocate allocable gross tuition and fees.

2 slightly different assumptions

- First, no distinction was made between in-state and out-of-state students. The supporting rationale for this modification was that it costs the same to teach a student from Alabama, Georgia, Florida, etc., and that it is an inefficient use of department/College funds to recruit for students in multiple states. The University's brand is primarily responsible for attracting out-of-state students.

- The second change in assumptions is that all gross tuition & fees goes to the college or school of instruction. This assumption simply acknowledges the fact that there are no good data (or similar national norms data) on the separable costs of maintaining/advising students in a department/college.

Distribution of the tuition and fees according to the two methods is indicated below:

Original Allocation

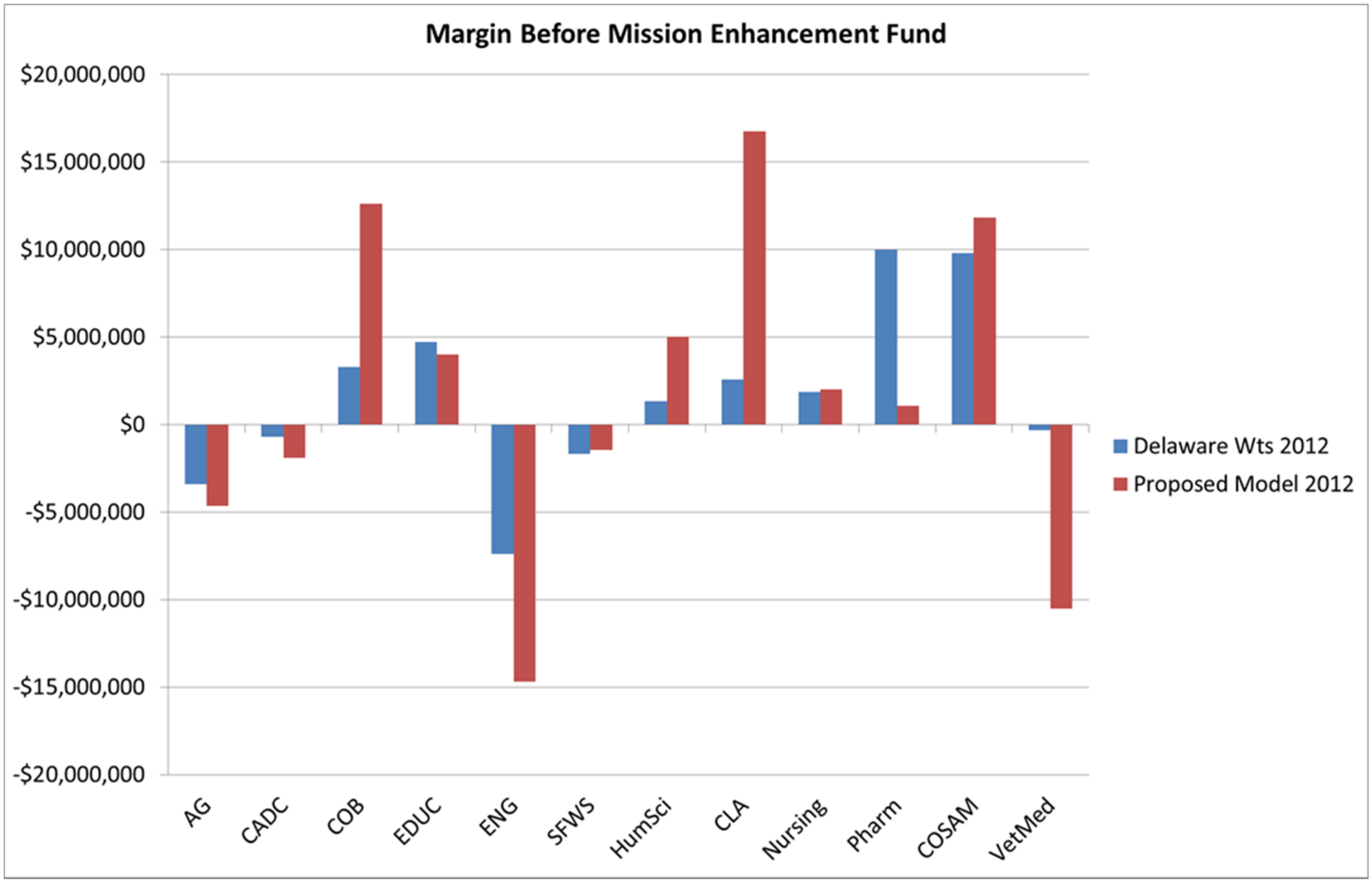
College of Agriculture	College of Architecture, Design & Construction	Raymond J. Harbert College of Business	College of Education	Samuel Ginn College of Engineering	School of Forestry and Wildlife Sciences	College of Human Sciences	College of Liberal Arts	School of Nursing	Harrison School of Pharmacy	College of Sciences & Mathematics	College of Veterinary Medicine	Academic Unit Total (Divisions 1, 3, 4)
$ 11,902,428	$ 20,094,898	$ 53,221,722	$ 30,491,257	$ 41,979,080	$ 2,962,490	$ 15,607,498	$ 90,869,795	$ 6,029,531	$ 14,672,826	$ 63,048,070	$ 15,979,085	$ 366,858,679

