

September 2016

Research Panel: Monetary Compensation of Faculty at America's Public Regional Universities: Does Collective Bargaining Matter?: A Comment

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Recommended Citation

Floss, Frederick (2016) "Research Panel: Monetary Compensation of Faculty at America's Public Regional Universities: Does Collective Bargaining Matter?: A Comment," *Journal of Collective Bargaining in the Academy*: Vol. 0 , Article 3.
Available at: <http://thekeep.eiu.edu/jcba/vol0/iss11/3>

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BUFFALO STATE

The State University of New York

Monetary Compensation of Faculty at America's Public Regional Universities: Does Collective Bargaining Matter?

By

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A COMMENT

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APRIL 3, 2016

- DOES INFLATION MATTER IN HIGHER EDUCATION FUNDING?

– THIS IS AN INTERESTING QUESTION

Stephen Katsinas et.al. touches on this question in their paper, while discussing whether collective bargaining matters.

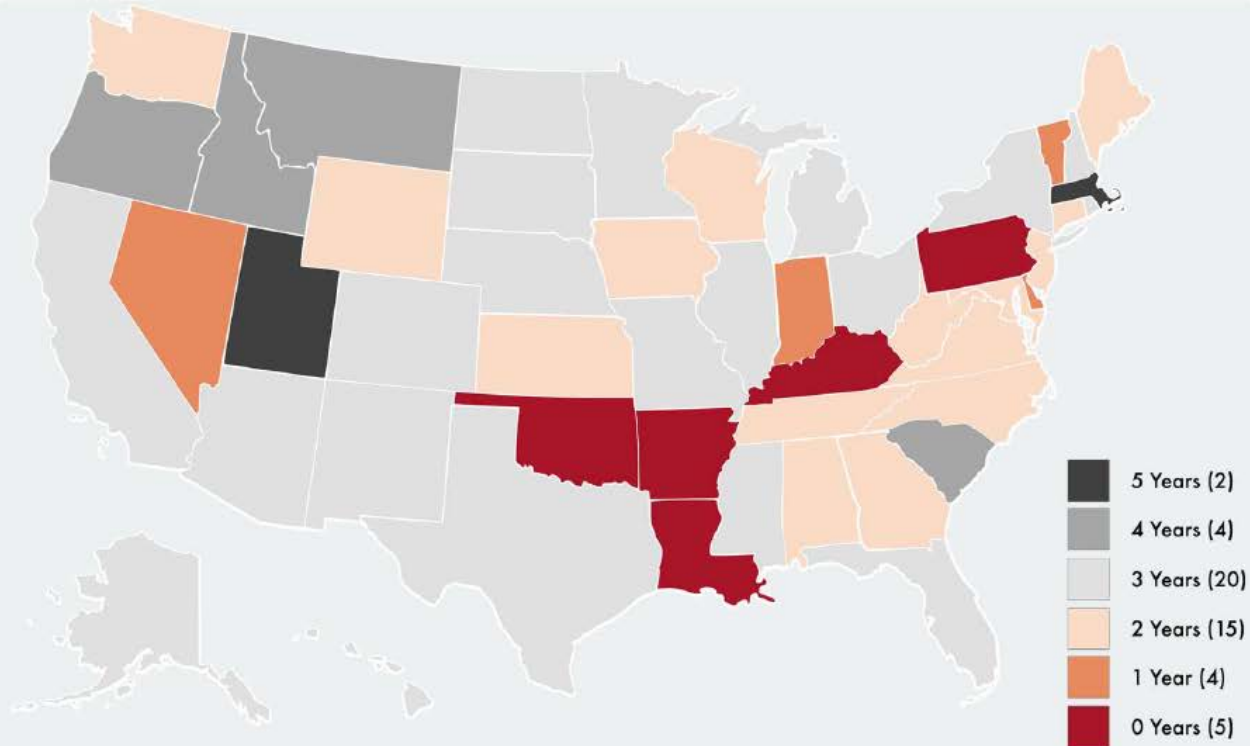
- Their major point is: Averaging wages and benefits over all four-year universities masks-known differences...*and these differences matter!*
- *After making adjustments they find that indeed collective bargaining does matter and it matters in all sectors of higher education.*

- On the way to obtaining these results, they touch on the important issue for wages and salaries which should be related to inflation.

