

# What Determines Levels of State Support for Higher Education? Twenty Years of Evidence

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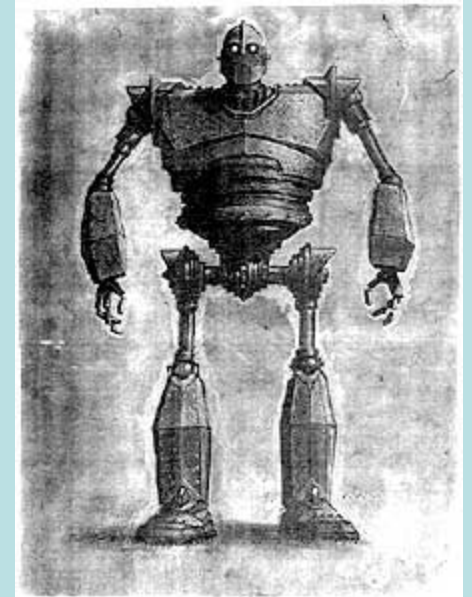
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# Higher education as a “troubled giant” 1970-2000 (Thelin, 2004)

- Higher education’s golden age (1960s) ended with questions about large public investment in colleges and universities
- Once viewed as the answer to poverty, racism, and other social ills, higher education came to be viewed as wasteful, overpriced, failing to deliver on its promises (St. John & Parsons, 2004).

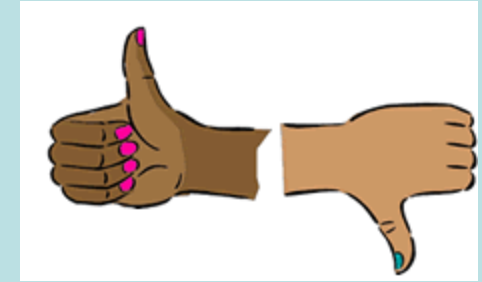


# Shifting political winds since 1980...



- “New federalism” increased state responsibilities, fueled national desire for tax cuts, decreased government spending.
- Increased state budget pressures for Medicaid, K-12 education, corrections, (Hovey, 1999)

# Unraveling state-university partnership?



- *Relative* state funding for higher education has decreased since the 1970s (although *levels* have increased almost every year). (Toutkoushian, 2006, p. 2)
- Present trends continued: rising tuition, tightening enrollments, cuts in financial aid, increased attrition rates, and decline in faculty salaries (Ehrenberg, 2006).
- Defacto privatization of higher education (Lyall & Sell, 2006)

## Asking foundational questions in hopes of renewing the state-university partnership...



- What matters most in determining levels of state support for higher education?
- What is the relative impact of state forces compared to institutional factors in determining levels of state support for public colleges and universities?
- Are there examples of some institutions that are doing “better” or “worse” than others in the context of state appropriations? If so, what can be learned from these institutions?

# Research questions guiding this study...



- What factors best explain differences in levels of state appropriations for public colleges and universities since 1985?
- In what ways do levels of support vary among various sectors of higher education—research universities, regional comprehensive universities, community colleges?
- What institutions, by Carnegie class, have historically received higher or lower state appropriations than expected?

## Literature and organizational theory framework:

What are the key drivers of state support for higher education? (Weerts, 2002)

- **Rational forces:** “data driven” strategic choices, state and institutional levels
- **Political factors:** “power driven” from the Governor down to the campus...
- **Cultural factors:** “values and symbols driven” history, tradition, purposes of higher education.

# Rational factors: state level

- **Rational choice:** Optimal decisions are made based on an objective review of data and investigation of alternative choices (Cyert & March, 1963).
- Availability of revenue
  - Unemployment rate
  - Per capita income
  - Tax capacity





# Rational factors: state level

- Demographics: demand for services
  - Percentage of “college aged” residents (18-24)
  - Percentage of population over 65



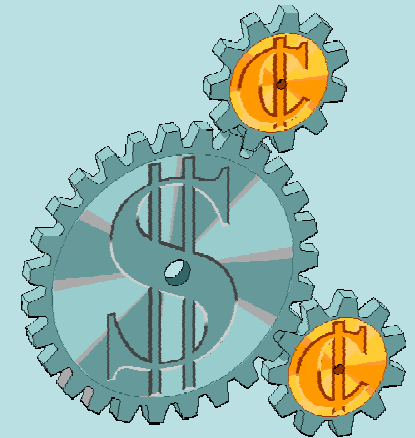
# Rational factors: institutional level

- **Competitive strategy:** leaders choose optimum strategies to compete with other resource dependent entities given regulators, competitors, and barriers (Child, 1973).