Weighted Allocation

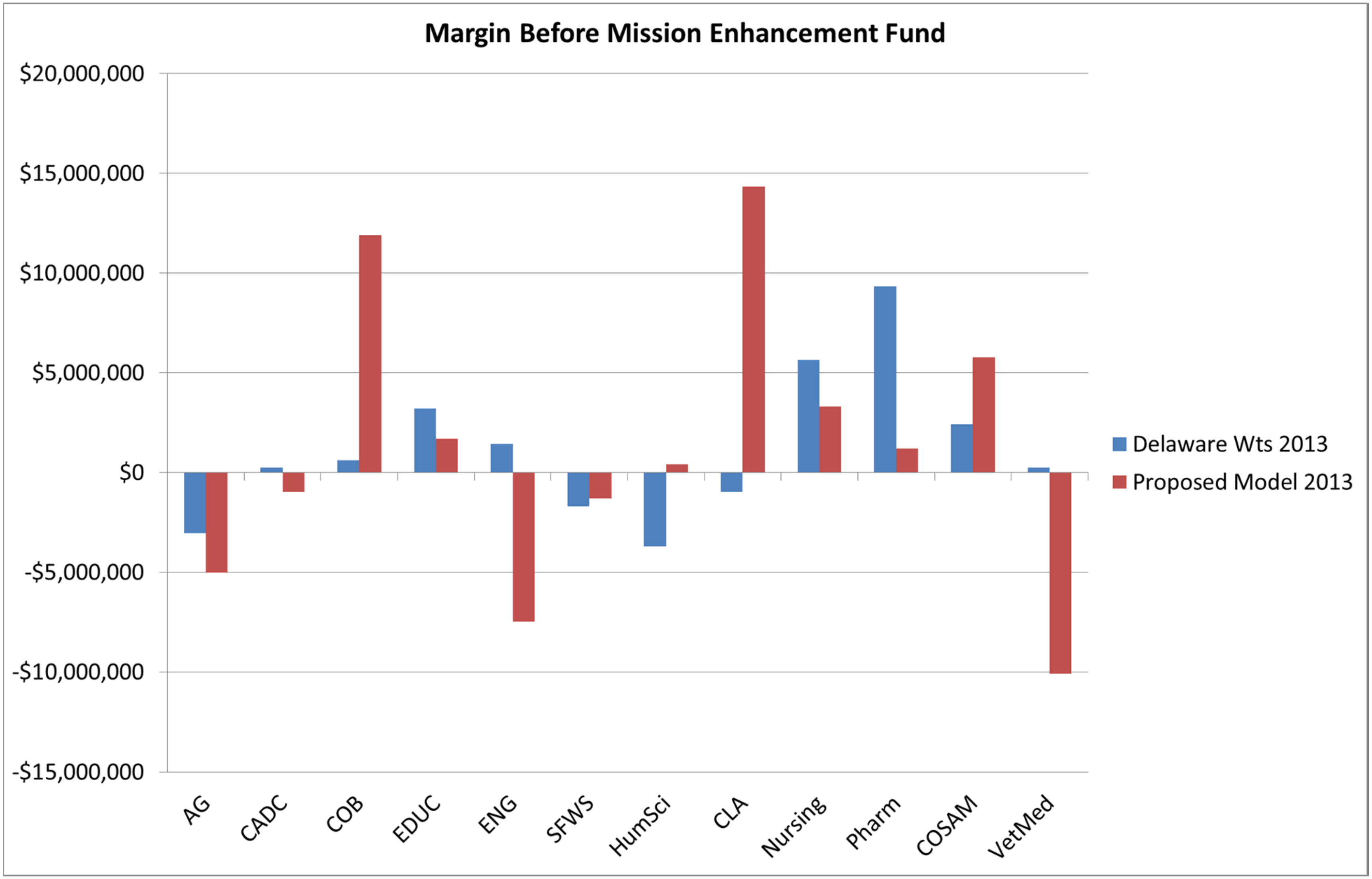
College of Agriculture	College of Architecture, Design & Construction	Raymond J. Harbert College of Business	College of Education	Samuel Ginn College of Engineering	School of Forestry and Wildlife Sciences	College of Human Sciences	College of Liberal Arts	School of Nursing	Harrison School of Pharmacy	College of Sciences & Mathematics	College of Veterinary Medicine	Academic Unit Total (Divisions 1, 3, 4)
$ 13,151,305	$ 21,296,380	$ 43,882,032	$ 31,181,610	$ 49,280,456	$ 2,726,293	$ 11,940,368	$ 76,714,338	$ 5,884,027	$ 23,605,296	$ 61,006,583	$ 26,189,990	$ 366,858,679

