Cui Bono? How Employee Fringe Benefits Contribute to College Costs

Braden J. Hosch, Ph.D.
Asst. Vice President for Institutional Research, Planning & Effectiveness
Stony Brook University
June 2, 2016
Research questions

• How do employee fringe benefits contribute to core education costs on a per student (not per employee) basis?

• How do benefits costs vary by sector, by state, and over time?

• To what extent do benefits costs relate to increased prices and/or revenues from students?
Principal findings

• Benefits costs for education & related (E&R) spending averaged $2,880 per FTE student in FY 2014
  • 17.2% of all E&R spending
  • 28.7% of net tuition and fee revenue

• Wide variation among states and sectors

• Increase observed in per student costs in constant dollars and share over time

• Minimal relationship to increases in tuition revenue.
**Methods**

- Adopted “education & related” expenses construct from Delta Cost Project
- Harvested IPEDS universe for 2003-04, 2008-09 and 2013-14
- Adjustments to
  - Push “parent” institution revenues/expenses to “child” institutions
  - Back out depreciation, interest, and operations & maintenance
  - Convert to constant 2014 dollars using CPI
- Examined benefits component of remaining E&R expense
  - As share of total
  - Per FTE enrollment
Education & Related (E&R) Expenses

Developed by the Delta Cost Project to measure spending on student-related education

\[ E&R = \text{Instruction} + \text{Student Services} + \text{share}*\text{overhead} \]


\[ \text{Share} = \frac{\text{(Instruction} + \text{Student Services})}{\text{(Instruction} + \text{Student Services} + \text{Research} + \text{Public Service})} \]
Limitations and Considerations

- IPEDS Finance Survey
  - Different accounting standards by sector
  - Changes over 10 year period
  - Front-line accounting affects institutional reporting
- States and localities cover varying proportions of benefits for public institutions
- Post-retirement benefits included for private institutions but not public institutions
- State/local activity to “catch up” on underfunded benefits affects metrics
## IPEDS Finance differences by institution control

<table>
<thead>
<tr>
<th></th>
<th>Public</th>
<th>Private Not-For-Profit</th>
<th>Private For Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Standard</td>
<td>Almost all GASB</td>
<td>FASB</td>
<td>FASB [condensed]</td>
</tr>
<tr>
<td>Expenses by function and natural classification</td>
<td>FY 2010* -</td>
<td>FY 1998 -</td>
<td>FY 2014-</td>
</tr>
<tr>
<td>Benefits costs</td>
<td>Often covered by state/local govt, with many costs but listed on institution expenses</td>
<td>Covered by institution</td>
<td>Covered by institution or parent company</td>
</tr>
<tr>
<td>Post-retirement benefit expenses</td>
<td>Not included until FY 2015</td>
<td>Included</td>
<td>Included</td>
</tr>
</tbody>
</table>
## Adjustments to Remove Operations & Maintenance, Depreciation, and Interest

**Example: Stony Brook Expenses, 2013-14**

<table>
<thead>
<tr>
<th>Functional Expense</th>
<th>Total</th>
<th>Salaries &amp; wages</th>
<th>Fringe benefits</th>
<th>Oper. &amp; maint.</th>
<th>Deprec.</th>
<th>Interest</th>
<th>All other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction</td>
<td>$479.1</td>
<td>$215.4</td>
<td>$133.4</td>
<td>$60.6</td>
<td>$26.2</td>
<td>$19.0</td>
<td>$24.4</td>
</tr>
<tr>
<td>Student serv</td>
<td>$51.5</td>
<td>$19.1</td>
<td>$11.2</td>
<td>$7.2</td>
<td>$3.1</td>
<td>$2.3</td>
<td>$8.7</td>
</tr>
<tr>
<td>Research</td>
<td>$117.4</td>
<td>$61.4</td>
<td>$24.4</td>
<td>$4.8</td>
<td>$2.1</td>
<td>$1.5</td>
<td>$23.1</td>
</tr>
<tr>
<td>Public service</td>
<td>$25.6</td>
<td>$12.5</td>
<td>$6.8</td>
<td>$1.9</td>
<td>$0.8</td>
<td>$0.6</td>
<td>$3.1</td>
</tr>
<tr>
<td>Academic support</td>
<td>$120.4</td>
<td>$41.3</td>
<td>$27.3</td>
<td>$19.4</td>
<td>$11.1</td>
<td>$6.1</td>
<td>$15.2</td>
</tr>
<tr>
<td>Institutional support</td>
<td>$119.4</td>
<td>$51.9</td>
<td>$29.8</td>
<td>$6.5</td>
<td>$2.8</td>
<td>$2.0</td>
<td>$26.4</td>
</tr>
</tbody>
</table>
Overall findings: In constant (2014) dollars, state appropriations revenue has decreased, but spending on the E&R portion of benefits has increased.

