Kentucky Council on Postsecondary Education

MEETING AGENDA

Thursday, September 20, 2018
1024 Capital Center Drive, Frankfort, KY 40601

Members, Council on Postsecondary Education

Ronald C. Beal, Bowling Green
Ben Brandstetter, Hebron *(vice chair)*
Joe E. Ellis, Benton
Kimberly Halbauer, Ft. Thomas
Lori Harper, Cadiz
Lucas Mentzer, Lexington
Donna Moore, Lexington
Kristi Nelson, Union
Vidya Ravichandran, Louisville
Shawn Reynolds, Almo
Robert H. Staat, UofL (*faculty member*)
Sebastian Torres, NKU (*student member*)
Carol Wright, Tyner
Sherrill B. Zimmerman, Prospect *(chair)*
VACANT POSITION
Wayne Lewis, Interim Commissioner of Education
(ex officio, nonvoting)

Robert L. King, CPE President

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2:00 PM
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1. **Welcoming**
2. **Presentation from Moody's Investor Service** 3
   Location: Attorney General Office, Conference Room A/B (2nd floor)
   Presenter: Mary Katherine Cooney, Associate Vice President/Analyst of the Public Finance Group, Higher Education and Not-for-Profit Team
   Time: 2:00-3:45 p.m.
3. **Celebrating the work and contributions of Robert L. King - Retirement Celebration**
   Location: CPE Offices, Conf. Room A
   (Note: This is not a formal meeting, however board members will be in attendance along with other invited guests)
   Time: 4:00-5:30 p.m.
4. **Council Member Dinner**
   Location: Bourbon on Main, 103 W Main Street, Frankfort, KY 40601
   (Note: Not a formal meeting, no action will be taken.)
   Time: 6:00 p.m.

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SECTOR IN-DEPTH
21 June 2018

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Higher education - Kentucky

Public universities struggle with state cuts, pension burdens and enrollment

Kentucky's public universities and community and technical college system will face increasingly difficult business conditions rooted in state funding reductions, a modestly declining pool of high school graduates and heightened price sensitivity among students. Large pension burdens weighing on the Commonwealth of Kentucky (Aa3 stable) will likely lead to further cuts in state appropriations for public higher education. Additionally, pension contributions will rise for all institutions, except University of Kentucky (UK, Aa2 stable) and University of Louisville (UofL, A3 negative). Universities and community and technical colleges with stronger reserves and solid fiscal management and oversight practices are better positioned to absorb cuts and rising fixed costs.

» **State funding cuts will make adjustments to rising pension expenses more difficult.** The majority of Kentucky public universities and community and technical colleges are reliant on state support for between 25%-35% of revenues. To address unfunded pension liabilities, the affected universities will continue to face rising employer contributions. Universities' fiscal operations are already pressured from recent state funding cuts and the effects of a performance-funding initiative.

» **Modestly declining numbers of in-state high school graduates and more price-sensitive students heighten competition and constrain tuition revenue increases.** All but the University of Kentucky are heavily competing for a stagnant pool of resident and nonresident students. Fierce competition and heightened tuition sensitivity are curbing growth in student charges. Softened demand and limited pricing flexibility have roots in Kentucky's weak socioeconomic profile.

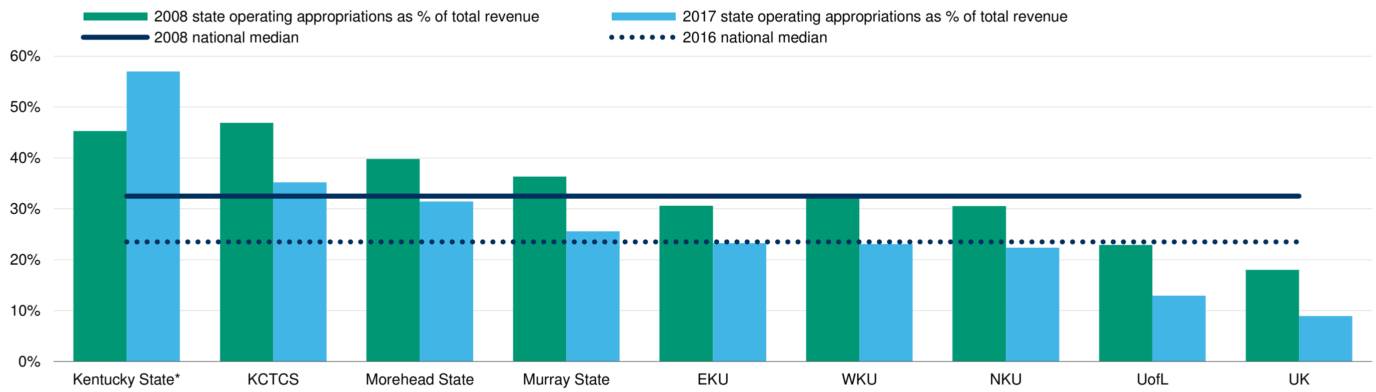
» **Universities with greater scale and healthier financial reserves are better positioned to manage challenges.** Efforts to improve marketability and brand often require large strategic investments in capital projects and academic programming. Though some initiatives are funded with direct state support, the majority are funded with reserves, cash flows, gifts, debt and public-private partnerships (PPPs), often leading to weaker debt profiles. The institutions that are able to successfully translate these investments into improved fiscal operations are more likely to absorb adverse impacts from state cuts and pension costs.

State funding cuts will make adjustments to rising pension expenses more challenging

The majority of Kentucky public universities and community and technical colleges remain quite reliant on state support. The state's budgetary pressures have adversely impacted financial operations at the higher education institutions (see Exhibit 1), evidenced by a 21% decrease in operating appropriations, or roughly $190 million, over the fiscal 2008-17 period. In 2008, state operating appropriations accounted for a median 33% of Moody's adjusted operating revenues for the eight universities and the Kentucky Community and Technical College System (KCTCS, Aa3 negative). By 2017, state operating appropriations had declined to a median of 23%.

Exhibit 1

State operating support has decreased for all but Kentucky State University over the fiscal 2008-17 period



Kentucky State University Increased appropriations as a percent of operating revenue is reflective of the declining tuition and more limited decreases in state support. KCTCS stands for Kentucky Community and Technical College System. EKU, WKU and NKU stand for Eastern Kentucky University, Western Kentucky University and Northern Kentucky University, respectively. UofL and UK stand for University of Louisville and University of Kentucky.
Source: Moody's Investors Service

Decreased funding will continue to have the greatest adverse impact on the regional, small universities with limited alternative revenue sources and decreasing pricing power. Universities and colleges that are more highly dependent on state funding, including Kentucky State University (KSU, A1 stable based on state intercept program), KCTCS, which consists of 16 community and technical colleges, and Morehead State University (A2 negative) face greater challenges due to the their unique educational missions and heavy focus on tuition affordability.

Cuts to Kentucky higher education institutions are likely to continue in light of the state's need to fund its own sizable fixed costs. Pension reform legislation passed in the spring maintains elevated state employer contributions to the Kentucky Employees Retirement System (KERS). Regardless of the ultimate outcome of litigation over the pension reform legislation, the seven universities and community college system that participate in the state's pensions plans are likely to see higher employer contribution rates. Neither UK nor UofL participate in Kentucky's pension systems, with both having defined-contribution plans only. (For more information on the state and university pension landscape, see blue box on page 8.)

Kentucky universities and KCTCS have weathered multiple state appropriation cuts throughout the 2008-18 period. The cut for the 2016-18 biennium (fiscal years 2017 and 2018) was 4.5% before state budgetary shortfalls required an additional 1% nonrecurring midyear cut in the current fiscal 2018. For the upcoming 2018-20 biennium, the state legislature recently approved a 6.25% cut.

Most of the Kentucky public universities will struggle to absorb appropriation cuts and heightened pension costs. Our sensitivity analysis incorporating a 5% reduction in state operating appropriations and a 5% increase in pension contributions highlights individual vulnerabilities (see Exhibit 2). The ability to bolster cash flow margins is dependent on either revenue enhancements, specifically tuition and fee increases, and/or expense reductions. The Kentucky Council on Postsecondary Education (CPE), which provides oversight and guidance for the establishment of tuition rate ceilings for in-state undergraduates, has strongly recommended limiting tuition increases

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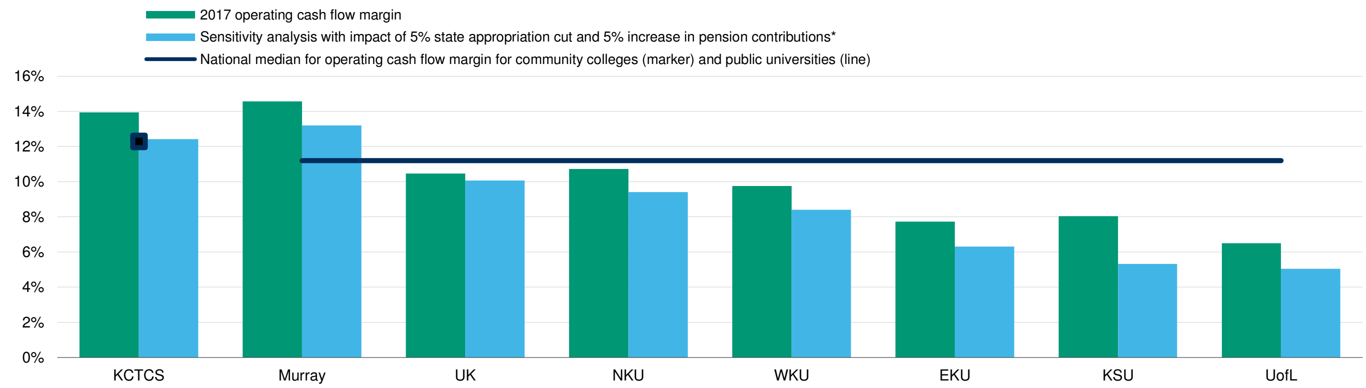
to a maximum of 4% for fiscal 2018, and will likely continue to encourage modest increases. As a result, institutions are focused on exploring further expense curtailment, such as staff reductions, deferred purchases, leaving positions unfilled, outsourcing and using contingency reserves.

Exhibit 2

State appropriation cuts and increased pension contributions will further pressure university financial operations

Sensitivity analysis of operating cash flow margins based on fiscal 2017 data



Sensitivity analysis reflects impact to fiscal 2017 operating cash flow margins based on a 5% decrease in operating appropriations and a 5% increase in pension contributions. *University of Kentucky and University of Louisville do not participate in the state's defined benefit pension plans, so the analysis only shows the impact of operating cuts.
Source: Moody's Investors Service

Performance-based funding has added another element of budgetary uncertainty. For fiscal 2018, nearly $43 million, or 5%, of overall higher education appropriations was designated for a funding pool for seven state universities and KCTCS (Kentucky State University was held harmless and excluded). Funding allocations were based on a number of performance metrics, including student success and course completion. The final allocations varied around the 5% pool, benefiting some institutions at the cost of others. Morehead State University, which is the second most reliant on state aid, received only 4.19% of the pool, while Northern Kentucky University (NKU, A1 negative) received the highest allocation, at 5.32%.

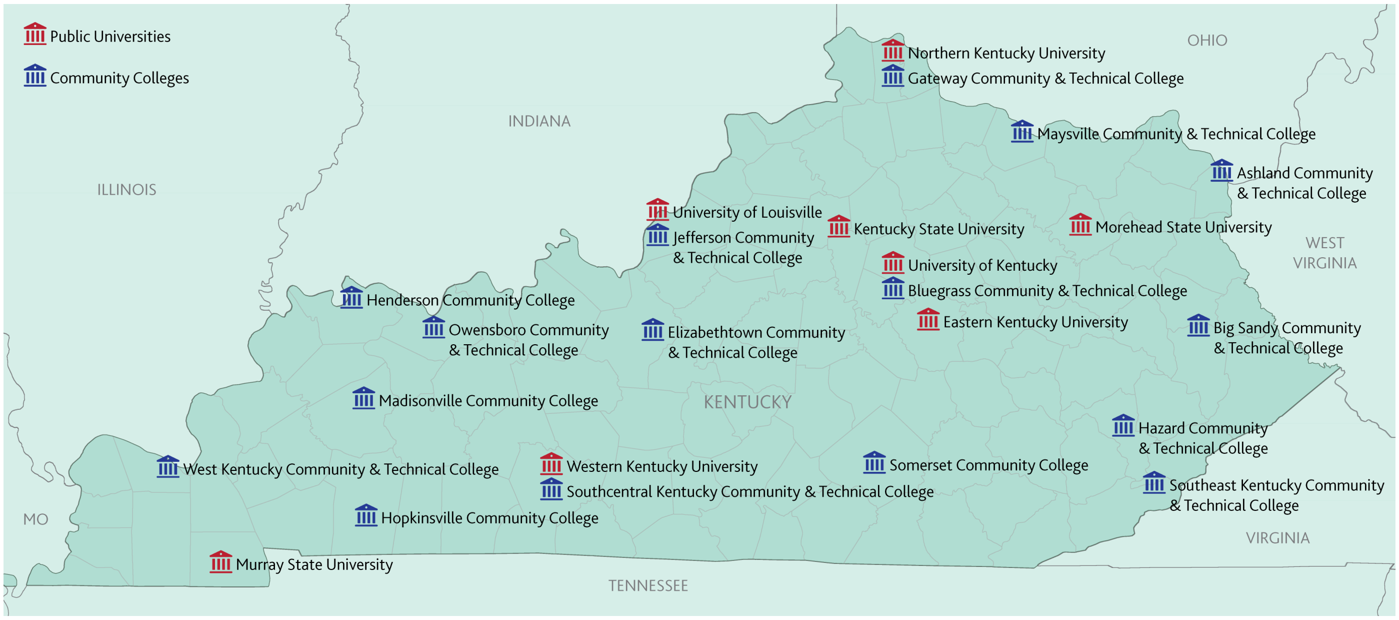
For fiscal years 2019 and 2020, a separate and additional source of performance-based funding has been added to state higher education appropriations, which will partially offset the 6.25% cut in state operating appropriations. The additional funding totals $31 million in both fiscal years 2019 and 2020. The total for fiscal 2020 will be $38.7 million, with the additional $7.7 million drawn from base operating appropriations.

