

BOARD OF REGENTS
EASTERN MICHIGAN UNIVERSITY

RECOMMENDATION

FACULTY AFFAIRS COMMITTEE: APPROVAL OF AGENDA AND MINUTES

ACTION REQUESTED

It is requested that the Faculty Affairs Committee Agenda for December 10, 2013 and the Minutes of the October 1, 2013 meeting be received and placed on file.

STAFF SUMMARY

The topic for the December 10, 2013 Faculty Affairs Committee meeting is “Discussion of State and National Performance Funding Metrics for Higher Education: The Actual and Potential Impact on EMU.”

FISCAL IMPLICATIONS

There is no fiscal impact.

ADMINISTRATIVE RECOMMENDATION

The proposed action has been reviewed and is recommended for Board approval.

University Executive Officer

Date

EASTERN MICHIGAN UNIVERSITY
Board of Regents
Faculty Affairs Committee

December 10, 2013
8:00-8:45 am
205 Welch Hall

AGENDA

Regular Agenda Items

Agenda and Minutes (*Regent Stapleton, Chair*)

Discussion Topic

“Discussion of State and National Performance Funding Metrics for Higher Education: The Actual and Potential Impact on EMU”

EASTERN MICHIGAN UNIVERSITY
BOARD OF REGENTS

FACULTY AFFAIRS COMMITTEE MINUTES

October 1, 2013
9:30-10:15 a.m.
205 Welch Hall

Attendees (seated at tables): R. Baier, H. Bunsis, J. Carroll, D. Clearwater, M. Crouch, R. Jones, J. Kindred, J. Kullberg, M. McVey, S. Norton, Regent Parker (Vice Chair), M. Rahman, Provost Schatzel, Regent Stapleton (Chair), S. Vivek and M. Yaya.

Guests (as signed in): R. Barnes, J. Bishop, D. deLaski-Smith, A. Dow, P. Francis, E. Gold, T. Harrold, J. Joseph, L. Klopfer, B. Kubitskey, M. LaPorte, P. Liggitt, R. Longworth, C. Powell, W. Shell, M. Werner and R. Woody.

Regent Stapleton opened the meeting at 9:30 a.m.

Monthly Report and Minutes (Regent Stapleton, Chair) (Section)

Regent Stapleton requested that the Faculty Affairs Committee Agenda for October 1, 2013 and the Minutes of the April 16, 2013 meeting be received and placed on file.

Discussion Topic – Globalization

Sandy Norton, Faculty Senate President and Professor of English began the discussion. Margaret Crouch (CAS), Judith Kullberg (CAS), Shiri Vivek (COB), and Michael McVey (COE) presented “Global Engagement: Maximizing the Return on EMU’s Investment in International Programs.” It was discussed that one of the impetus at EMU is that our international efforts across campus are fragmented. The issues presented associated with this fragmentation are, lack of institutional knowledge about programs and activities, weak communication among stakeholders leading to logical partnerships across campus not being developed, duplication of effort, misuse and underutilization of resources, ad hoc funding, lack of continuity in programs, and lack of forward movement. The solution of an International Center was proposed. This Center would be faculty-led, academically orientated, a coordination of international grants, curricular initiatives, research and engagement with the global community and a clearinghouse for all academic international initiatives and expertise.

A comparison of international coordination at peer institutions was presented, indicating that EMU is one of the few Universities not to have a center or institute to coordinate international efforts. Provost Schatzel agreed that this issue resonates with everyone around the table. This will require follow-up and she looks forward to collaborating on this issue.

Regent Stapleton thanked all and adjourned the meeting at 10:15 a.m.