* State and local appropriations exist in these sectors but are less germane to this analysis.
## Overall findings, FY 2014

<table>
<thead>
<tr>
<th>Sector</th>
<th>FTE Enrollment (millions)</th>
<th>E&amp;R spending ($ billions)</th>
<th>E&amp;R benefits ($ billions)</th>
<th>Net Tuition &amp; Fees Revenue ($ billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public 4-year</td>
<td>6.9</td>
<td>113.3</td>
<td>22.9</td>
<td>61.0</td>
</tr>
<tr>
<td>Public 2-year</td>
<td>3.9</td>
<td>38.3</td>
<td>7.5</td>
<td>9.5</td>
</tr>
<tr>
<td>Private, non-profit 4-year</td>
<td>3.5</td>
<td>96.6</td>
<td>14.5</td>
<td>68.1</td>
</tr>
<tr>
<td>All for profit</td>
<td>1.7</td>
<td>19.5</td>
<td>1.2</td>
<td>22.2</td>
</tr>
<tr>
<td>Other</td>
<td>0.1</td>
<td>1.3</td>
<td>0.2</td>
<td>0.7</td>
</tr>
<tr>
<td>Total</td>
<td>16.1</td>
<td>269.1</td>
<td>46.3</td>
<td>161.5</td>
</tr>
</tbody>
</table>

FTE based on NCES fall headcount method. Institution N = 7,428
## Overall findings, FY 2014

<table>
<thead>
<tr>
<th>Sector</th>
<th>E&amp;R spending (per FTE)</th>
<th>E&amp;R benefits (per FTE)</th>
<th>Tuition &amp; Fee Revenue (per FTE)</th>
<th>Benefits as pct of E&amp;R</th>
<th>E&amp;R Benefit Costs as pct of Tuition Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public 4-year</td>
<td>16,529</td>
<td>3,336</td>
<td>8,904</td>
<td>20.2%</td>
<td>37.5%</td>
</tr>
<tr>
<td>Public 2-year</td>
<td>9,700</td>
<td>1,907</td>
<td>2,401</td>
<td>19.7%</td>
<td>79.4%</td>
</tr>
<tr>
<td>Private, non-profit 4-year</td>
<td>27,760</td>
<td>4,180</td>
<td>19,571</td>
<td>15.1%</td>
<td>21.4%</td>
</tr>
<tr>
<td>All for profit</td>
<td>11,389</td>
<td>688</td>
<td>12,976</td>
<td>6.0%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Other</td>
<td>15,166</td>
<td>2,218</td>
<td>7,800</td>
<td>14.6%</td>
<td>28.4%</td>
</tr>
<tr>
<td>Total</td>
<td>16,728</td>
<td>2,880</td>
<td>10,042</td>
<td>17.2%</td>
<td>28.7%</td>
</tr>
</tbody>
</table>

FTE based on NCES fall headcount method. Institution N = 7,428
# Overall findings, FY 2014

<table>
<thead>
<tr>
<th></th>
<th>Public, 4-year</th>
<th>Public, 2-year</th>
<th>Private non-profit, 4-year or above</th>
<th>Private for-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dollars per FTE Enrollment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E&amp;R Spending</td>
<td>16,529</td>
<td>8,904</td>
<td>27,760</td>
<td>11,389</td>
</tr>
<tr>
<td>Tuition Revenue</td>
<td>3,336</td>
<td>2,401</td>
<td>19,571</td>
<td>12,976</td>
</tr>
<tr>
<td>E&amp;R Benefits Spending</td>
<td>9,700</td>
<td>1,907</td>
<td>4,180</td>
<td>688</td>
</tr>
</tbody>
</table>

FTE based on NCES fall headcount method
E&R benefits costs have increased across sectors (constant $ 2014)

<table>
<thead>
<tr>
<th></th>
<th>Public, 4-year</th>
<th>Public, 2-year</th>
<th>Private non-profit, 4-year or above</th>
<th>Private for-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>2,576</td>
<td></td>
<td>3,453</td>
<td>0</td>
</tr>
<tr>
<td>2008-09</td>
<td>3,074</td>
<td>1,538</td>
<td>4,002</td>
<td>0</td>
</tr>
<tr>
<td>2013-14</td>
<td>3,336</td>
<td>1,746</td>
<td>4,180</td>
<td>688</td>
</tr>
</tbody>
</table>

E&R Benefits (2014$) per FTE Enrollment
E&R benefits costs as proportion of total E&R spending have increased

<table>
<thead>
<tr>
<th>Year</th>
<th>Public, 4-year</th>
<th>Public, 2-year</th>
<th>Private non-profit, 4-year or above</th>
<th>Private for-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>18.4%</td>
<td>17.9%</td>
<td>14.2%</td>
<td>6.0%</td>
</tr>
<tr>
<td>2008-09</td>
<td>19.6%</td>
<td>18.8%</td>
<td>14.7%</td>
<td></td>
</tr>
<tr>
<td>2013-14</td>
<td>20.2%</td>
<td>19.7%</td>
<td>15.1%</td>
<td></td>
</tr>
</tbody>
</table>