Modestly declining in-state high school graduates and more price-sensitive students heighten competition and constrain tuition revenue increases

The combined impact of Kentucky's weak socioeconomic indicators and broad array of universities and community and technical colleges heightens competition, leading to slowing growth of net tuition revenue. Exhibit 3 shows the location of each institution's main campus and illustrates the breadth of public higher education choices in Kentucky. The majority of Kentucky's higher education institutions are competing for a modestly declining pool of high school graduates. The competition and rising tuition price sensitivity among students and families has universities and colleges providing more financial aid, ultimately limiting growth in net tuition revenue.

Exhibit 3

Kentucky universities and community and technical colleges are located across the state and accessible to students from neighboring states



Source: Moody's Investors Service

All Kentucky universities draw heavily from in-state and neighboring states. Several of the universities have a sizable amount of nonresident students (see Exhibit 4), which is often due to their location near state borders. Generally, nonresident students help tuition revenue, as nonresident sticker prices are often 1.5x to 2x more than in-state rates. However, many of the Kentucky institutions have reciprocity agreements for students from certain counties in bordering states, limiting the upside potential for tuition revenues. Murray State University (A1 negative) and Western Kentucky University (WKU, A2 stable) report nonresidents account for more than a quarter of enrollment, though many of these students come from border counties in Tennessee.

A sizable 87% of Kentucky students who attend college remain in-state, compared to the 82% average nationwide. As the state's flagship university with an academic medical center and high-profile athletic program, UK attracts more students from beyond neighboring states, who are not part of reciprocity agreements. International students are a component of all Kentucky universities with UK and Murray State having larger contingents at 5% and 7% of reported fall 2017 enrollment, respectively.

Exhibit 4

Multiple universities have large amounts of nonresident students with the majority from adjacent states

Geographic draw and change in first-time freshman non-residents

	Largest draw states	Fall 2017 non-resident	Change over 2008-17 period
University of Kentucky	OH, IL, IN, GA, TN	34%	Up 13%
Western Kentucky University	TN, GA, FL	27%	Up 9%
Murray State University	IL, TN, MO, IN	38%	Up 6%
University of Louisville	IN, IL, OH	20%	Up 5%
Northern Kentucky University	OH, IN	30%	Down 1%
Eastern Kentucky University	OH, IN, IL	9%	Down 3%
Morehead State University	OH	15%	Down 6%
Kentucky State University	OH, MI, IL	Not available	Not available

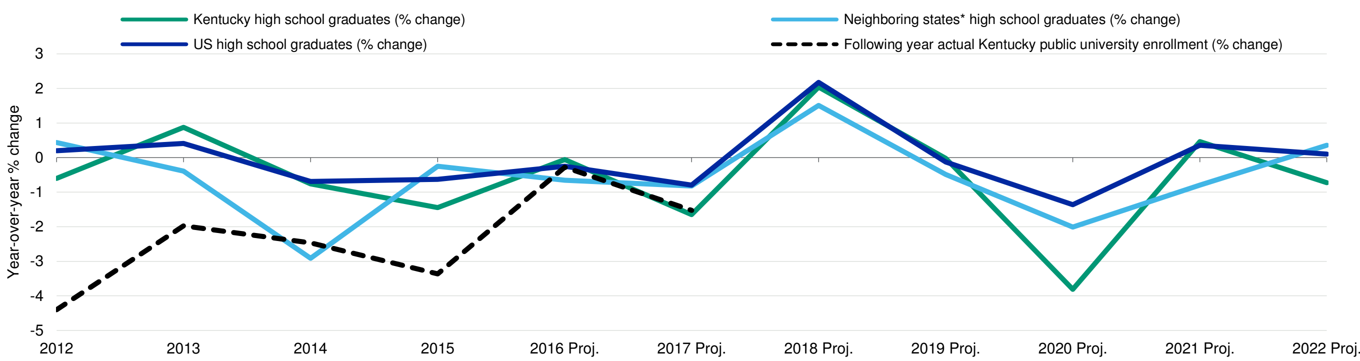
Source: Moody's Investors Service, Kentucky Council for Postsecondary Education

Competition for enrollment will continue to heighten with a lagging pool of high school graduates in Kentucky and adjacent states (see Exhibit 5), as well as the relatively strong state employment market. Enrollment at Kentucky's public universities and community and technical colleges reached a 10-year high of 235,833 in fall 2012, before dropping 13% to 204,508 in fall 2017. In contrast, high school graduates declined by less than 2% over the same period to 46,388 in fall 2017 from 47,290 in fall 2012.

The significant difference in university enrollment and high school graduates may be primarily due to rising workforce needs and job availability, which can draw prospective students away from an additional two or four years of education and the associated costs. The community and technical college system, KCTCS, acutely illustrates this trend, as its full-time equivalent (FTE) enrollment fell 52% from fall 2010 to fall 2017. Though the rate of decrease has slowed through fall 2017, projections[1] for high school graduates in Kentucky and adjacent states show no sustained growth over the next 10 years.

Exhibit 5

Higher education enrollment growth at Kentucky public universities and colleges continues to lag national trends



*Neighboring states are Illinois, Indiana, Missouri, Ohio and Tennessee.
Sources: Western Interstate Commission for Higher Education, Knocking at the College Door: Projections of High School Graduates, 2016; Kentucky Council for Postsecondary Education

Fierce competition for students and heightened tuition sensitivity are curbing growth in student charges. Net tuition revenue growth for the Kentucky public universities and KCTCS has softened over the last five years, not only due to the state-imposed ceilings, but the rising financial aid needs of students as well. Net tuition revenue grew a median 13% among the Kentucky schools from 2013-17, compared to 50% from 2008-13 (see Exhibit 6). For the 2014-16 biennium, the state limited the tuition increases to a total 8% for the two-year period. For the 2016-2018 biennium, tuition ceilings were higher, ranging from 7.7% to 10.9% across the universities. For the upcoming 2018-20 biennium, the allowable tuition increase is down to a total 6% for the two-year period and 7.5% for KCTCS.

Exhibit 6

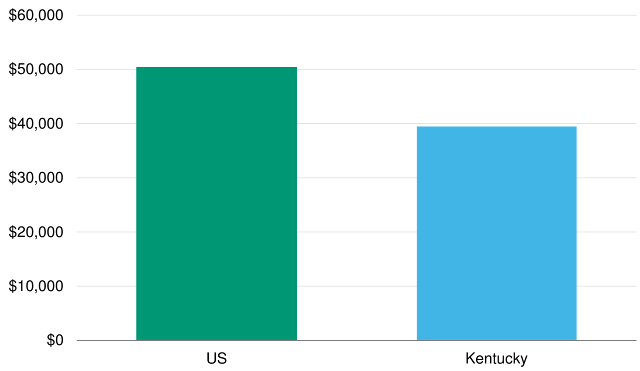
Growth in net tuition revenue per student has significantly slowed over last five years

	Fall 2017 Full-time equivalent (FTE)	2017 Net tuition per student	2008-13 Growth in net tuition revenue	2013-17 Growth in net tuition revenue
University of Louisville	18,474	$12,159	59%	10%
University of Kentucky	29,168	$12,067	49%	18%
Murray State University	8,105	$9,754	52%	19%
Northern Kentucky University	12,248	$9,430	36%	10%
Western Kentucky University	15,955	$9,386	48%	17%
Eastern Kentucky University	14,142	$8,497	41%	9%
Morehead State University	6,834	$7,175	61%	9%
Kentucky Community and Technical College System	45,539	$4,453	63%	22%
Median		**$9,408**	**50%**	**13%**

Higher net tuition per student for University of Kentucky and University of Louisville is due in part to a larger percentage of higher-priced professional graduate student programs.
Source: Moody's Investors Service

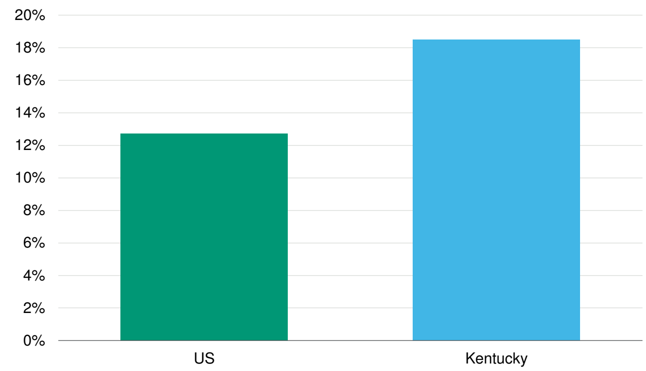
Softened demand and limited pricing flexibility are also hindered by Kentucky's weak socioeconomic profile. Favorably, Kentucky's economy has kept pace with the nation in terms of employment and population gains. However, the state has posted persistently lower wealth levels and a large percentage of its population is below the poverty rate compared to national averages (see Exhibits 7 and 8).

Exhibit 7
Kentucky lags US in per capita income ...



Calendar year 2017 data
Source: US Bureau of Economic Analysis

Exhibit 8
... and exceeds US poverty rate



Calendar year 2017 data
Source: US Bureau of Economic Analysis

Universities with greater scale and healthier financial reserves are better positioned to manage challenges

Efforts to improve marketability and brand profile often require large strategic financial investments in capital improvements and academic programming. UK with its medical and law schools and nationally recognized athletic programs has a leg up over the regional institutions in facing challenges such as enrollment pressures and increased pension burdens. The flagship university's significant scale and wealth, with $3 billion in operating revenue and $1.8 billion in spendable cash and investments, provides a greater financial cushion compared to a regional institution such as Morehead State with $134 million in operating revenue and $41 million in spendable cash and investments (see Exhibit 9).

Several Kentucky universities and KCTCS strategically invested in capital projects and academic programming over the last five years to enhance their attractiveness to students. Though some capital projects were funded with direct state support, most investments were financed using reserves, cash flow, gifts, university-issued debt, foundation-issued debt and PPPs, which in some cases have led to weaker debt to financial resources and operation ratios. Some universities have turned to private partners for external financing due to debt limits imposed by the state. Authorizations for debt issuance by universities and KCTCS must be legislatively approved.

» KCTCS is investing in a $194 million strategic capital program across its 16 colleges to address facility needs and enhance programmatic opportunities. The initiative has resulted in debt increasing by a sizable 6.7x over the fiscal 2013-17 period.

» Eastern Kentucky University (EKU, A1 negative) has largely relied on PPPs for student-centric projects, including new or replacement housing of over 1,500 beds. Inclusive of the third-party partnerships, EKU's debt has increased 3.2x over the last five years.

» The University of Kentucky has invested roughly $2.1 billion in enhancements to academic buildings, athletic venues, a student center, and healthcare infrastructure, increasing its debt by 1.6x over the 2013-17 period. A PPP with developer Education Realty Trust (EdR) added another $450 million in new student housing infrastructure for nearly 6,900 beds. UK's large scope and scale of operations affords the capacity to absorb the additional PPP obligation. Inclusion of the EdR housing project costs in the university's leverage profile would increase debt to revenues to 0.5x from 0.3x, though manageable compared to the national median of 0.6x for Aa-rated credits like UK.

Additionally, the ability of each institution to absorb state appropriation cuts, increased pension contributions, or both, with limited impact to fiscal operations will depend on disciplined spending and insightful long-term planning. Leadership teams that fully identify and understand their market strengths and weaknesses, successfully integrate market and financial strategies and budgeting priorities will be more likely to preserve long-term fiscal stability.