SO:

- DO POLICY MAKERS ACTUALLY USE HEPI OR THE CPI WHEN DETERMINING STATE BUDGETS FOR HIGHER EDUCATION ?
- THE MAP ON PAGE 9 OF THEIR POWERPOINT LOOKS AT *HOW MANY TIMES STATE HIGHER EDUCATION ALLOCATIONS MET THE HEPI INDEX.*

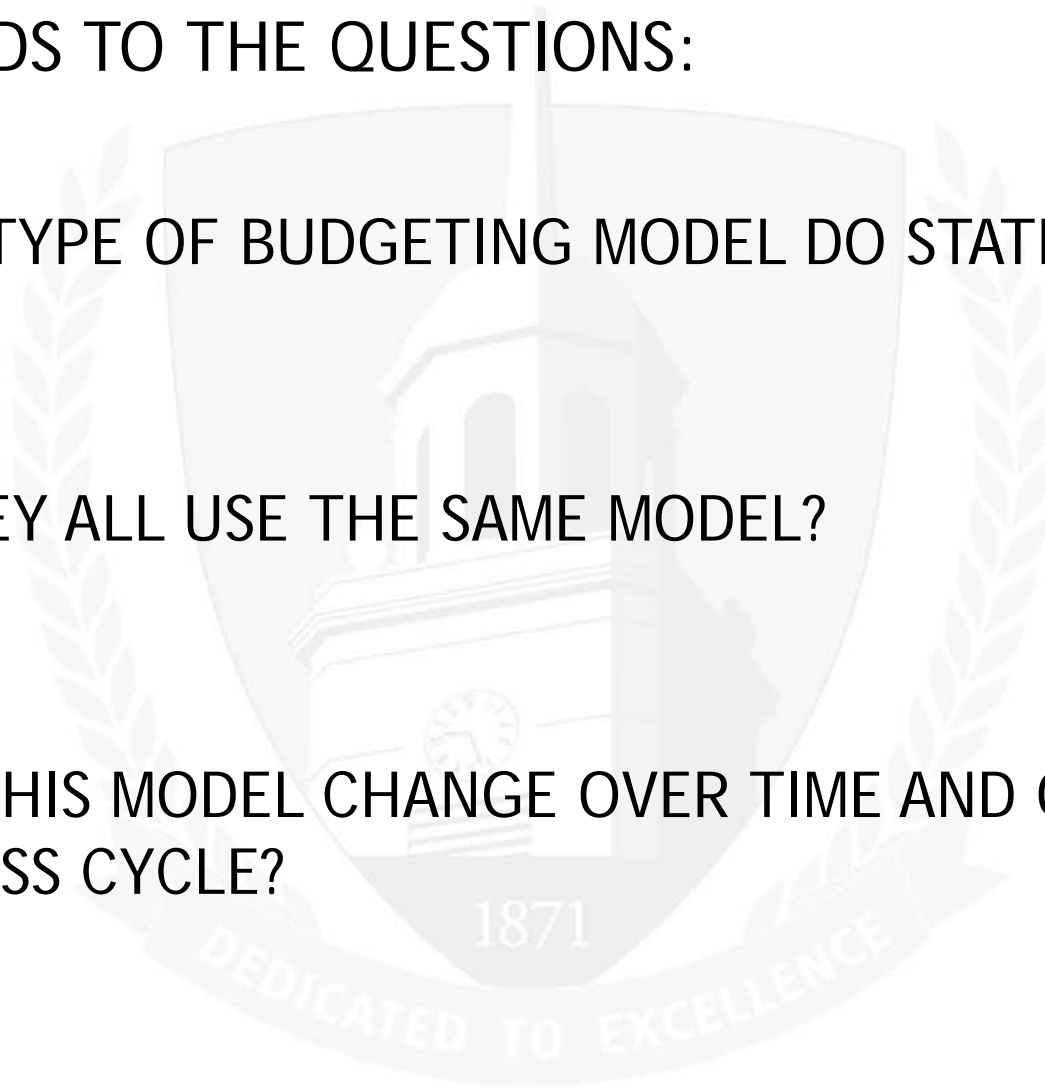
POST-GREAT RECESSION BLUES: In past 5 years, how often did states appropriate at or above the inflation rate? FY2011-2 to FY2014-5 *actual*, and FY2015-6 *predicted*



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- THIS LEADS TO THE QUESTIONS:
 - WHAT TYPE OF BUDGETING MODEL DO STATES USE?
 - DO THEY ALL USE THE SAME MODEL?
 - DOES THIS MODEL CHANGE OVER TIME AND OVER THE BUSINESS CYCLE?