Respectfully submitted,

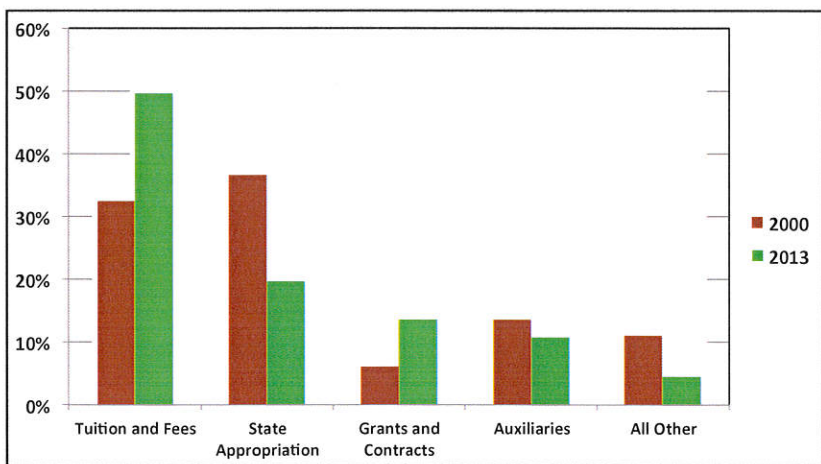
Debbie Clearwater
Executive Assistant
Office of the Provost
Academic and Student Affairs



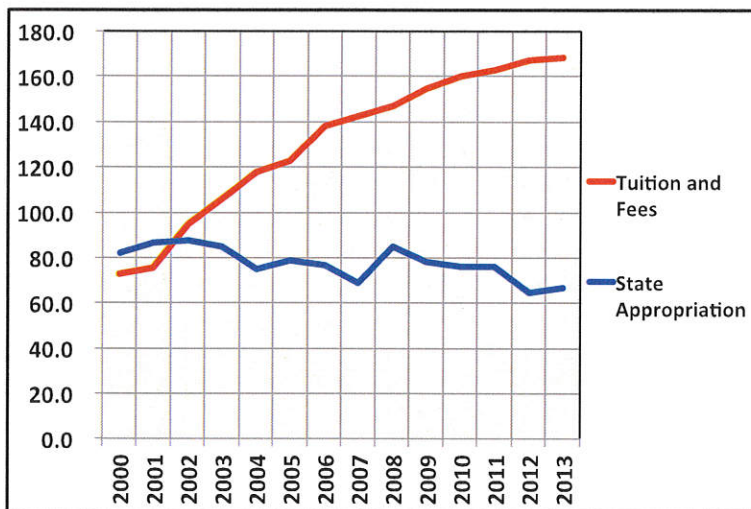
Analysis of Performance Funding Metrics in Michigan and Higher Education Metrics Proposed by President Obama

Howard Bunsis, Accounting
Mehmet Yaya, Economics
Abby Coykendall, English

Revenue Environment for EMU



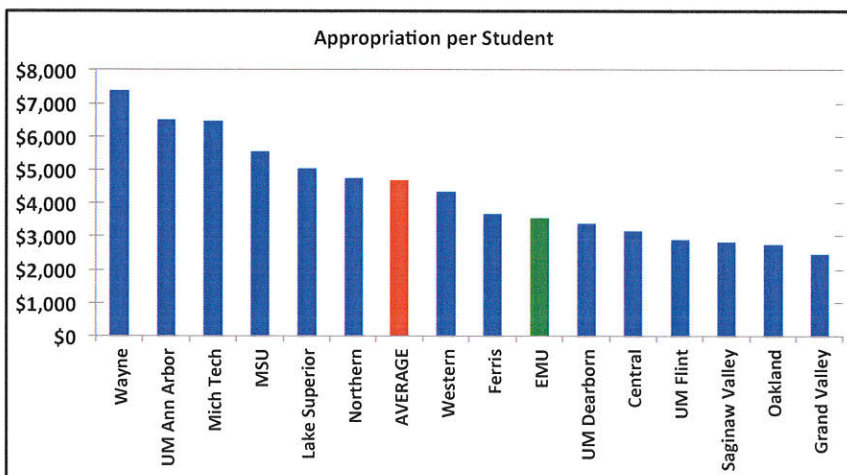
EMU Revenue: Tuition vs. State Appropriation