Row	Revenues				
5	Tuition and Fees	$ 11,902,428	$ 20,094,898	$ 53,221,722	$ 30,491,257
6	Aid and Waivers	(5,722,804)	(4,633,728)	(9,917,839)	(10,457,850)
7	State Appropriations	40,140,699	4,773,596	12,532,825	13,477,434
8	Contract & Grants	9,220,291	220,926	1,080,119	3,392,309
9	ICR	1,453,351	36,331	127,019	310,416
10	Gifts & Private Support	2,707,505	739,381	717,748	503,866
11	Investment Income	526,116	220,932	666,702	135,632
12	Sales & Services	1,429,130	12,500	562,608	141,771
13	Other Revenue	427,850	1,214,150	2,228,959	160,910
14	Government Appropriations	-	-	-	-
15	**Total Revenues**	**62,084,566**	**22,678,985**	**61,219,864**	**38,155,746**
17	**Direct Expenses**				
18	Compensation	34,842,515	12,290,120	22,271,958	15,955,599
19	Other Expenses	17,308,881	4,264,738	7,932,494	3,428,709
20	Inter-Departmental Credit	(820,094)	(22,425)	(43,825)	(26,684)
21	Transfers	(80,740)	(0)	0	-
22	**Total Direct Expenses**	**51,250,561**	**16,532,433**	**30,160,628**	**19,357,624**
23	***Expenses as a % of Revenue***	*82.5%*	*72.9%*	*49.3%*	*50.7%*
25	**Margin Before Central Unit Allocations**	$ 10,834,005	$ 6,146,552	$ 31,059,236	$ 18,798,122
27	**Central Unit Allocations**				
28	Academic and Student Services	1,166,519	1,607,920	4,301,032	3,388,179
29	Administration	2,703,708	872,164	1,591,115	1,021,206
30	Alumni Affairs & Development	656,069	682,067	1,941,190	1,384,525
31	Facilities	8,337,074	2,204,286	2,541,533	3,271,802
32	Sponsored Programs	1,074,401	25,744	125,862	395,291
33	University-Wide Support	1,264,230	1,157,685	3,094,877	2,113,692
34	**Central Unit Allocation Sub-total**	15,202,000	6,549,865	13,595,608	11,574,695
35	***Expenses as a % of Revenue***	*24.5%*	*28.9%*	*22.2%*	*30.3%*
37	**Margin After Central Unit Allocations**	$ (4,367,995)	$ (403,314)	$ 17,463,628	$ 7,223,427
39	Less Contribution to Net Assets	1,037,283	1,353,541	3,871,216	2,548,107
40	Less Central Debt Service Payments (FY12)	-	-	-	-
41	**Margin Before Mission Enhancement Fund**	(5,405,279)	$ (1,756,855)	$ 13,592,411	$ 4,675,320
43	Less Mission Enhancement Participation	2,971,369	3,755,748	10,259,948	5,917,152
44	Plus Mission Enhancement Adjustment	8,376,648	5,512,602	-	1,241,832
45	**Margin After Mission Enhancement Fund**	$ -	$ -	$ 3,332,463	$ -