- PUBLIC FINANCE POSITS TWO MAJOR MODELS FOR BUDGETING:
 1. INCREMENTAL: WHERE IN EACH YEAR BASE BUDGETS ARE ADJUSTED BY A PERCENTAGE (NORMALLY CONSTANT OVER ALL AREAS OF THE BUDGET)
 2. ZERO BASED BUDGETING: WHERE BUDGETS ARE REVIEWED EVERY SO MANY YEARS FOR NEED AND SIZE OF PROGRAM (USUALLY ONLY A FEW BUDGET AREAS ARE DONE EACH YEAR)

- ALMOST ALL STATE BUDGETS USE AN INCREMENTAL APPROACH.
 - SO HOW DO THEY DETERMINE THE PERCENT INCREASE?
 - CPI
 - HEPI
 - CHANGE IN STATE GDP
 - CHANGE IN STATE TAX REVENUE
 - ALSO DO CHANGES IN TUITION IMPACT FUNDING?

- TO LOOK AT THIS, THE FOLLOWING REGRESSION CAN BE USED:

$$\text{State Support} = \beta_0 + \beta_1 \text{Net Tuition} + \beta_2 \text{Enrollment} + \beta_3 \text{GDP} + \beta_4 \text{CPI} + U$$

- This was run for each state over the years 2000 to 2014.
- SAS (PROC AUTOREG) was used to take into account the time series nature of the data.
- Sources: *SHEEO* for Support, Enrollment and Net Tuition, *Commonfund* for HEPI and CPI, *BEA* for State GDP data.

- The Chart below shows whether or not a variable is statistically significant (@ the 95% level) for a given state.
 - N is not significant
 - X is statistically significant
 - A (-) says that the variable is inversely related to State Support.
 - For example: -X means that the variable is statistically significant and is inversely related to state support.

| State | Net Tuition | Enrollment | State GDP | CPI | R ² |
|----------------------|-------------|------------|-----------|-----------|----------------|
| United States | -N | N | X | -N | 0.92 |
| Alabama | -X | N | X | N | 0.83 |
| Alaska | X | -N | X | -N | 0.99 |
| Arizona | -X | N | X | -N | 0.71 |
| Arkansas | N | X | N | N | 0.97 |
| California | -X | N | X | N | 0.67 |
| Colorado | N | -X | N | N | 0.42 |
| Connecticut | N | N | N | N | 0.82 |
| Delaware | -N | -N | N | N | 0.83 |
| Florida | -N | N | X | N | 0.79 |
| Georgia | -X | N | X | N | 0.83 |
| Hawaii | N | -N | X | -N | 0.79 |
| Idaho | -N | -N | X | -N | 0.66 |
| Illinois | X | -X | -N | -N | 0.94 |
| Indiana | -N | N | N | -N | 0.87 |
| Iowa | N | -X | -N | -N | 0.63 |
| Kansas | -N | N | N | N | 0.77 |

| State | Net Tuition | Enrollment | State GDP | CPI | R ² |
|----------------|----------------|------------|--------------|-----|----------------|
| Kentucky | -N | N | N | N | 0.46 |
| Louisiana | -X | -X | X | -N | 0.59 |
| Maine | -N | -N | X | N | 0.87 |
| Maryland | -N | X | X | N | 0.85 |
| Massachusetts | -N | -N | X | N | 0.71 |
| Michigan | -N | N | -N | -N | 0.81 |
| Minnesota | -X | N | N | N | 0.35 |
| Mississippi | -X | N | X | -N | 0.80 |
| Missouri | N | -N | N | N | 0.10 |
| Montana | N | -N | N | N | 0.85 |
| Nebraska | -N | N | X | N | 0.86 |
| Nevada | -X | N | X | N | 0.91 |
| New Hampshire | -N | N | N | -N | 0.15 |
| New Jersey | -X | X | X | N | 0.87 |
| New Mexico | -X | -X | X | -N | 0.91 |
| New York | -N | N | N | -N | 0.80 |
| North Carolina | -N | N | X | N | 0.88 |
| North Dakota | -N | N | X | -X | 0.97 |