Exhibit 9

Fiscal 2017 Kentucky university and community college key indicators and metrics

Public university medians for comparison

	UK	EKU	NKU	Murray	WKU	Morehead	UofL	Public University Median	KCTCS
Rating/Outlook	Aa2 stable	A1 negative	A1 negative	A1 negative	A2 stable	A2 negative	A3 negative	All ratings	Aa3 negative
Total fall semester full-time equivalent (FTE)	29,168	14,142	12,248	8,105	15,955	6,834	18,474	15,974	45,539
Operating revenue ($millions)	3,179	280	207	183	313	134	1,042	407	527
Fiscal 2016-17 change in operating revenue	3.5%	-2.7%	-0.6%	0.1%	-0.9%	-0.4%	4.5%	3.7%	0.9%
Total cash and investments ($millions)	2,413	123	232	252	187	75	815	318	328
Spendable cash and investments ($millions)	1,800	82	180	185	67	41	383	226	281
Total debt ($millions)	1,013	256	112	80	298	100	357	252	150
Adjusted net pension liability ($millions)	0	592	361	338	591	281	0	0	530
Spendable cash and investments to total debt	1.8x	0.3x	1.6x	2.3x	0.2x	0.4x	1.1x	1.1x	1.9x
Spendable cash and investments to operations	0.6x	0.3x	0.8x	1.0x	0.2x	0.3x	0.4x	0.6x	0.6x
Monthly days cash on hand	168	80	175	206	83	58	29	151	141
Operating cash flow margin	10.5%	7.7%	10.7%	14.6%	9.8%	6.5%	5.7%	11.2%	14.0%
Total debt to cash flow	3.0x	11.9x	5.0x	3.0x	9.8x	11.5x	6.1x	5.3x	2.0x
Annual debt service coverage	3.9x	1.8x	1.8x	4.0x	1.6x	1.0x	1.9x	2.4x	9.5x

Fiscal 2017 data for Kentucky State University is not available. Debt for Eastern Kentucky University includes $21.9 million of 2018 Series A bonds. Comparable community college median for KCTCS not provided.

Source: Moody's Investors Service

Kentucky's elevated pension liabilities add sizable fixed costs to regional universities and colleges

The Commonwealth of Kentucky has one of the highest adjusted net pension burdens in the nation, exposing higher education institutions that participate in the state's defined benefit (DB) pension plans to sizable and rising fixed pension costs. To date, the state has not contributed any on-behalf payments for the institutions.

Employees of the University of Kentucky and University of Louisville are only eligible to participate in defined contribution plans and therefore those universities have no direct pension liability exposure to the state plans. Employees of the remaining seven institutions largely participate in either the Kentucky Teachers' Retirement System (TRS) or Kentucky Employees' Retirement System - Non-Hazardous (KERS-NH) defined benefit plans, or an optional defined contribution plan.

In April 2018, the state enacted legislation aimed at addressing the growing unfunded liabilities of its multiple pension plans, including TRS and KERS-NH. The legislation included modest contribution increases and benefit changes, such as allowing certain KERS-NH plan employees to enroll in newly created defined contribution plans. On June 20, a state circuit court judge ruled the process for enacting reforms was unconstitutional, but the state will likely appeal the decision.

Regardless of the ultimate legal outcome, participating universities and KCTCS would face elevated employer contributions. Pension contributions have continued to rise, ranging from 9% at Western Kentucky University to 23% at Eastern Kentucky University, from fiscal 2015-17 (Kentucky State University data not available) (see Exhibit 10). Only Kentucky Community and Technical College System, which opted out of the DB plans as of 2014, saw decreased funding.

The universities' annual contributions to Kentucky's statewide cost-sharing plans are set by state statute. These statutory contributions have trailed our "tread water" indicator for many years. Pension contributions at the participating four-year universities averaged only 66% of the tread water indicator, illustrating the historically weak pension funding. Our tread water indicator represents the employer portion of service cost, plus interest on reported unfunded liabilities.

Pension underfunding has led to sizable average adjusted net pension liabilities (ANPL) for the four-year universities participating in the state plans. Total university debt plus additional obligations inclusive of the ANPL relative to operating revenue produces ratios ranging from 2.3x at Northern Kentucky and Murray State to 3.1x at Eastern Kentucky, well in excess of the 1.2x median for all public universities.

Exhibit 10

Heavy exposure to the state's unfunded pension liabilities poses risk for universities

UK and UofL do not participate in the Kentucky defined benefit pension plans

Summary ratios, by largest pension plans - TRS and KERS-NH	EKU*	Morehead	Murray	NKU**	WKU	KCTSC
All data for fiscal 2017 unless otherwise noted						
Total reported contributions for fiscal 2015	$16.0	$8.0	$10.1	$12.3	$16.9	$18.4
Total reported contributions	$19.7	$8.7	$11.1	$14.7	$18.5	$17.1
Fiscal 2015-17 increase in university defined benefit contributions	23%	11%	10%	19%	9%	-7%***
"Tread water" indicator	$30.8	$13.9	$16.8	$19.7	$29.2	$11.5
Employer contributions as a percent of "tread water" indicator	64%	62%	66%	76%	63%	149%
2015-17 Adjusted net pension liability ($ million)	$592	$281	$338	$361	$561	$530
Adjusted debt to operating revenue	3.1x	2.9x	2.3x	2.3x	2.9x	1.3x
Kentucky Teachers' Retirement System:						
University contribution ($ millions)	$8.2	$4.8	$5.5	n/a	$9.7	$5.8
Kentucky Employees' Retirement System:						
University contribution ($ millions)	$10.9	$3.8	$5.5	$14.7	$8.2	$11.3

*Pro forma debt for Eastern Kentucky University includes $21.9 million of 2018 Series A bonds. **Northern Kentucky University does not participate in the (TRS) plan. ***Kentucky Community and Technical College System closed new employee access to TRS and KERS as of January 1, 2014. Note: fiscal 2017 data for Kentucky State University not available. Reported contributions exclude Kentucky Employees' Retirement System Hazardous (KERS-H) plan contributions, which are small portion of overall contributions.
Source: Moody's Investors Service

Moody's related publications

Outlook

» 2018 outlook changed to negative as revenue growth moderates, December 5, 2017

Sector In-Depth

» Medians: Public university sector mostly stable, but with pockets of stress, July 17, 2017

Sector Comment

» Declining enrollment credit negative due to continued pressure on net tuition revenue, May 29, 2018

» State, local government and higher education - Kentucky: Pension reforms are positive, but high liabilities still drive increased contributions, April 9, 2018

Endnotes

1 Western Interstate Commission for Higher Education, Knocking at the College Door: Projections of High School Graduates, 2016

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REPORT NUMBER 1117255

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Moody's Higher Education and Not-for-Profits Ratings Team

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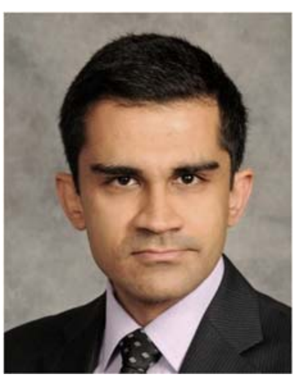

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Presentation to Kentucky Council on Postsecondary Education

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Agenda

1. Portfolio and team
2. Global credit themes
3. Higher education outlook
4. Key credit themes for public universities
5. Kentucky higher education trends
6. Q&A

Appendix

1

Portfolio and team

Global higher education & not-for-profits coverage

- Coordinated credit analysis brings together both sector and region specific expertise: over 30 dedicated analysts cover ratings in 7 countries

USA

- Around 500 universities
- >200 community colleges
- Nearly 100 not-for-profits
- Almost 35 private K-12 schools

Canada

- 13 public universities
- Ratings from Aa1-A3

UK

- 9 public universities
- Ratings from Aaa-Aa3
- One philanthropic organization

Australia

- 5 public universities
- Ratings from Aa1-Aa3

Peru

- 1 private university
- Rated Ba2

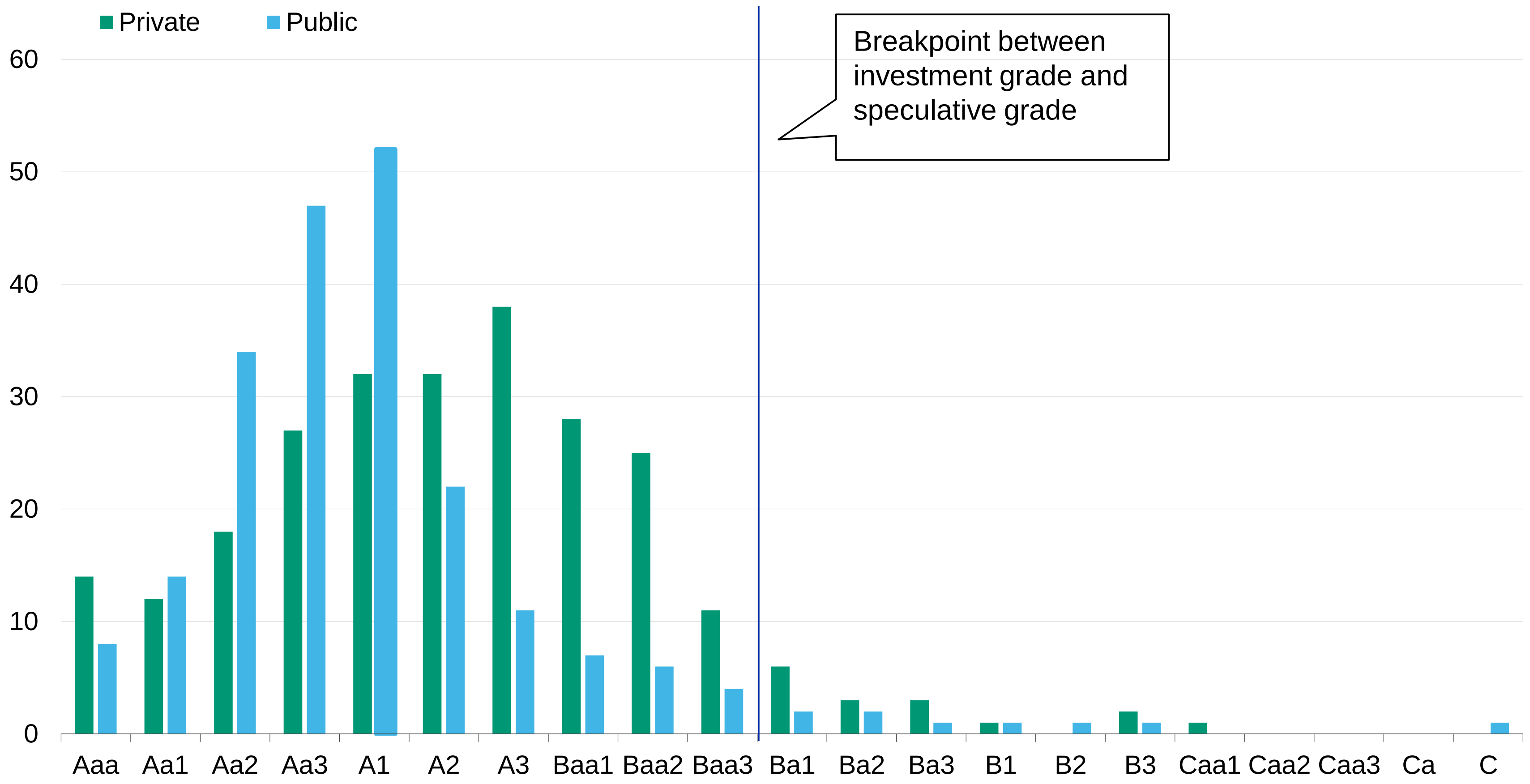
Singapore

- 2 public universities
- Both rated Aaa

Mexico

- 1 public university
- Rated Baa3

US higher education portfolio rating distribution



Source: Moody's Investors Service

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Global credit themes

Six themes shaping global credit in 2018

Growth

» Solid momentum in global economic growth will underpin continued demand for higher education, but not necessarily translate into steady governmental support or pricing power.

Financial Stability

» Exposure to financial markets is increasing as universities become more reliant on external financing and philanthropic support.

Political & Geopolitical Risk

» Rapidly evolving political landscapes will provide challenges and opportunities for universities across the globe.

Six themes shaping global credit in 2018

Technology and Innovation

» Technological advances provide opportunities to reach new student populations, offer alternative methods of teaching and gain operational efficiencies.

Climate Change and Sustainability

» Universities will continue to be subject to risks of climate change, and their ability to prepare for and respond to these risks will play a growing role in their credit profiles.

Demographics

» Increasing rates of participation in higher education will support the sector's overall credit. Further, with increasing numbers of women receiving higher education degrees, we expect a continued expansion in overall student populations.