Using this redistribution of tuition resources (and leaving other cost and revenue amounts as they were calculated for the un-weighted case), the sum of the negative margins presented in the budget models as 'Margin Before Mission Enhancement Fund' is reduced from -$33,188,286 to -$13,461,841 (nearly 60%)



Similarly, the FY2013 sum of negative margins before MEF was reduced from -$24,861,070 to -$9,369,154



2^{nd} Modeling Approach

- Even more objective, avoids value judgements associated with weighted SCH
- Uses Partial Least Squares (PLS) regression to estimate weights
- Weights applied (as above) to allocable gross tuition and fees

- (Tuition&Fees + Margin Before MEF) / Tuition&Fees = weighting factor

Given the same FY2012 data referenced above, True Weighted Tuition could be estimated and 'True Weights' determined:

College	Tuition&Fees	MEF	True Weighted Tuition	Tuition Weight
1	11,900,000	4,700,000	16,600,000	1.395
2	20,100,000	1,900,000	22,000,000	1.095
3	53,200,000	----	39,527,282	0.743
4	30,500,000	----	26,500,000	0.869
5	42,000,000	14,700,000	56,700,000	1.350
6	3,000,000	1,400,000	4,400,000	1.467
7	15,600,000	----	10,600,000	0.679
8	90,900,000	----	74,100,000	0.815
9	6,000,000	----	2,424,980	0.404
10	14,700,000	----	13,600,000	0.925
11	63,000,000	----	51,100,000	0.811
12	16,000,000	10,500,000	26,500,000	1.656

Note: Margin Before MEF is a measure reported by the model that indicates how close (positive or negative) a unit is to meeting its budget (revenues minus costs) before the MEF participation rate is applied as an additional cost.

The PLS method is used to estimate these 'True' tuition weights

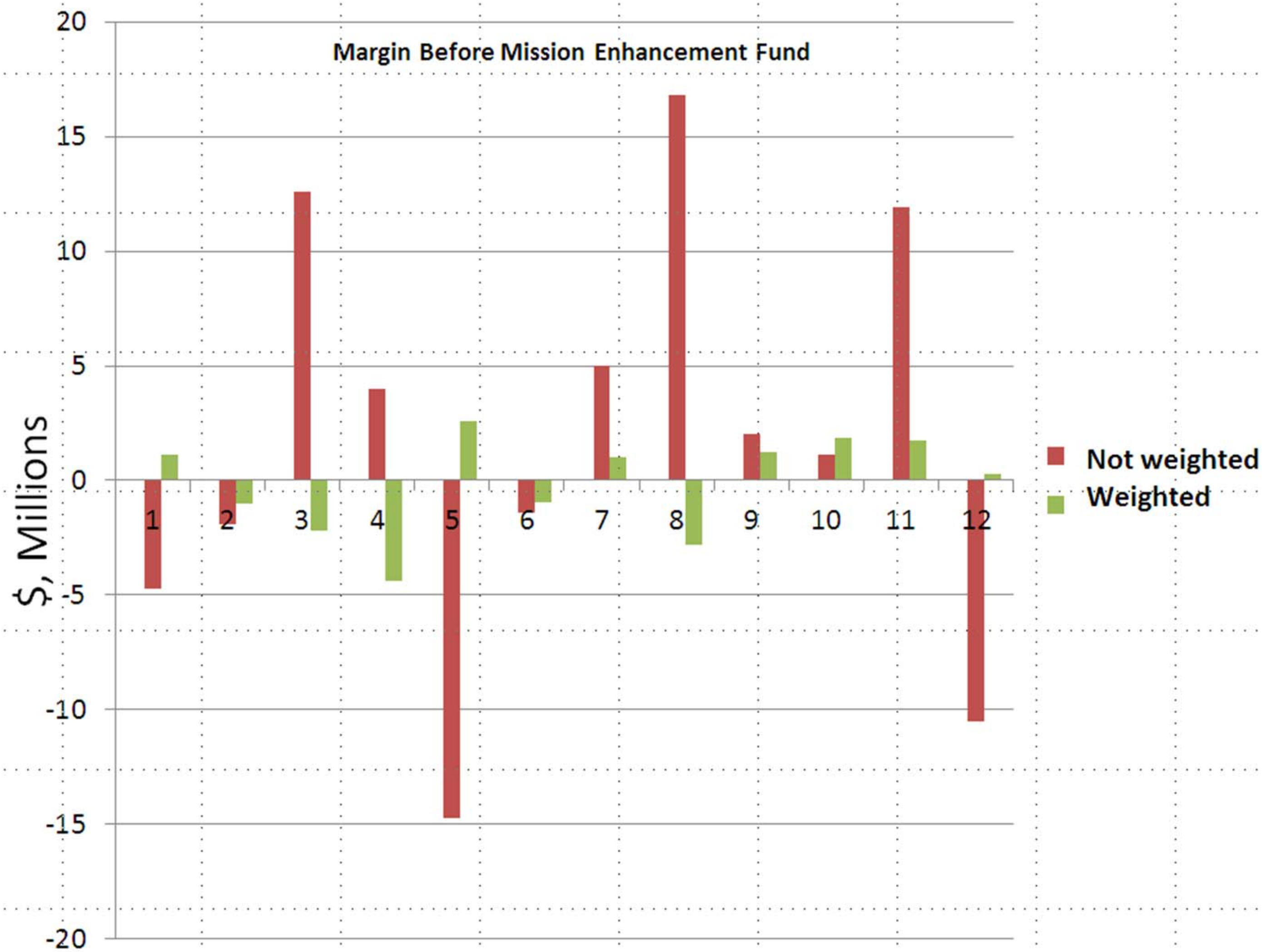
- 22 variables were examined (# of students, # of faculty, sq.ft. of classroom, etc.)
- 6 variables were selected