# Institutional competitive strategies...

- Link to economic development: improve tax capacity (Hines, 1988)
- Increase enrollments, although effect may be marginal (Leslie & Ramey, 1986)
- Carnegie class (support varies by mission)
- Fundraising (in states with matching gift programs). But may have opposite effect than intended (Rizzo, 2006)



# Political factors: State level

- **Strategic contingency:**  
course of an organization  
determined by power actors  
that best manage uncertainty  
(Scott, 1992)
  - Governor, Legislators, System  
leaders
  - Mixed evidence regarding  
impact of party (McLendon et al  
2006, Stampen & Reeves,  
1986)



# Political factors: State level

- **Resource dependency:** power and influence among competing organizations (Pfeffer & Salancik, 1978).
  - K-12 education, health care, corrections (Hovey, 1999) Court mandated K-12 reform (Rizzo, 2006)
  - Governance structure, power struggles among campuses (Lowry, 2001; Weerts & Ronca, 2006)



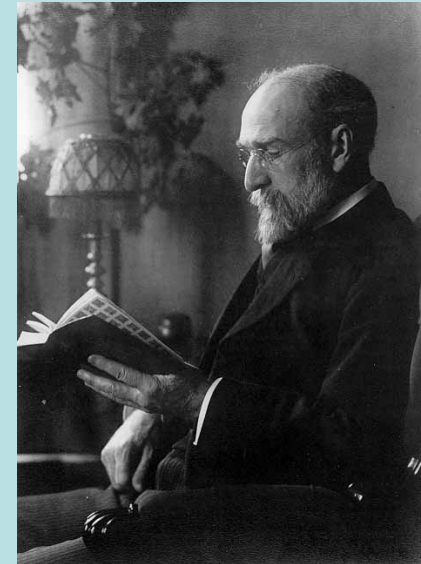
# Political factors: Institutional level

- **Strategic contingency:** campus level
  - Institutional presidents, trustees, influential alumni
- **Coalition building:** subsets of individuals and groups that share consensual goals and work toward a common end (Cyert & March, 1963).
  - Business and community partnerships
  - Virginia Higher Education Business Council (1990s)



# Cultural Factors: State level

- **Enactment theory:** decisions are driven by assumptions of “how things should be”
  - Overall value accorded to public higher education, progressive, civically engaged more likely to support education
  - Regional context: manufacturing vs. knowledge industry, public confidence in public agencies, reliance on private higher education



# Cultural Factors: State level

- **Obligatory action:** “state will treat higher education appropriately in exchange for being treated appropriately” (Symbolic decisions)
  - Community engagement linked to support (Weerts & Ronca, 2006)
  - Cuts in support as punishment? (Ward Churchill, etc.)





# Cultural Factors: institutional theory

- **Institutional theory:** formal structures have meaning and importance regardless of whether they affect the behaviors of performers in the technical core (Meyer & Rowan, 1977).
  - Land grant status, symbolic?
  - Outreach and engagement programs, perception or reality?



## Drivers of State Support for Higher Education: A Theoretical Framework (Weerts, 2002)

	<b>Rational Perspective “Data Driven”</b>	<b>Political Perspective “Power Driven”</b>	<b>Cultural Perspective “Values/Symbols Driven”</b>
State Level	<u>Rational Choice and Bounded Rationality</u> Economic: 1. unemployment rate 2. state tax capacity 3. per capita income 4. inflation vs. recession 5. per capita taxes 6. economic development Demographic: 1. State population 2. Population of college-age residents (18-24) 3. Participation rates	<u>Strategic Contingency</u> 1. Gubernatorial influences 2. Legislative influences 3. System/Governance leadership  <u>Resource Dependency</u> 1. Competing State Priorities 2. K-12 education 3. Corrections 4. Health care 5. Type of governance structure	<u>Enactment/Obligatory Action</u> 1. State/public value accorded to education (historical and current) and public programs generally. 2. Public attitudes/perceived contribution of higher education as a public good 3. Strength of private universities  <u>Symbolic Decision-Making</u> 1. Gubernatorial support 2. Legislative support
Institutional Level	<u>Competitive Strategy</u> Institutional strategies 1. Accountability 2. Quality 3. Access/Outreach 4. Revenues/Expenditures	<u>Coalition Building</u> 1. Private/public coalitions and partnerships 2. Political alliances	<u>Institutional Theory</u> 1. University relations and lobbying 2. Campus visibility 3. Structures to promote public engagement