3 Higher education outlook

Higher education

2018 outlook changed to negative as revenue growth moderates

NEGATIVE → **STABLE** → **POSITIVE**

NEGATIVE

- Annual change in aggregate operating revenue will soften to about 3.5%; a growing portion of the sector will have revenue growth under 3%
- Constrained growth in multiple key revenue streams, including tuition, research and state appropriations
- Expense growth of almost 4%
- Uncertainty at the federal level over potential policy changes

What could change outlook to stable

- An annual change in aggregate operating revenue in our rated sample of at least 3%, representing real growth in a low inflation environment, and outpacing expense growth
- Ongoing solid student demand
- Financial reserve strength

What could change outlook to positive

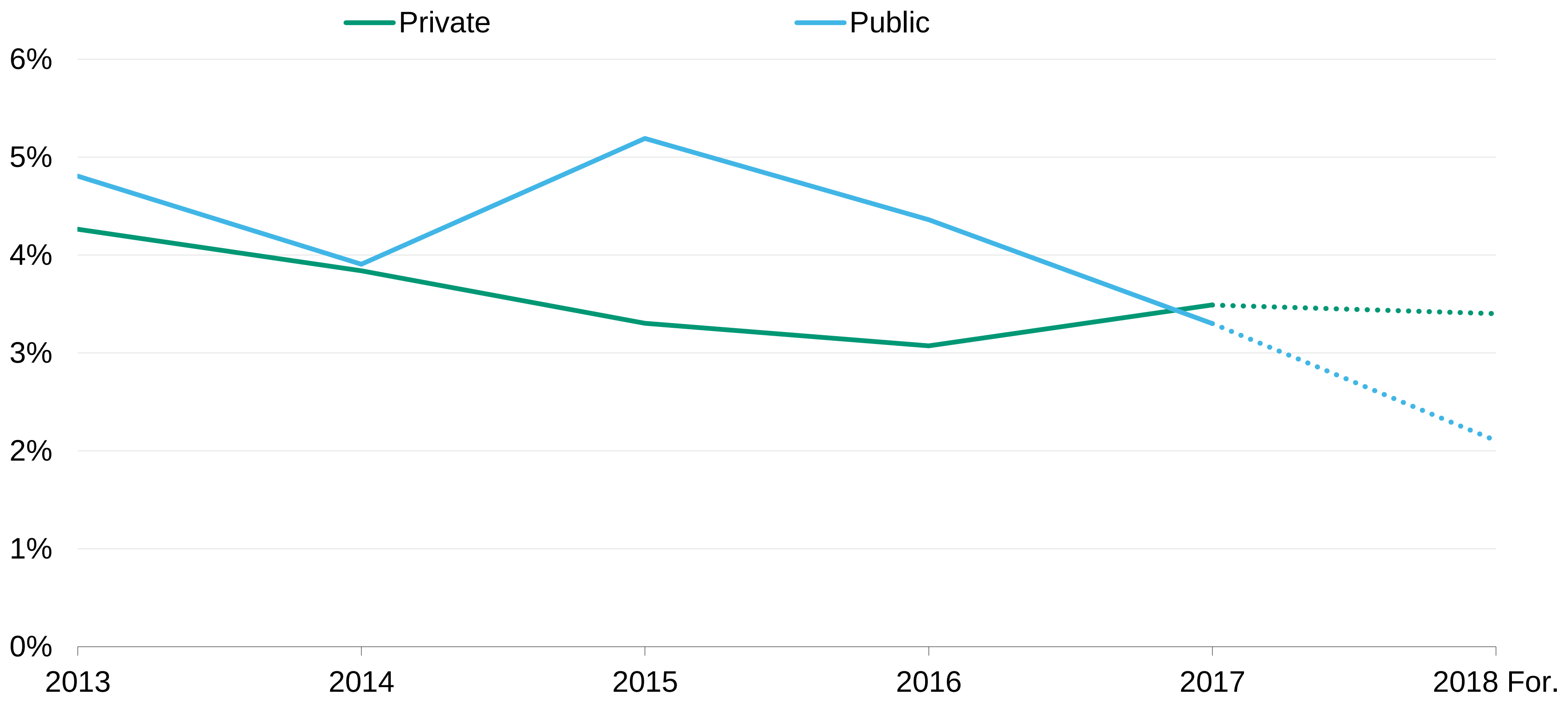
- Revenue growth well in excess of inflation expectations and expense growth

Note: A negative sector outlook indicates our view that fundamental credit conditions will worsen. A positive outlook indicates that we expect fundamental credit conditions to improve. A stable sector outlook indicates that conditions are not expected to change significantly. Since sector outlooks represent our forward looking view on conditions that factor into ratings, a negative (positive) outlook indicates that negative (positive) rating actions are more likely on average.

Source: Moody's Investors Service

Limited prospects for tuition growth, especially at public universities

Change in aggregate net tuition revenue

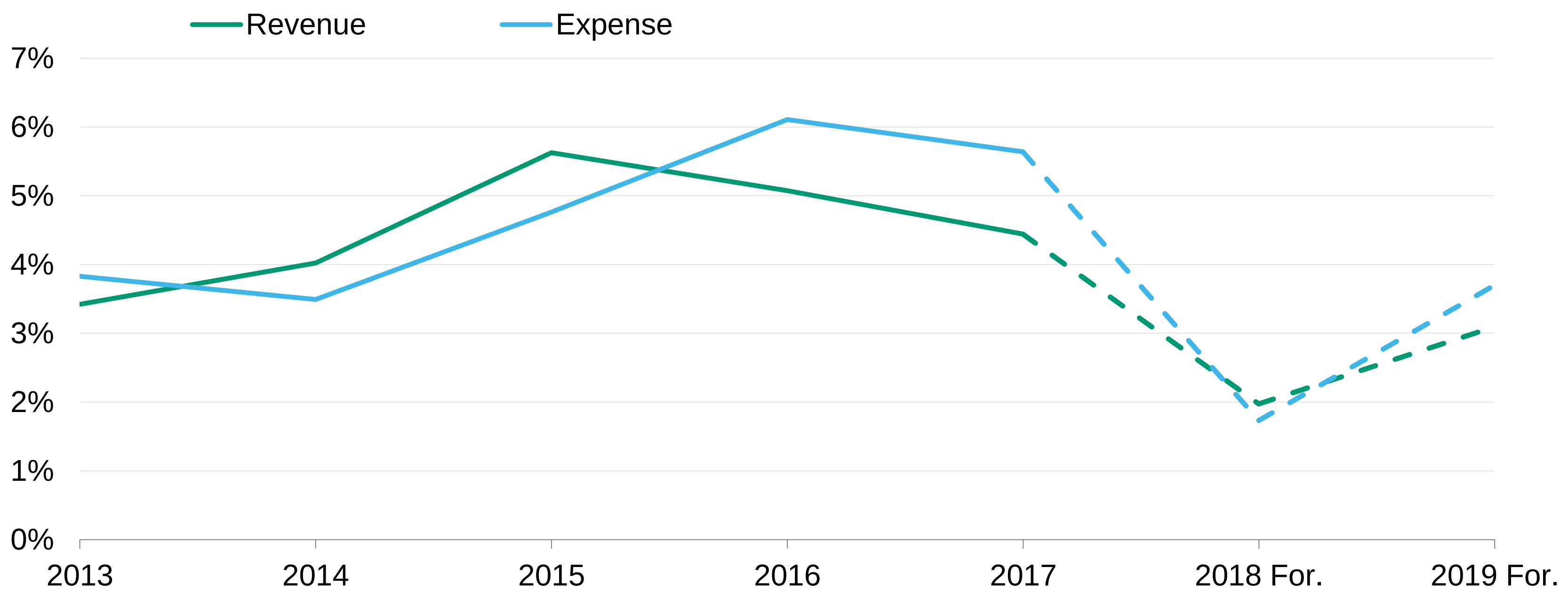


"For" indicates our forecasted data.

Source: Moody's Investors Service

For public universities, expense growth will outpace revenue growth

Aggregate % change in public university revenues and expenses



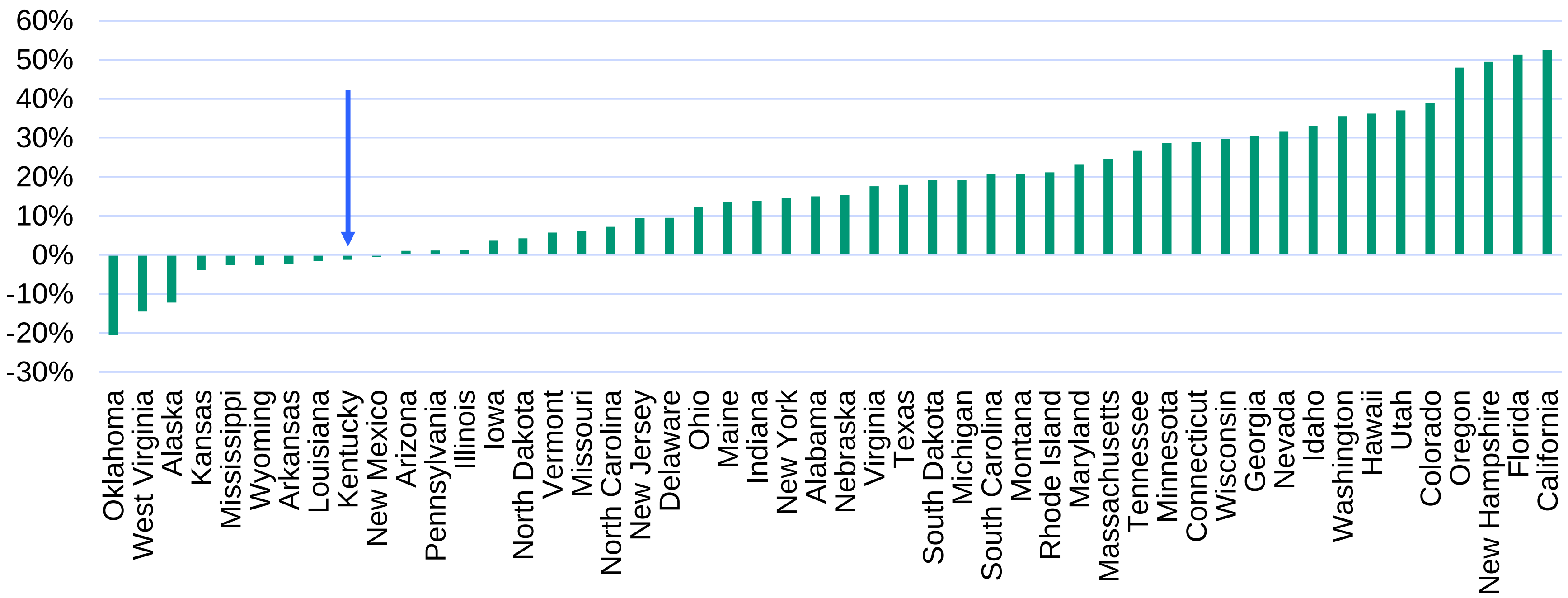
"For." indicates our forecasted data.

Source: Moody's Investors Service

Changes in state funding vary widely across states

5-Year % Change in State Support, FY13-FY18

- Seven large states (CA, TX, NY, FL, NC, GA and IL) accounted for half of FY 2018 state support for higher education. Their total increase for FY 2018 was 2.4%, compared to 0.9% for remaining states.