Benefits as pct of E&R
E&R benefits costs as proportion of state & local appropriations have increased

<table>
<thead>
<tr>
<th></th>
<th>Public, 4-year</th>
<th>Public, 2-year</th>
<th>Private non-profit, 4-year or above</th>
<th>Private for-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>27.9%</td>
<td>26.2%</td>
<td>2003-04</td>
<td>2003-04</td>
</tr>
<tr>
<td>2008-09</td>
<td>34.6%</td>
<td>26.7%</td>
<td>2008-09</td>
<td>2008-09</td>
</tr>
<tr>
<td>2013-14</td>
<td>47.2%</td>
<td>32.1%</td>
<td>2013-14</td>
<td>2013-14</td>
</tr>
</tbody>
</table>

...
E&R benefits costs per FTE enrollment show wide variation among states

Public 4-Year, FY 2014
E&R benefits costs per FTE enrollment show wide variation among states

Public 2-year, FY 2014
E&R benefits costs per FTE enrollment show wide variation among states

Private non-profit 4-Year, FY 2014
E&R benefits costs per FTE enrollment show wide variation among states

Private for profit, FY 2014
Benefits as a percent of E&R spending
Public, 4-year FY 2004
Benefits as a percent of E&R spending
Public, 4-year FY 2009

Stony Brook University

United States

25.0%
28.2%
27.4%
15.2%
24.5%
16.6%
17.9%
22.1%
21.9%
21.8%
21.6%
22.3%
21.3%
20.7%
19.0%
20.5%
28.8%
15.0%
17.7%
21.3%
20.1%
23.8%
19.9%
18.3%
17.7%
17.1%
16.4%
19.8%
17.1%
18.1%
18.1%
18.2%
18.9%
16.1%
16.9%
16.9%
15.5%
Benefits as a percent of E&R spending
Public, 4-year FY 2014
Benefits as a percent of E&R spending
Public, 2-year FY 2004
Benefits as a percent of E&R spending
Public, 2-year FY 2009
Benefits as a percent of E&R spending
Public, 2-year FY 2014
Benefits as a percent of E&R spending
Private Not-for-profit, 4-year FY 2004
Benefits as a percent of E&R spending
Private Not-for-profit, 4-year FY 2009
Benefits as a percent of E&R spending
Private Not-for-profit, 4-year FY 2014
States with higher debt and unfunded pension and health care liability spent more on E&R benefits per FTE in 4-year public institutions

$R^2 = 0.19$
States with higher debt and unfunded pension and health care liability spent more on E&R benefits per FTE in 2-year public institutions.
Proportions of E&R spent on benefits in the public sector may influence spending in the 4-year private not-for-profit sector.

\[ R^2 = 0.13 \]
Ten-year change in published tuition & fees (constant $2014) increased as a function of the proportion of benefits in E&R spending only in the 4-year private not for profit sector.
No relationship observed between change in tuition & fee revenue per FTE and share of benefits within E&R spending
Conclusions (1)

- Benefits costs are increasing for all sectors at a rate that exceeds CPI (even HEPI)

- Benefits costs are not universally problematic across higher education

- But high costs in some states and institutions will place downward pressure on spending in other areas. States with potential public sector issues:

  * High benefits spending in 2-year and 4-year sector
  † High benefits spending in 2-year sector only
Conclusions (2)

• But high costs in some states and institutions will place downward pressure on spending in other areas. States with potential public sector issues:

  Illinois  
  Connecticut*  
  Vermont  
  New York  
  Delaware  

  Hawaii  
  California  
  Oregon  
  Wisconsin†

* High benefits spending in 2-year and 4-year sector
† High benefits spending in 2-year sector only
Conclusions (3)

• Increases in tuition and fees revenues are generally unrelated to increases in benefits costs, meaning
  • Benefits costs are eating into other revenue sources
  • Contributing to unfunded liabilities on public balance sheets
Conclusions (4)

• Institutions have little short-term control but some long-term control over benefits costs

• Potential approaches
  • Private institutions: continue to monitor, manage
  • Public institutions:
    • Understand benefits effects on local spending (to what extent are benefits depressing operations revenues?)
    • Work with policymakers to fashion longer-term cost controls (increased use of 403b plans, reasonable health care cost sharing with balanced premiums and deductibles)
Discussion and Questions

Contact info:

Braden J. Hosch
Asst. Vice President for Institutional Research, Planning & Effectiveness
Stony Brook University
Braden.Hosch@stonybrook.edu

Thank you!
Cui Bono? How Employee Fringe Benefits Contribute to College Costs

Braden J. Hosch, Ph.D.
Asst. Vice President for Institutional Research, Planning & Effectiveness
Stony Brook University
June 2, 2016