# Methodology

- Model annual changes in state appropriations for higher education via a mixed effects model
- Random effects model: nested structure of the data
- Goal: analyze cross-sectional data for all states in a single year and individual states or institutions over time
  - Identify covariates most closely related to the varying levels of state appropriations public institutions can expect to receive.
  - Partition the residual variance into its component parts to better understand the sources of unexplained variation in state funding (inform future research)

# Data sources

- Units of analysis: All degree-granting public institutions in the U.S.; offer at least an associate's degree, enroll undergraduates, and data is available every year from 1985 to 2004. 1053 institutions meet these criteria, all are included.
- Analysis employs a panel dataset of 21 variables from theoretical framework observed over a twenty-year period: 1985 to 2004.

# Carnegie Classification Variables

<b>CNEGIE1</b> Community and technical colleges	<b>CNEGIE2</b> Regional comprehensive colleges and universities	<b>CNEGIE3</b> Research universities
<ul style="list-style-type: none"> <li>● Associates Colleges</li> </ul>	<ul style="list-style-type: none"> <li>● Masters Colleges and Universities I</li> <li>● Masters Colleges and Universities II</li> <li>● Baccalaureate Colleges-- Liberal Arts</li> <li>● Baccalaureate Colleges-- General</li> <li>● Baccalaureate/Associates Colleges</li> </ul>	<ul style="list-style-type: none"> <li>● Doctoral/Research Universities— Extensive</li> <li>● Doctoral/Research Universities— Intensive</li> </ul>

**SOURCE:**

Carnegie Foundation for the Advancement of Teaching (2002). *The Carnegie Classification of Institutions of Higher Education, 2000 Edition*. Menlo Park: The Carnegie Foundation for the Advancement of Teaching. Retrieved July 10, 2006 from

<http://www.carnegiefoundation.org/classifications/index.asp?key=809>

# Expected relationships: Variables assigned to theoretical framework

- Rational: state level (economic)
  - Per capita personal income (+)
  - State unemployment rate (%) (-)
  - Total state revenues (\$) (+)
- Rational: state level (demographic)
  - % of state population age 5-24 (-)
  - % of “college age” residents 18-24 (+)
  - % of population over 65 (-)

# **Expected relationships: Variables assigned to theoretical framework**

- Rational perspective: institutional level
  - Carnegie class (+ for CC, - for research)
  - Total \$ of private gifts, grants, and contracts (mixed)
  - Total undergraduate enrollment (+)

# Expected relationships: Variables assigned to theoretical framework

- Political: state level (strategic contingency)
  - Party of the governor (R/D) (- R)
  - % republicans in the assembly (-R)
  - % republicans in the senate (-R)
- Political: state level (resource dependency)
  - K-12, health care, corrections spending per capita (-)
  - K-12 court reform occurred (-)
  - Governing board type (+ for consolidated)
  - Number of flagship-type institutions in the state (- for research univs. with increase in number)



# Expected relationships: Variables assigned to theoretical framework

- Cultural: state level (enactment)
  - % of private college enrollment (-)
  - % of two year college enrollment (+ for CC)
  - % voter participation (presidential/congressional) (+)
  - Number of public institutions in a state (+)
- Cultural: institutional level (institutional theory)
  - Land grant status (+)

# Findings: Rational perspectives

- **State level (economic)**
  - **PCINC**: increased appropriations associated with increases in per capita personal income
  - **UERATE**: decreased appropriations associated with increases in state unemployment rate
- **State level (demographic)**
  - **CPOPLN**: decreased appropriations associated with increases in % of population 18-24: college age

# Findings: Rational perspectives

- **Institutional level**

- **CNEGIE:** Appropriations least volatile for community colleges, cuts more likely for masters and research universities
- Community colleges may be favored due to their open access, relatively inexpensive cost of instruction, and overall dependence on public revenues for survival (see Rizzo, 2006).