| State | Net Tuition | Enrollment | State GDP | CPI | R ² |
|----------------|-------------|------------|-----------|-----|----------------|
| Ohio | N | -N | -N | N | 0.29 |
| Oklahoma | -N | -N | X | -N | 0.74 |
| Oregon | -N | N | X | -N | 0.44 |
| Pennsylvania | -N | N | N | N | 0.25 |
| Rhode Island | -N | N | X | N | 0.82 |
| South Carolina | -X | N | X | N | 0.82 |
| South Dakota | -N | N | X | -N | 0.91 |
| Tennessee | -X | N | X | -N | 0.92 |
| Texas | N | N | X | -N | 0.71 |
| Utah | -N | N | X | N | 0.87 |
| Vermont | -N | X | X | N | 0.81 |
| Virginia | -N | -N | N | -N | 0.34 |
| Washington | -X | -N | X | -N | 0.80 |
| West Virginia | N | N | N | N | 0.64 |
| Wisconsin | -N | X | N | -N | 0.54 |
| Wyoming | X | X | X | -X | 0.98 |

- To summarize:
 - No states had a statistically significant positive coefficient for CPI, while 31 states had a positive and significant relationship to state support for GDP.

| State | Net Tutition | Enrollment | State GDP | CPI |
|-------|--------------|------------|-----------|-----|
| -N | 25 | 12 | 4 | 22 |
| N | 10 | 28 | 16 | 27 |
| -X | 13 | 5 | 0 | 2 |
| X | 3 | 6 | 31 | 0 |

Similar results can be obtained running the variables separately and using other statistical procedures.

- WHAT DOES THIS MEAN?

- STATES ARE NOT TAKING INTO ACCOUNT HEPI (OR THE CPI) WHEN DETERMINING NEED FOR HIGHER EDUCATION

- INSTEAD THEY FUND COLLEGES AND UNIVERSITIES NOT ON NEED, BUT AS A PERCENTAGE OF THEIR TOTAL STATE BUDGETS.