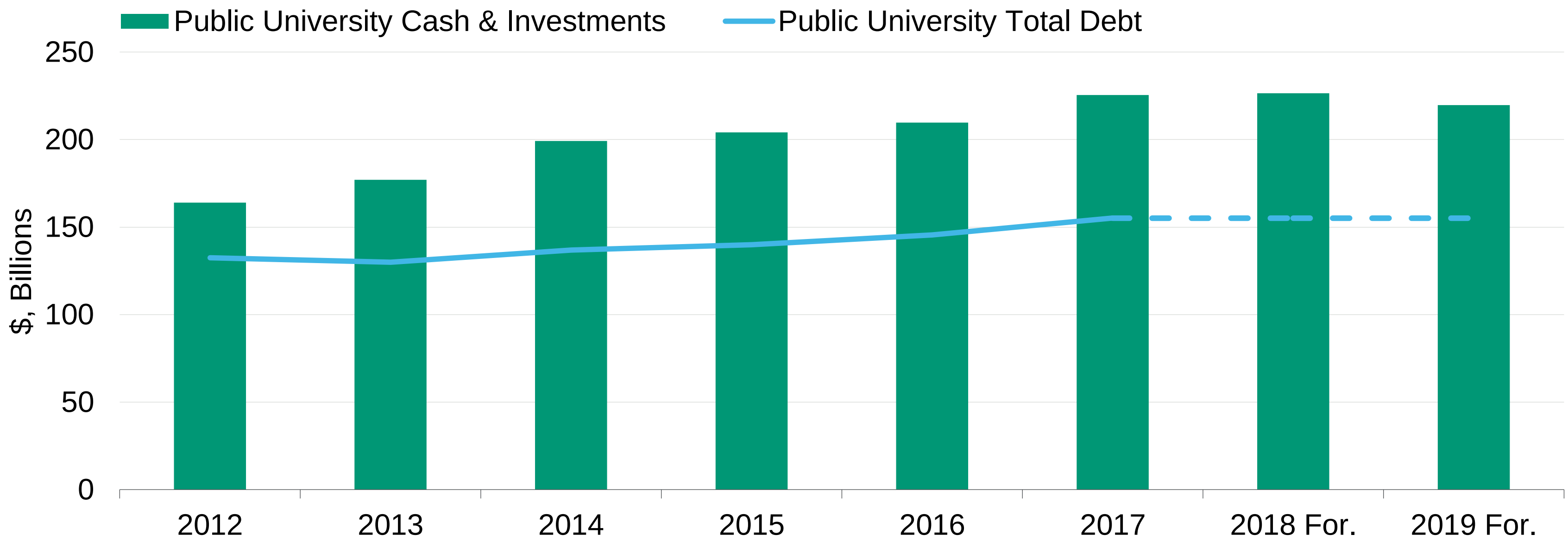
Source: Grapevine; Moody's Investor Service

Solid financial reserve levels add a stabilizing element

Annual aggregate total cash and investments and debt

» Strong fiscal 2017 investment returns, generally above 10%, will have increased financial reserve levels

» Many universities are currently evaluating and adjusting endowment spending and investment policies

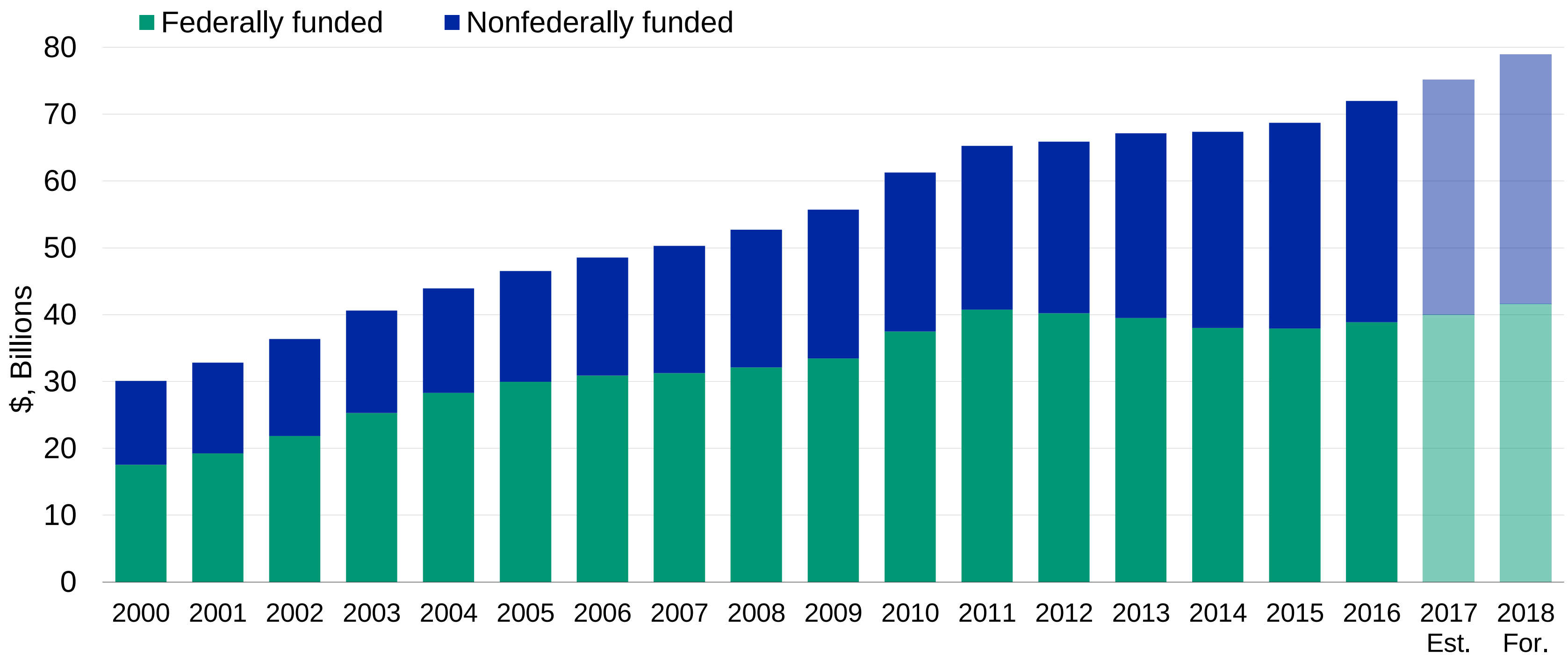


“For.” indicates our forecasted data.

Source: Moody's Investors Service

Research funding moderately improving

» Research funding will likely continue to shift toward comprehensive universities, which offer more opportunity for collaboration across disciplines.



“Est.” indicates our estimated data based on preliminary information. “For.” indicates our forecasted data.

Sources: Moody's Investors Service, National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey

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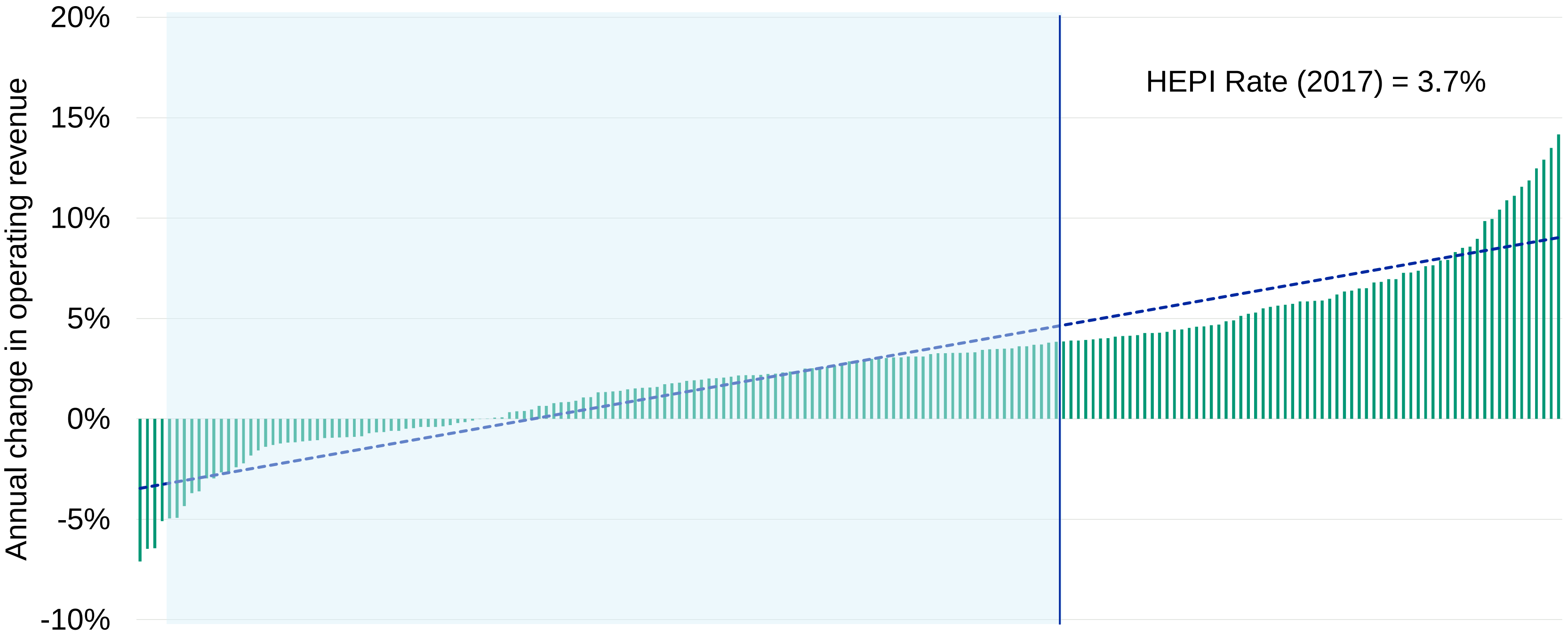
Key credit themes for public universities

Revenue growth varies greatly across the sector

A majority of universities witnessed revenue growth below higher education inflation

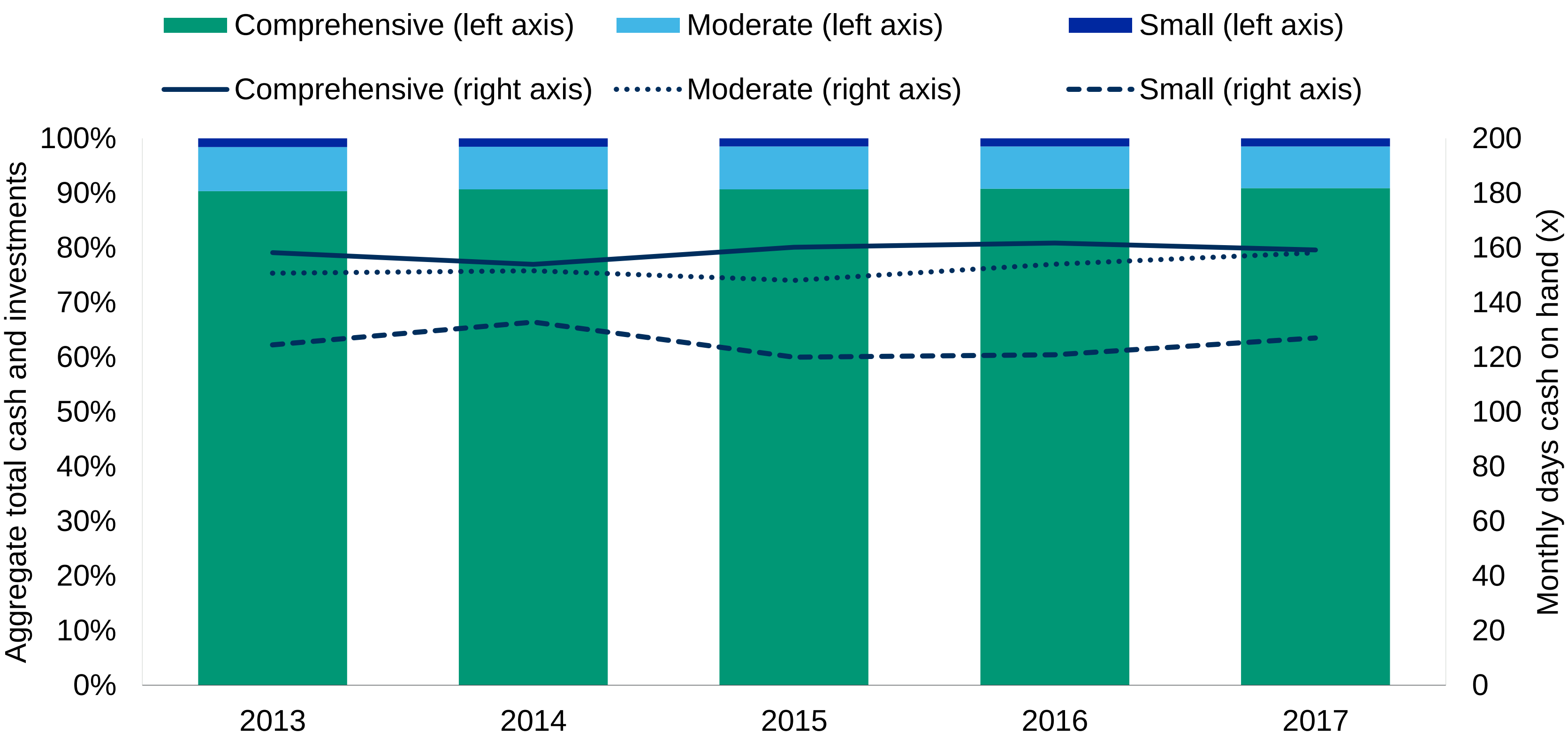


Each bar represents annual revenue growth at an individual university and those in the shaded area reported fiscal 2017 revenue growth below the Commonfund's Higher Education Pricing Index rate