College	Resident Undergraduate Students	Resident Graduate/Professional Students	Non-Resident Undergraduate Students	Non-Resident Graduate/Professional Students	Faculty	Squarefoot Classroom
1	738	76	272	188	148	2,693
2	679	47	378	85	80	3,313
3	1870	129	1389	420	92	3,007
4	1288	562	417	312	104	5,658
5	2943	207	1191	645	155	4,924
6	232	7	54	51	26	1,737

The PLS Model combines these variables with different weights into new variables (termed components) and predicts tuition weight with these components.

College	Tuition Weight	Predicted Tuition Weight
1	1.395	1.488
2	1.095	1.045
3	0.743	0.702
4	0.869	0.725
5	1.350	1.411
6	1.467	1.140
7	0.679	0.744
8	0.815	0.784
9	0.404	0.606
10	0.925	1.050
11	0.811	0.839
12	1.656	1.675

These weights were then used to reallocate Tuition & Fees for FY2012 (as was done with the weighted SCH example):



Overall Committee Recommendations

- Tuition and Fees should be allocated according to some form of weighting procedure.
  - The wide variations in ‘Margins before MEF’ are not conducive to incentivizing deans and faculty. Two investigations of weighting methods both gave more units a better opportunity to produce a breakeven budget.
  - Cost of instruction weighting is the most common approach used by other schools (if they choose to use weights at all), but the PLS estimation approach presented here provides the best opportunity to arrive at a set of weights that will get all 12 Schools and Colleges as close to breakeven as possible, while minimizing the value judgements

- **Re-examine the rationale for splitting tuition into various components (resident/non-resident; department of instruction/department of major).**
  - If a weighting method is adopted as described above, these splits unnecessarily complicate the allocation of tuition and fees to units that need them to balance their budgets.

- **Year-to-year reductions in funding should be capped at 3% of total revenues.**
    - Many of the academic units will face a negative margin as they are forecasting their revenues and costs (in the 2012 example, 2 units faced a shortfall of over $10,000,000). If the MEF contribution to the unit makes it solvent there is no problem.
    - But if in budget negotiations, a Provost suggests awarding less than that amount, that reduction should not exceed 3% of the unit's total budgeted revenues for the year.

- Review the selection of bases for determining contributions to the Central Support Allocation pools.
  - One of the proposed guiding principles of the RCM process is that the process be "simple, transparent, and logical."
  - As part of the regular 5-year review, steps need to be taken to insure that no individual Colleges carry a disproportionate burden of the costs of Central Support functions beyond their actual use of such services.

- **Institute a policy that encourages Colleges/Schools to prepare guidelines providing for the participation of departments (and their faculty) in the budget process.**
  - The committee suggests that some sort of budget monitoring processes be incorporated at the department levels that dovetail with procedures at the College/School level to insure faculty buy-in of the new procedures.
  - Faculty need to be confident they are being treated equitably with respect to other faculty in other departments within a college.