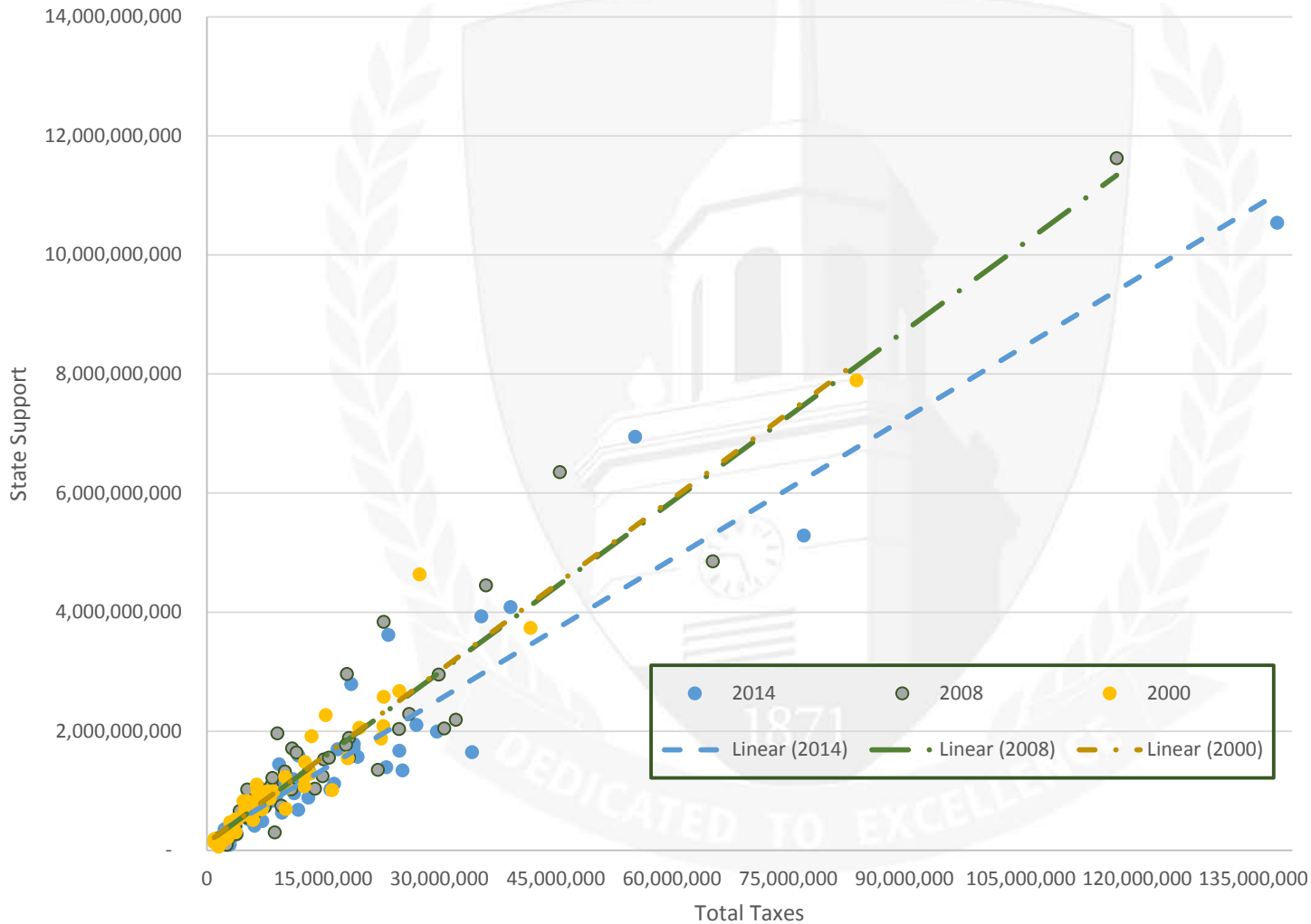
- 14 STATES OVER THE 2000-2014 PERIOD HAD CONSTANT STATE SUPPORT FUNDING ACCORDING TO THE MODEL.

- Although tuition increases could have made up some of the difference in some states.

- THE ANALYSIS SHOWS WHY FISCAL STRESS IS SO PREVELANT IN HIGHER EDUCATION.
 - IT ALSO SUPPORTS THE RESULTS OF STEPHEN KATSINAS' PAPER TODAY.
 - COLLECTIVE BARGAINING MATTERS BECAUSE THE POLITICAL PROCESS IS ABOUT THE PERCENTAGE OF THE STATE POT AND NOT THE LEVEL OF FUNDING NEEDED.
 - UNIONS MATTER BECAUSE THEY CAN EXERT POLITICAL POWER ON THE PROCESS TO OBTAIN MORE FUNDING WHEN COMPETING AGAINST OTHER INTERESTS.