Source: Moody's Investors Service

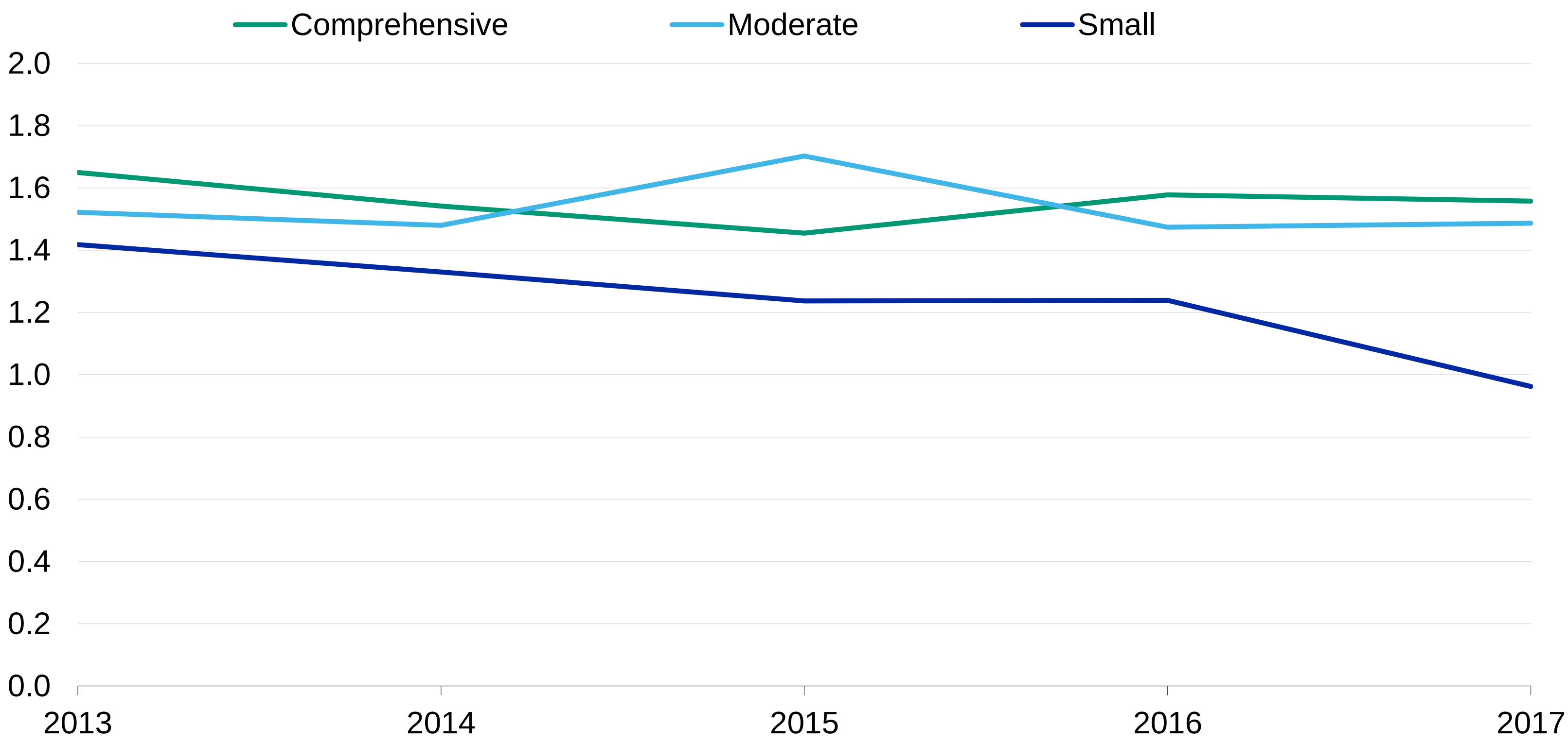
Wealth remains concentrated with comprehensive universities

Liquidity steady throughout the sector



Source: Moody's Investors Service

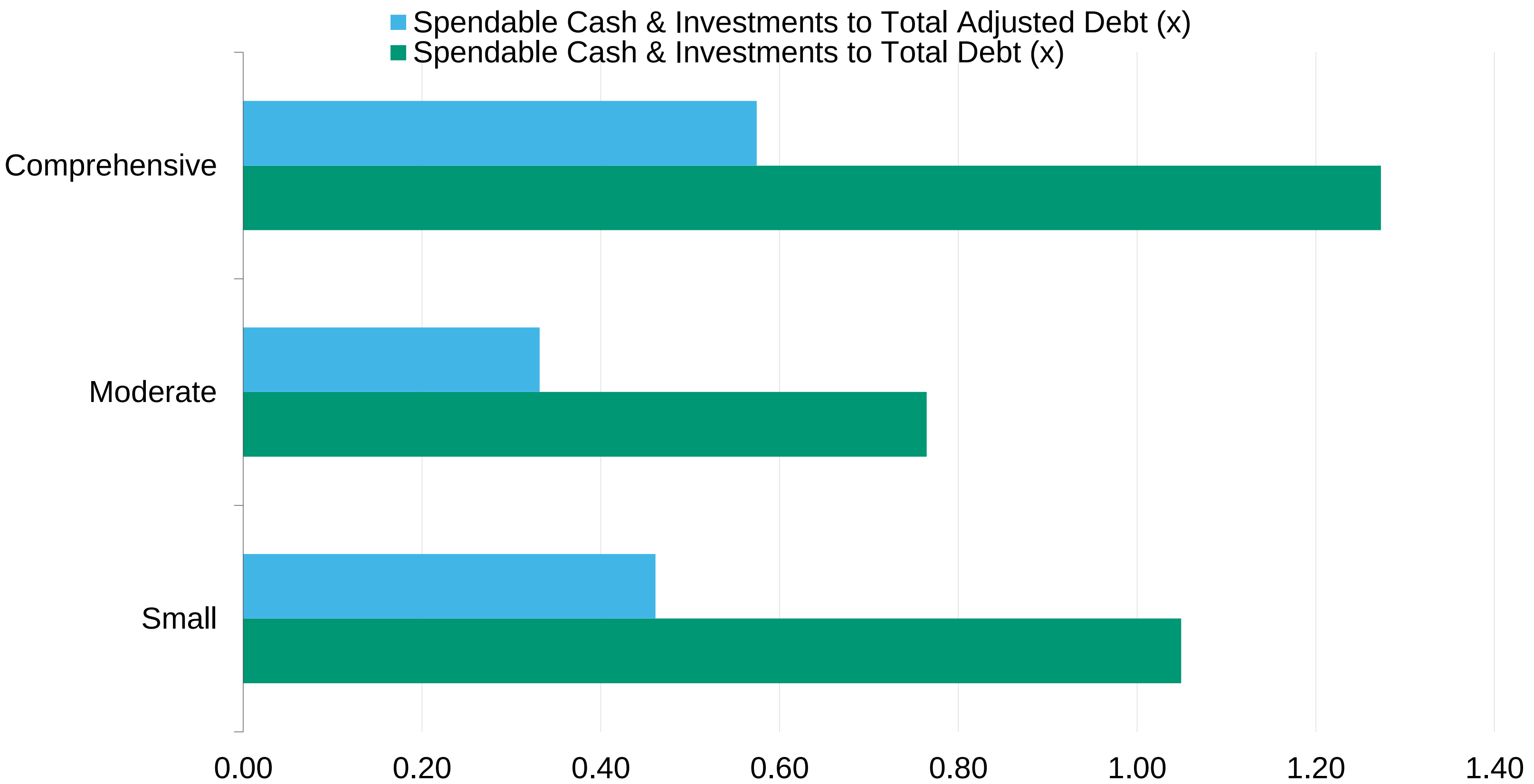
Small public universities significantly lagged larger peers in capital spending to depreciation



Source: Moody's Investors Service

Pension benefit liabilities significantly increase adjusted leverage

By public university classification



Source: Moody's Investors Service, based on FY 2017

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Kentucky higher education trends

Kentucky Higher Education Ratings

Public 4-Year Universities

Obligor Name	Senior Lien Rating	Outlook
Eastern Kentucky University	A1	Negative
Kentucky State University	Intercept Rating Only	
Morehead State University	A2	Negative
Murray State University	A1	Negative
Northern Kentucky University	A1	Negative
University of Kentucky	Aa2	Stable
University of Louisville	A3	Negative
Western Kentucky University	A2	Stable

Private 4-Year Universities

Obligor Name	Senior Lien Rating	Outlook
Bellarmine University	Baa3	Stable
Berea College	Aaa	Stable
Centre College of Kentucky	A3	Stable

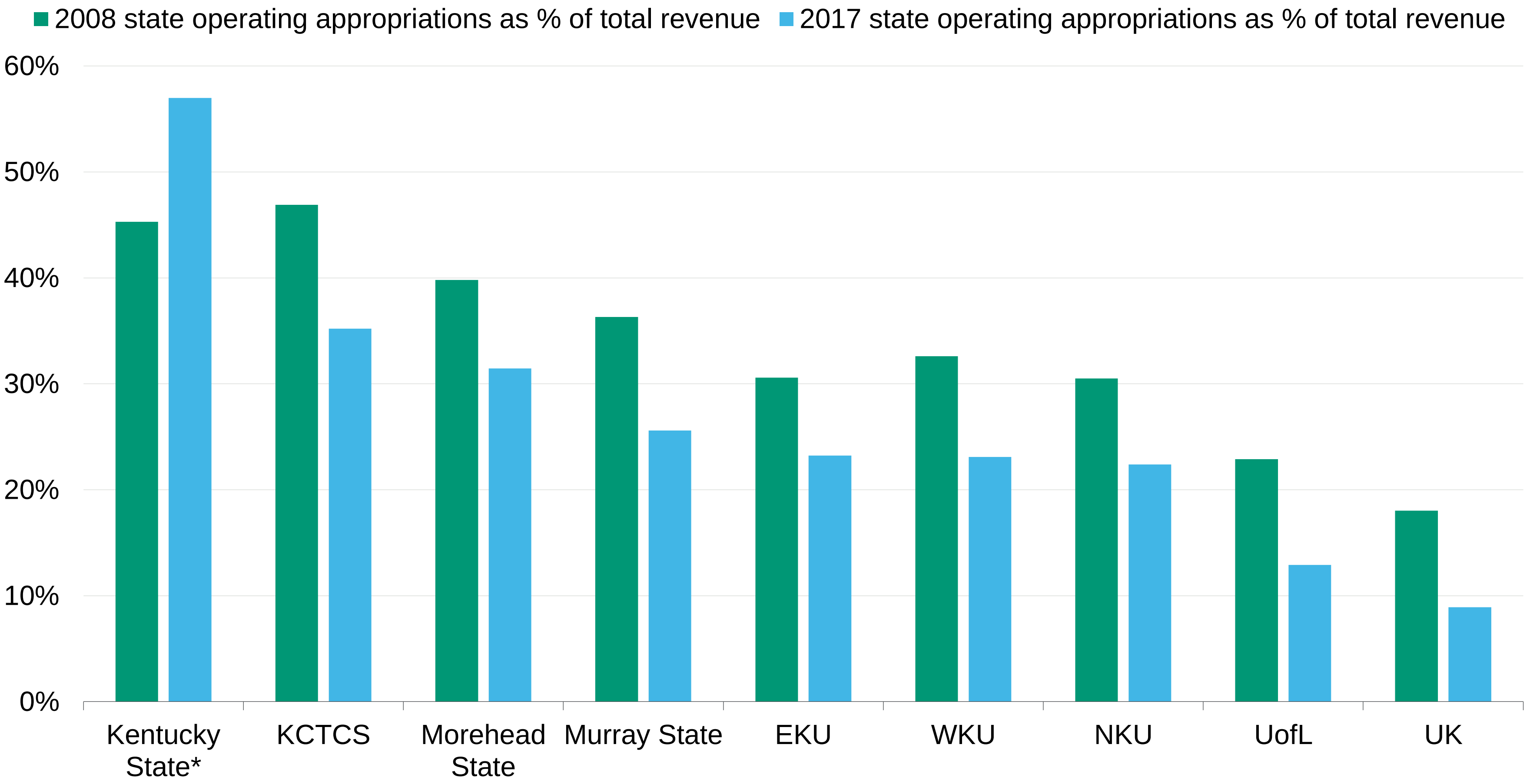
Community College System

Obligor Name	Senior Lien Rating	Outlook
Kentucky Community and Technical College System	Aa3	Negative

Kentucky public higher ed sector faces challenging conditions

- Reductions in state funding
- Declining pool of high school graduates
- Heightened price sensitivity among students and families
- Competition for performance funding monies
- Large unfunded state pension obligation weighs on future appropriations and expenses for most