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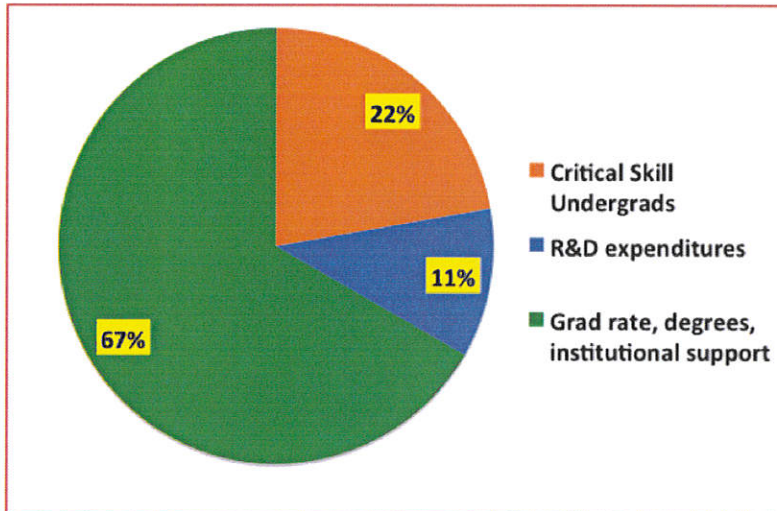
2012-13 Total Appropriation per FYE Student

Source: Senate Fiscal Agency



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Performance Funding Breakdown



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Critical Skills Graduates

Source: IPEDS

CIP Code Area	# of Degrees		
	2011	2012	Total
agriculture	0	0	0
agriculture operations and related sciences	0	0	0
architecture	12	8	20
biological and biomedical sciences	83	72	155
communication technologies/tech and support services	17	15	32
computer and information sciences and support services	26	35	61
construction trades	0	0	0
engineering; engineering technologies	96	93	189
health professions and related sciences	344	342	686
mathematics and statistics	22	12	34
mechanic and repair technologies/technicians	0	0	0
natural resources and conservation	0	0	0
physical sciences	34	29	63
precision production	0	0	0
science technologies/technicians	0	0	0
transportation and materials moving	28	16	44
TOTALS	662	622	1284
Average of two years			642

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Critical Skills Funding

Total of \$4.859 Million for all 15 Publics

	EMU	CMU	WMU	GVSU
Critical Skills Degrees	642	681	1,037	1,182
Total Degrees	2,998	3,717	3,835	4,058
Percentage	21%	18%	27%	29%

EMU funding	\$218,573
Total funding for all 15 Publics	\$4,859,778
EMU Percent of total	4.5%
EMU UG Full Year Equivalent (FYE)	15,525
Total UG FYEs for all 15 Publics	211,420
EMU Percent of total	7.3%

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EMU Research Funding

- To be eligible for this funding, a university had to be classified as one of the top categories of research per the Carnegie classifications
- There are three top research classifications, based on research grants and expenditures:
 - RU/VH (research university very high): UM, MSU, and Wayne State are in this category. 108 nationally
 - RU/H (research university high): Michigan Tech and Western Michigan are here. 98 nationally
 - DRU (doctoral research university): Central and Oakland qualify here. 88 nationally
- Bottom line: EMU gets nothing from this source of funding.
- The total for the 7 universities that received funding was \$2.4 million

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Grad Rates, Degrees, Institutional Support

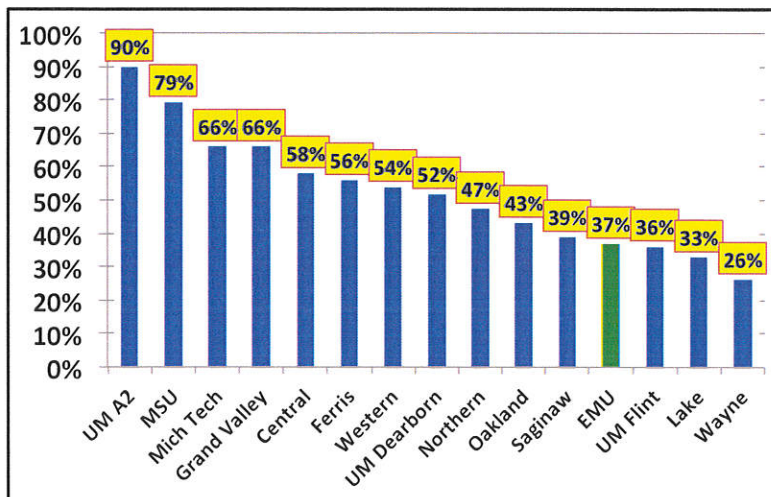
University	Grad Rate	Degree Completions	Admin Spending	Total Score
UM Ann Arbor	3	3	2	8
Central	3	3	2	8
Grand Valley	3	3	2	8
MSU	2	3	2	7
Mich Tech	3	2	2	7
Ferris	2	3	2	7
Northern	2	3	2	7
Western	2	2	2	6
UM Flint	2	2	0	4
Lake Superior	2	2	0	4
EMU	0	3	0	3
Oakland	0	2	0	2
Saginaw Valley	2	0	0	2
UM Dearborn	2	0	0	2
Wayne	0	0	0	0
TOTALS	28	31	16	75