# Findings: Political perspectives

- State level (strategic contingency)
  - **GOVPRT**: increased appropriations associated with republican governors

*“There tends to be a belief in the academy that democrats treat higher education better than republicans, but such perceptions don’t reflect what happens in the real world of politics”*

Patrick Callan, President, National Center for Public Policy and Higher Education (Schmidt, 2005, p. A14).

# Findings: Political perspectives

- Resource dependency: financial
  - **PCEDUC**: decreased appropriations associated with increased K-12 education spending per capita
  - **PCHLTH**: decreased appropriations associated with increased health care spending per capita
  - **PCCORR**: decreased appropriations when associated with increased corrections spending per capita
- Resource dependency: structural
  - **COURT**: decreased appropriations associated with states that underwent K-12 court mandated reform

# Findings: Cultural perspectives

- **PRSVPR:** increased appropriations associated with increased % of presidential election voter participation
- **NUMPUB:** increased appropriations associated with increases in # of public institutions in a state)
- **PCINC--NUMPUB:** increased appropriations associated with high per capita income and large number of public institutions.

# Implications and observations...

- Institutional factors, overall (total enrollment, land grant status, private grant support) mattered little in comparison to state level variables.
- Implications: do state level variables “trump” campus efforts to gain state support? Or, did we fail to capture relevant institutional variables in our model?

# The power of state culture...

- 10% of the variability in public funding for higher education occurs between states rather than within states: almost none of the variance explained at the institutional level
- Funding patterns for research universities and community colleges in the same state are more similar than the funding patterns for two flagships in two different states.



# The power of state culture...

- After “differencing” data, we can only find evidence of autocorrelation between 3% and 7%.
- Implication: each institution’s annual budget is simply an adjusted version of the previous year’s budget.
- Supports enactment theory: decisions are driven by assumptions of “how things have always been”

# Limitations and future research

- Lack of data and defined variables that align with constructs in our theoretical framework.
- Relatively short time series: data collected from 1985, earliest period for which data was readily available.
- Not a single institution-level covariate remained in the model: Institutions irrelevant in explaining funding levels? Or have we failed to consider the relevant covariates?

# Toward a qualitative analysis...

- Generated a list of institutions ordered by residual values.
- Determine those institutions best fit (residuals of approximately zero) and worst fit (large absolute values of residuals) by the present model.
- Result: list of higher and lower than expected appropriations by Carnegie class

**Table 5: Typology of state appropriation levels by institutional type**

	<b>Higher than predicted appropriations</b>	<b>Lower than predicted appropriations</b>
<b>Research Universities</b> Doctoral/Research Universities—Extensive (E) and Intensive (I)	<u>Doctoral/Research Extensive</u> 1) SUNY- Stony Brook 2) SUNY- Buffalo 3) Northern Illinois <u>Doctoral/Research Intensive</u> 1) UMASS- Lowell 2) Texas A & M Kingsville 3) Texas Southern University	<u>Doctoral/Research Extensive</u> 1) Virginia Commonwealth 2) University of Oregon 3) University of Virginia 4) UMASS-Amherst <u>Doctoral/Research Intensive</u> 1) San Diego State 2) SUNY—Env and Forestry College 3) North Dakota State University
<b>Regional Comp. Universities</b> Master’s Colleges and Universities—I and II	<u>Masters Colleges I</u> 1) Worcester State College (MA) 2) Minot State University 3) Bridgewater State College (MA) <u>Masters Colleges II</u> 1) Thomas Edison State College 2) University of Mary Washington 3) SUNY- Purchase	<u>Masters Colleges I</u> 1) CUNY City College 2) Virginia State University 3) CUNY College of Staten Island <u>Masters Colleges II</u> 1) Castleton State College 2) Lake Superior State 3) Eastern Oregon State
<b>Two-Year Colleges</b> (Associate’s Colleges)	1) Mt. San Jacinto Community College District (San Jacinto, CA) 2) Feather River Community College District (Quincy, CA) 3) Cuesta College (San Luis Obispo, CA)	1) Skyline College (San Bruno, CA) 2) College of Marin (Kentfield, CA) 3) Canada College (Redwood City, CA)

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# Discussion... Implications for Wisconsin?