State support now comprises less revenue than in 2008 for most



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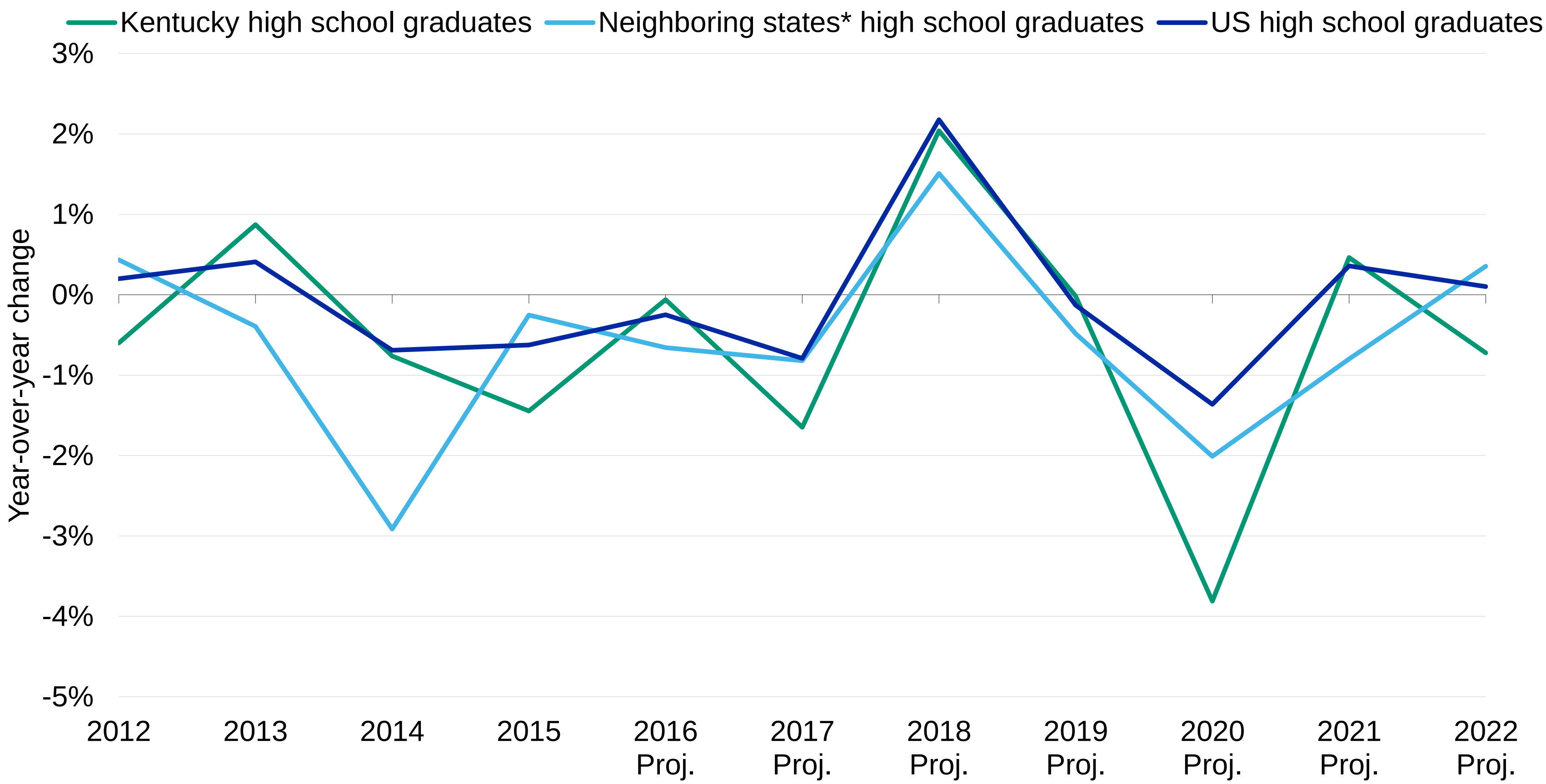
* Kentucky State University's increased appropriations as a percent of operating revenue is reflective of the declining tuition and more limited decreases in state support.
Source: Moody's Investors Service

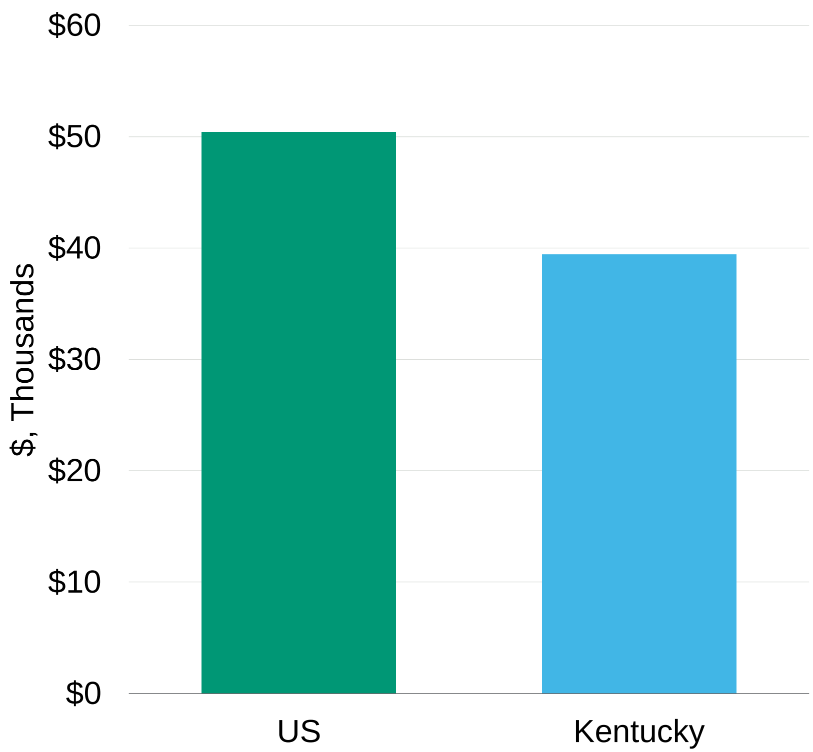
High school graduates generally lagging compared to national average

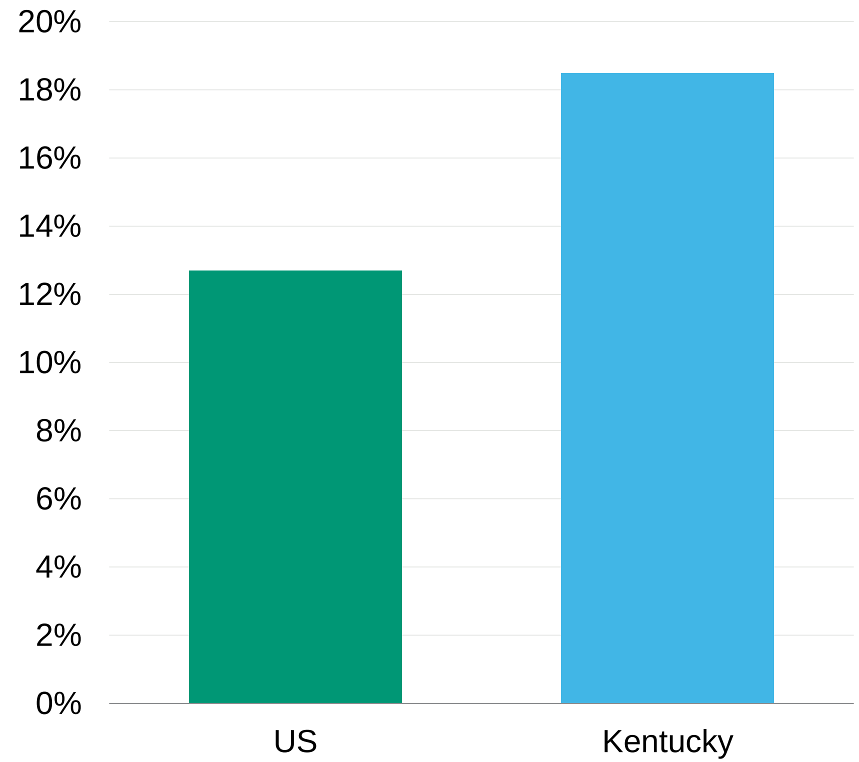


"Proj." indicates projected data. *Neighboring states are Illinois, Indiana, Missouri, Ohio and Tennessee.

Source: Western Interstate Commission for Higher Education, Knocking at the College Door: Projections of High School Graduates 2016