EMU lost \$365k in state appropriation due to grad rate and admin spending

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6-Year Graduation Rates

Source: Institution Common Data Set



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Degree Completions

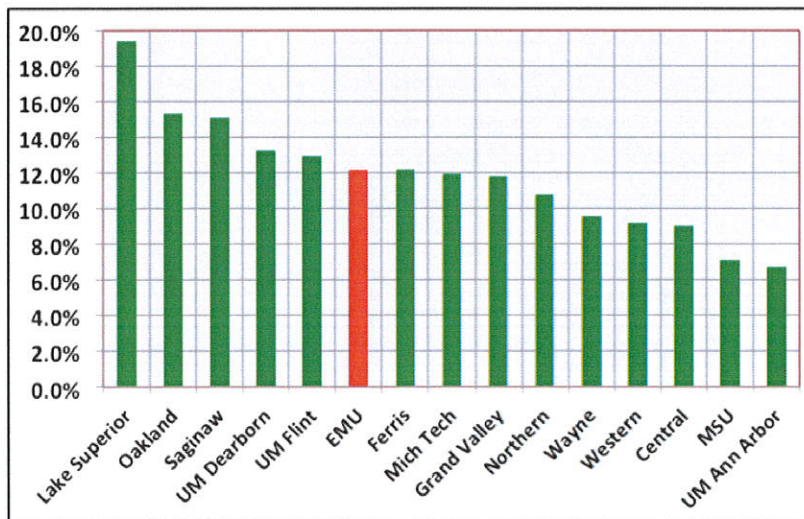
Source: EMU Fact Book

TOTAL UNIVERSITY	2007-08	2008-09	2009-10	2010-11	2011-12
Baccalaureate	2,981	2,984	2,940	3,033	3,160
Graduate	1,264	1,176	1,298	1,253	1,277
Doctorate	17	23	21	24	24
Total	4,262	4,183	4,259	4,310	4,461

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Administrative Spending

Institutional Support Expense as % of Total Expenses per IPEDS



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**Final Result:
Change in Appropriation: 2012-13 to 2013-14**

University	2012-13	2013-14	\$ Change	% Change
Grand Valley	55.4	57.8	2.329	4.2%
Ferris	44.3	45.6	1.352	3.1%
Central	71.4	73.5	2.134	3.0%
Northern	40.9	41.7	0.863	2.1%
UM Flint	19.5	19.9	0.402	2.1%
Mich Tech	42.6	43.5	0.873	2.0%
Western	95.5	97.2	1.748	1.8%
MSU	245.0	249.5	4.449	1.8%
UM Ann Arbor	274.2	279.1	4.952	1.8%
Lake Superior	12.0	12.2	0.180	1.5%
Oakland	45.0	45.6	0.671	1.5%
Saginaw Valley	25.7	26.0	0.326	1.3%
UM Dearborn	22.2	22.5	0.266	1.2%
EMU	66.5	67.3	0.789	1.2%
Wayne	183.4	183.9	0.535	0.3%
TOTALS	1,243.5	1,265.3	21.9	1.8%

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**Correlation of Change in Appropriation with
Institutional Characteristics**

Correlation	Variable 1	Variable 2
-0.22	% Change in Appropriation	% Students receiving Pell Grants
0.71	% Change in Appropriation	% Students that are white
-0.58	% Change in Appropriation	% Students that are African American

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Performance Funding Nationally

Studies question effectiveness of state performance-based funding

Inside Higher Education, November 18, 2013

- Around the country, legislators have rushed to adopt systems that allocate funds to colleges based partly or heavily on performance indicators rather than enrollment, as has historically been the case.
- A new round of research on such programs suggests that, to the extent states are trying to increase degree completion, the programs **generally do not work**.