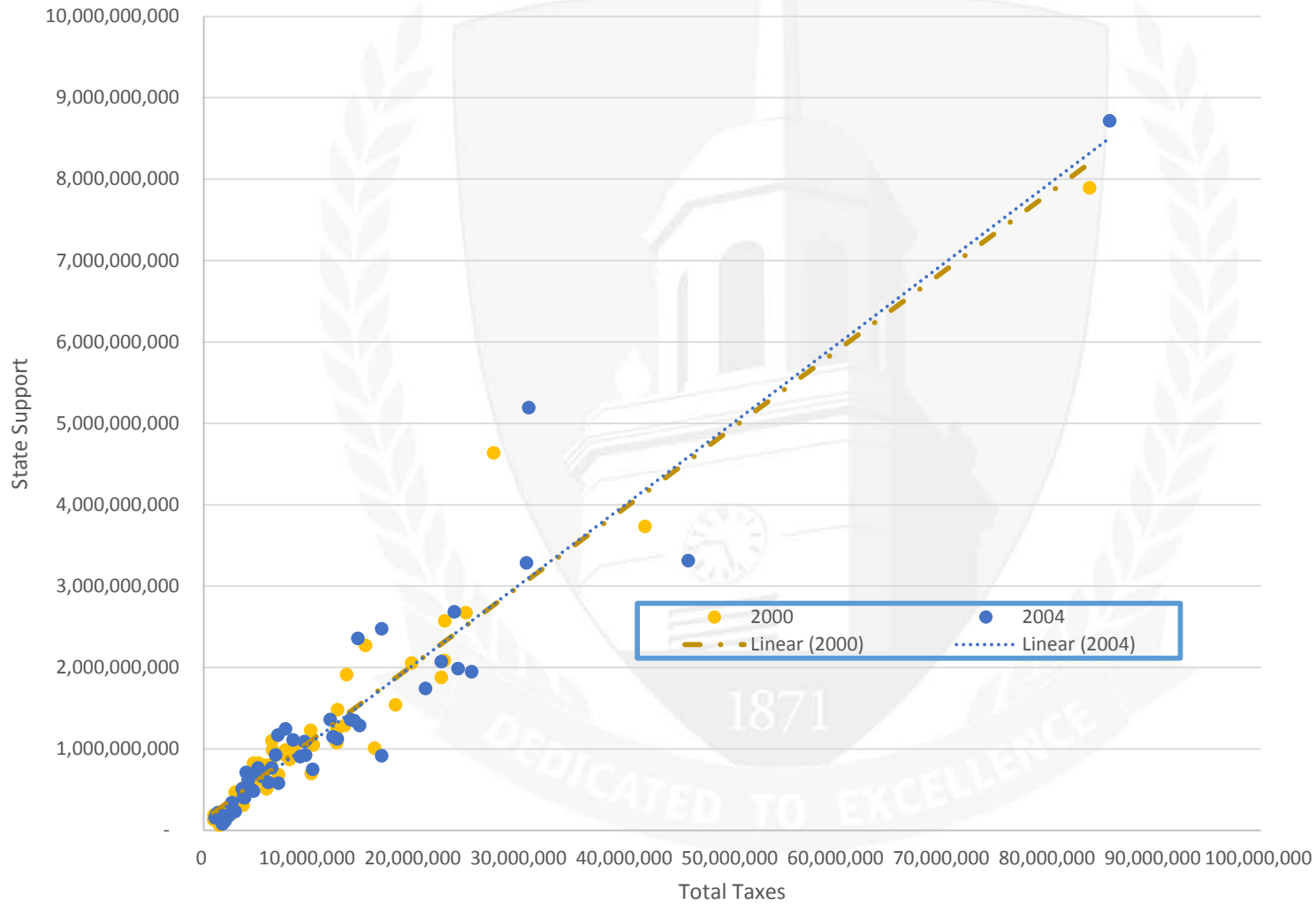
- WHAT IS THE TREND IN THIS FUNDING SINCE THE GREAT RECESSION?
 - IS HIGHER EDUCATION DOING BETTER OR WORSE IN OBTAINING ITS PIECE OF THE STATE BUDGET PIE?
 - We can look at the relationship between state support and total tax revenues to see if this relationship holds.

Relationship between Total Taxes and State Support for Higher Education (for 2000 2008 and 2014)



- One can see in 2000 and 2008 there had been a stable relationship between tax revenue and state support.
 - States with higher revenue gave more support to higher education.
 - That this data is relatively linear suggests a constant relationship (or percentage of funding) across states.
 - The 2014 trend line is substantially below 2000 and 2008 suggesting the relationship has shifted downward and higher education is now getting a lower percentage after the recession.

Relationship between Total Taxes and State Support for Higher Education
(2000 and 2004)



- So higher education is not keeping up with HEPI and is seeing a smaller percentage of the total state budget going to higher education.
- Baumol's Disease: higher education is highly labor intensive and has seen very little labor saving increases in productivity making higher education more expensive over time relative to other goods.
 - With a fixed percentage state budget model this will squeeze higher education budgets.
 - To the extent that elected officials do not understand Baumol's disease they look at higher education as being poorly managed. This may explain the shift in the trend line above.

Monetary Compensation of Faculty at America's Public Regional Universities: Does Collective Bargaining Matter?

Is a roadmap for those looking to put together a strategy to defend higher education.

This paper points out that there will not be a one size fits all solution to the funding problem. That geography and type of institution matter. That unions matter and are a positive force in funding higher education.