Kentucky lags US in per capita income and exceeds US poverty rate

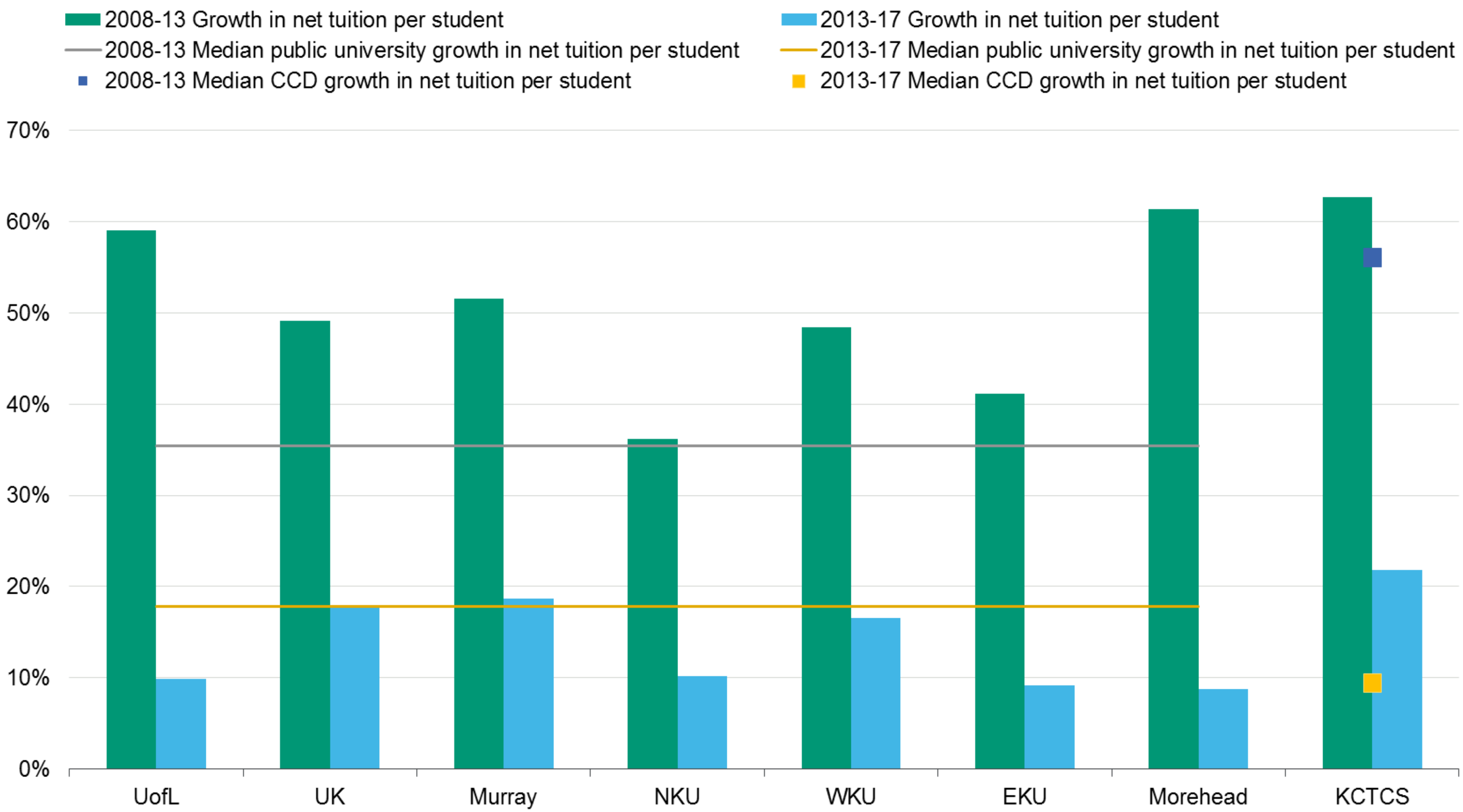




Calendar year 2017 data

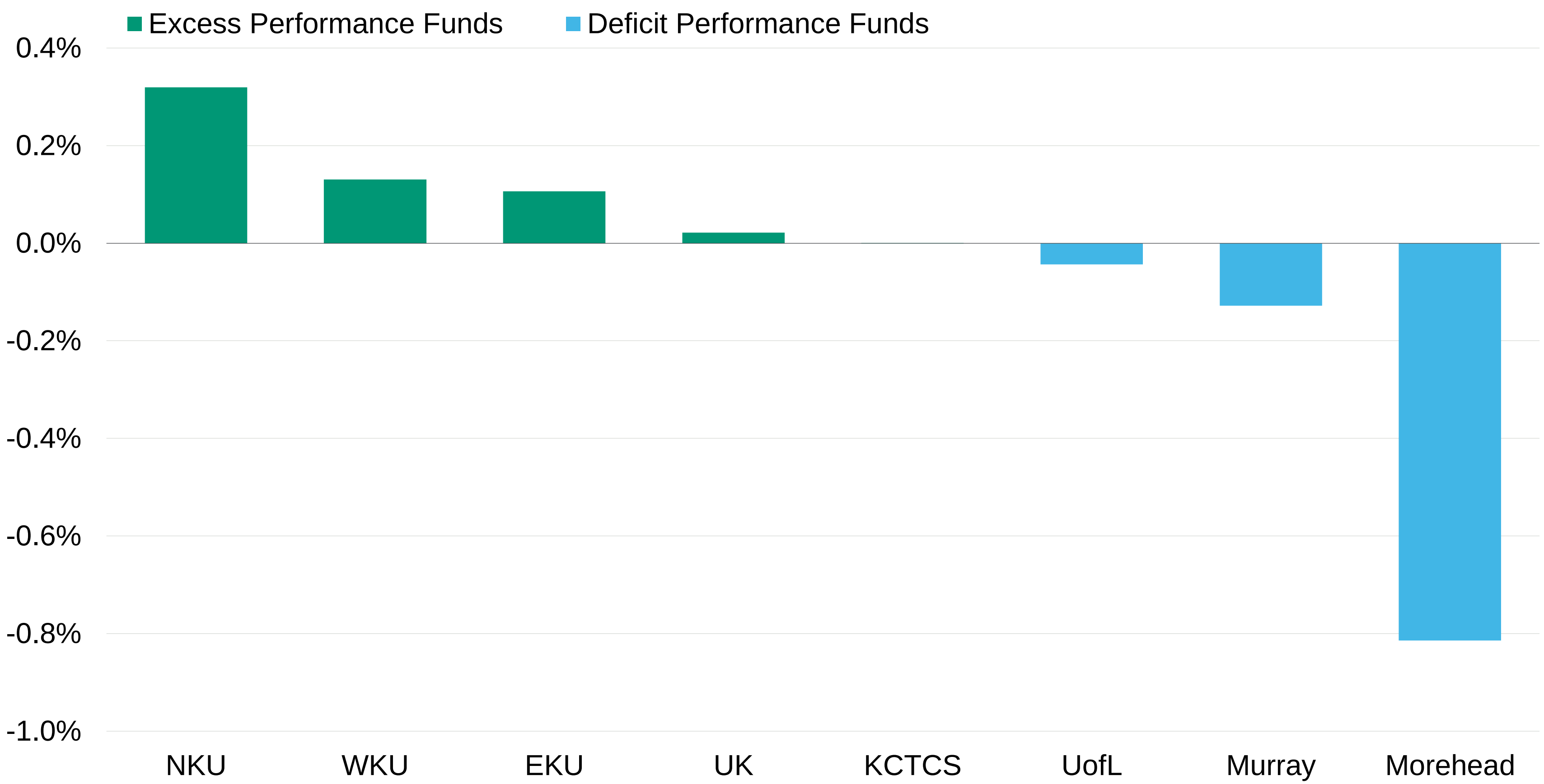
Source: US Bureau of Economic Analysis

Weaker growth in net tuition revenue



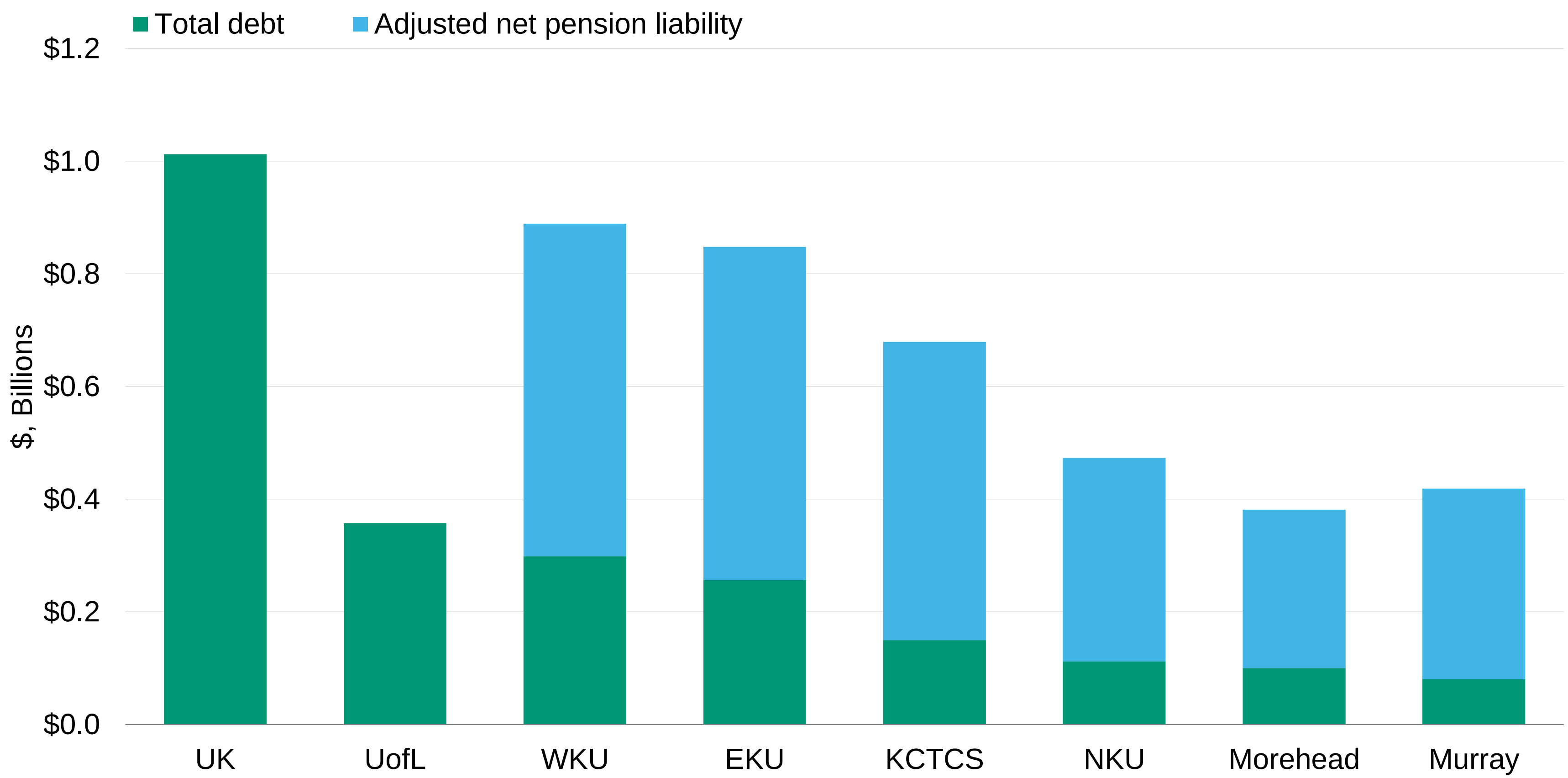
Source: Moody's Investors Service

Performance funding benefit some at loss of others



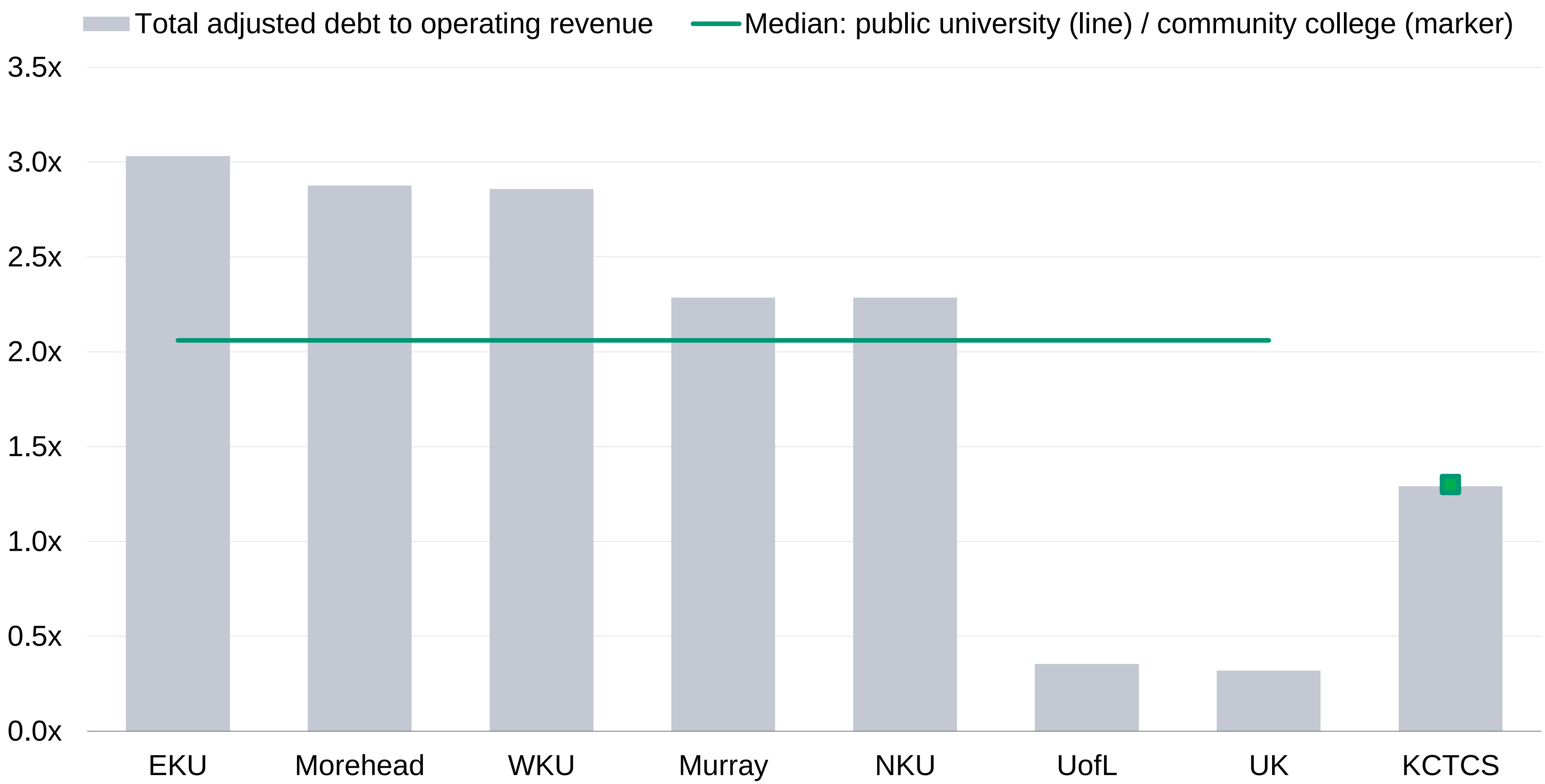
Source: Moody's Investors Service

State pension liability adds sizeable debt-like obligation to most



Source: Moody's Investors Service

Total adjusted debt obligation for many exceeds national median



Source: Moody's Investors Service

Mitigants to credit impact

- Pricing power considering market and competition
- Brand and reputation translating to higher pay students
- Demonstrated ability to fundraise
- Strong reserves
- Adept financial planning and forecasting, including mitigation strategies
- Demonstrated history of taking action in challenging times

6

Q&A

Appendix

Methodology

Global higher education methodology

- Rating methodologies provide transparency about how we assign ratings
- Scorecard serves as an analytical tool, but is not an exhaustive list of possible credit factors
- Ratings incorporate our forward-looking assessment of credit quality

Global higher education scorecard overview	
Market Profile (30%)	Scope of Operations (15%) Reputation and Pricing Power (5%) Strategic Positioning (10%)
Operating Performance (25%)	Operating Results (10%) Revenue Diversity (15%)
Wealth & Liquidity (25%)	Total Wealth (10%) Operating Reserve (10%) Liquidity (5%)
Leverage (20%)	Financial Leverage (10%) Debt Affordability (10%)

Examples of excellent strategic positioning

» Planning

- Well-integrated financial, treasury, and debt management, ensuring solid liquidity to meet the university's operating, debt and investment needs.
- Board and management have developed credit positive operational management practices, including long-range financial planning, tight budgetary controls with program level transparency, and integrated capital budgeting.

» Resources

- XYZ university's strong academic reputation, diversified programs, and urban location will continue to translate into excellent strategic positioning and healthy student demand despite a highly competitive environment.
- The rating favorably incorporates the college's steady student demand as a liberal arts college with an increasingly national brand, contributing to excellent strategic positioning. The college has generated consistently strong operating cash flow and has sizeable financial reserves and very good liquidity. Leverage is comparatively low and manageable.

Examples of fair strategic positioning

» Planning

– The college is highly opportunistic and has limited long-range strategic, financial and capital planning. Many of the standard policies adopted by peer institutions, such as an investment policy, do not exist at this college.

» Capital Investment

– A rising age of plant and limited capital spending that hasn't exceeded depreciation in five out of the last six years could lead to needed capital investment and an increase in the university's leverage profile.

– Limited ability to sustain strategic facilities and programmatic investments given weak operating performance and very thin liquidity.

» Resources

– Highly competitive market, with a regional draw from areas with stagnant or declining high school graduates, causing the university to invest more in financial aid to draw students.

– Matriculation of admitted students remains low at about 15% compounded by a weak retention rate of 82% in fall 2015.

Methodology includes other credit considerations

» Multi-year trends

» Governance and management

» Debt structure considerations

» Liquidity quality

» Government relationship

» Pension and other post-employment obligations

» Healthcare operations

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