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Determinants of Graduation and Retention Rates among 15 Public Universities in Michigan

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Purpose

- To analyze the factors influencing the two important metrics of performance:
 - Graduation Rate: Percentage of students who complete their degrees (6-year rates are very common)
 - Retention Rate: Percentage of freshman students who return to the institution for their sophomore years

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Why these rates are important?

- **Reputation:** Institutions with higher graduation and retention rates are well-respected among the applicants and their parents.
- **Performance-Based Funding:** Institutions with higher rates are eligible for more state funding.
- **Core Institutional Goal:** Every institution has the sole goal of educating the students well and provide them a path to graduation.

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Determinants of Graduation and Retention Rates: Literature

- Student to faculty ratio, share of full time faculty to part time faculty, and faculty salaries all contribute to higher graduation rates (Anstine, 2013).
- Student service expenditures influence graduation and retention rates (Webber and Ehrenberg, 2010).
- Institutional selectivity and institutional expenditures, specifically those that directly contributed to students contribute significantly to retention and graduation rates (Gansemer-Topf and Schuh, 2006).

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Data

- Most of the earlier studies used Integrated Postsecondary Education Data System (IPEDS).
- In this study, we employed publicly available Common Data Sets for 15 public institutions in Michigan.
- The data in these common data sets are comparable across time and different institutions.

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Institutions and Time Horizons

Central Michigan University*	2008-2012
Eastern Michigan University*	2003-2012
Ferris State University*	2007-2012
Grand Valley State University	2006-2012
Lake Superior State University*	2008-2012
Michigan State University	2002-2012
Michigan Technological University	2000-2012
Northern Michigan University*	2001-2012
Oakland University*	2006-2012
Saginaw Valley State University*	2002-2012
University of Michigan–Ann Arbor	1998-2012
University of Michigan–Dearborn	2003-2012
University of Michigan–Flint	2010-2012
Wayne State University*	2008-2012
Western Michigan University*	2006-2012

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Variables used in the Dataset

- 6-year graduation rate, 1-year retention rate,
- Number of student (undergraduate and graduate),
- Race composition of the student body (Black, Asian, Hispanic),
- Student test score averages, HS performance (ACT, SAT, HS GPA),
- # of applications, admission, and enrollment
- In-state vs. out of state tuition,
- Institutional support (scholarships, merit based funding),
- Instructional support (full time vs. part-time instructors, student to faculty ratio, class size)

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Descriptive Statistics - I

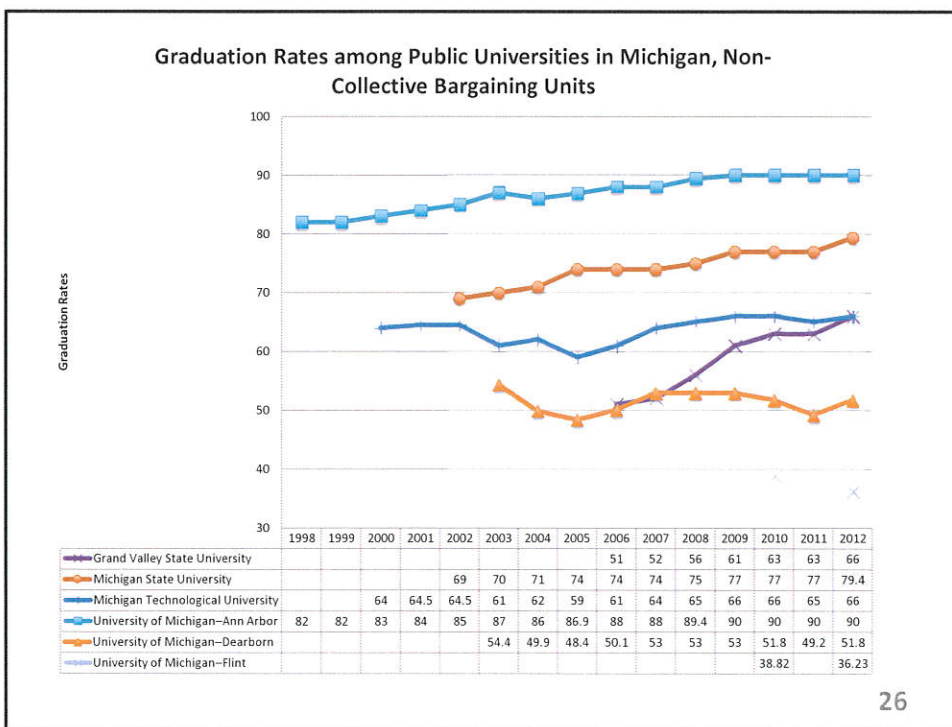
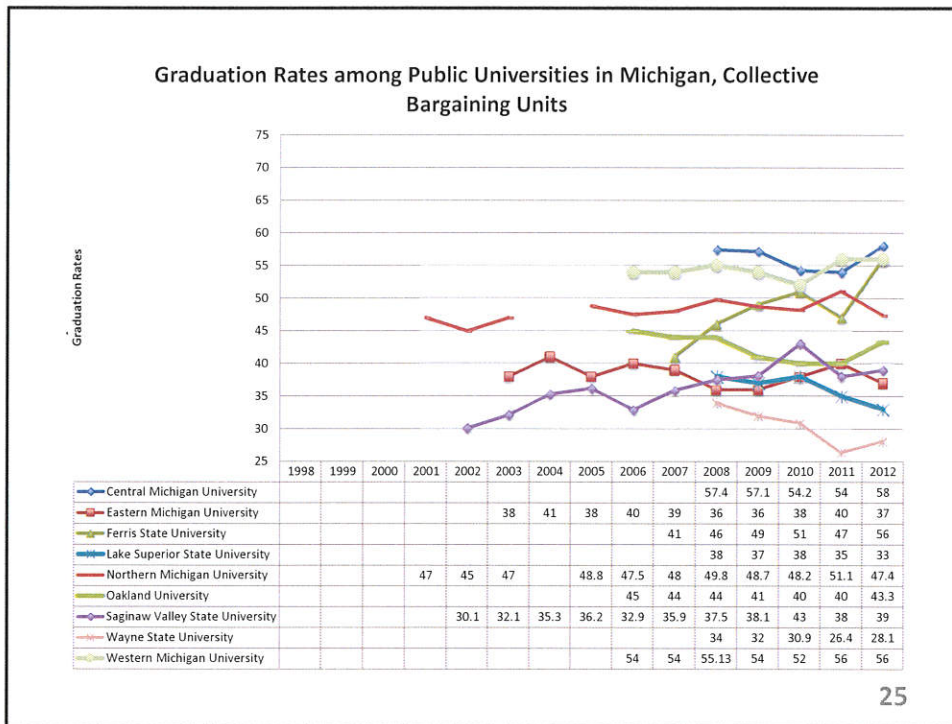
Variable	Obs	Mean	Std. Dev	Min	Max
Graduation Rate	125	0.5472	0.1690	0.2640	0.9000
Retention Rate	125	0.7893	0.0896	0.6312	0.9700
Non-resident Share	125	0.0263	0.0204	0.0017	0.1065
% of Out-of-State	125	0.1041	0.1065	0.0007	0.3600
% Share of Commuter	122	0.7186	0.1416	0.0700	1.0000
% Share of Undergraduate	125	0.8043	0.0938	0.5529	0.9968
% Share of Graduate	125	0.1938	0.0911	0.0032	0.3721
% Share of Hispanics	125	0.0202	0.0078	0.0050	0.0402
% Share of Asian	125	0.0268	0.0229	0.0039	0.0787
% Share of Blacks	124	0.0621	0.0453	0.0081	0.2050
ACT Composite	121	0.2605	0.0232	0.2300	0.3200
ACT Math	121	0.2640	0.0272	0.2300	0.3300
Share of Top 10 in HS	93	0.2594	0.2050	0.0993	0.9220
Average GPA in HS	119	3.3672	0.2421	2.5300	3.8000
In-state Tuition	108	\$8,371.06	\$2,376.25	\$4,128.00	\$13,800.00
Out-of-state Tuition	107	\$19,561.30	\$7,079.02	\$7,080.00	\$40,302.00

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Descriptive Statistics - II

Variable	Obs	Mean	Std. Dev	Min	Max
% of Need Met	122	0.7103	0.1419	0.0425	0.9800
% Share Borrowed	121	0.5879	0.1181	0.2300	0.8900
Merit Scholarship per Student (\$)	120	0.3091	0.3296	0.0657	2.1007
% of Applications Admitted	122	0.7412	0.1223	0.3655	0.9444
Student to Faculty Ratio	123	17.7494	3.3339	11.0000	29.4100
Student to Full-time Faculty Ratio	124	26.7926	8.2695	16.7335	79.1576
Student to Part-time Faculty Ratio	124	63.5346	35.5391	20.3733	184.0278
% Share of Full-time Faculty	124	0.6635	0.1474	0.3136	0.9104
% Share of Part-time Faculty	124	0.3363	0.1475	0.0896	0.6864
% of Classes with less than 9 Students	122	0.1196	0.0566	0.0334	0.2571
% of Classes with less than 19 Students	122	0.2463	0.0474	0.1573	0.3529
% of Classes with less than 29 Students	122	0.3113	0.0579	0.2098	0.4689
% of Classes with less than 39 Students	122	0.1463	0.0474	0.0648	0.2555
% of Classes with less than 49 Students	122	0.0709	0.0283	0.0249	0.1450
% of Classes with more than 99 Students	122	0.0739	0.0244	0.0086	0.1329

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Empirical Model - I

- Following the literature, we assume the 6-year graduation rate (retention rate) is a function of institutional and student characteristics:
 - Institutional Characteristics: faculty to student ratio, share of full-time faculty, class size, merit scholarships in \$, percent of applications admitted, tuition.
 - Student Characteristics: Race composition, student performance in high school, share of commuters, share of out-of-state.

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Empirical Model - II

- We estimate advanced panel random effects regression where unobserved heterogeneity is accounted for.
- Our dependent variables are graduation rates and in alternative specifications retention rates.
- We initially estimate the model with institutional characteristics as the explanatory variables. Then we estimate the impact of student characteristics.

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Results – Graduation Rate

VARIABLES	Graduation Rate	Graduation Rate	Graduation Rate	Graduation Rate	Graduation Rate	Graduation Rate
Student to Faculty Ratio	-0.498** (0.198)	-0.457** (0.198)				-0.404** (0.204)
ACT Math			2.529*** (0.484)	2.036*** (0.502)	1.779*** (0.551)	1.695*** (0.548)
Share of Hispanics					-7.390 (86.67)	-5.349 (86.12)
Share of Asians					-128.5 (90.65)	-131.9 (91.59)
Share of Blacks					2.843 (28.04)	-7.141 (28.86)
Share of Commuters					-0.00912 (0.0470)	-0.00587 (0.0466)
Share of out-of-State					0.455*** (0.169)	0.393** (0.171)
Union		-17.17** (7.030)		-12.35** (4.811)	-12.74*** (4.489)	-11.84** (4.631)
Constant	59.87*** (5.315)	69.45*** (6.256)	-14.16 (12.66)	5.945 (14.34)	12.97 (15.33)	22.80 (15.85)
Observations	123	123	121	121	117	115
Number of id	15	15	15	15	15	15

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

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Results – Retention Rate

VARIABLES	Retention Rate	Retention Rate	Retention Rate	Retention Rate	Retention Rate	Retention Rate
Student to Faculty Ratio	-0.427*** (0.126)	-0.382*** (0.125)				-0.293** (0.126)
ACT Math			1.182*** (0.295)	0.723** (0.304)	0.166 (0.339)	0.0948 (0.338)
Share of Hispanics					106.3** (50.45)	114.0** (50.28)
Share of Asian					159.8*** (36.90)	168.4*** (37.72)
Share of Black					-2.462 (13.65)	-11.49 (14.30)
Share of Commuters					-0.0632** (0.0288)	-0.0567** (0.0286)
Share of Out-of-State					0.197** (0.0778)	0.181** (0.0790)
Union		-10.36*** (3.017)		-9.371*** (2.354)	-6.451*** (1.538)	-5.327*** (1.635)
Constant	84.86*** (2.947)	90.27*** (3.043)	46.83*** (7.680)	64.30*** (8.584)	74.24*** (9.082)	80.54*** (9.529)
Observations	123	123	121	121	117	115
Number of id	15	15	15	15	15	15

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

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Conclusion

- Our empirical results show that instructional spending is an important factor in increasing the graduation and retention rates.
 - More specifically, student to faculty ratio is an important determinant.

- Second, student characteristics is also an important factor in these performance metrics
 - ACT Math is an important factor determining factor in graduation and retention rates.