Whither Knowledge: Notes on the Credibility of Evidence for Policy

Michael J. Feuer
Dean
Graduate School of Education and Human Development
The George Washington University

CGS Research and Policy Forum
Washington
March 6, 2017
“Strategic” philanthropy + uncertain science budgets + increased supply of researchers

**Competition and its effects on the quality, objectivity, and credibility of evidence**

- US science policy
  - 19th and 20th century innovations
  - Recurrent battles
- Philanthropy
  - Brake and accelerator
  - Wealth and its discontents
- Our appetite for knowledge
  - Think tanks and their discontents
  - What do policymakers need or want?
- Some modest proposals
• Milestones
  – APS, AAAS, AAAS, NAS, NAEd, OTA, OAC*
  – Vannevar Bush, John Steelman
  – Government-university-industry partnership

• Duality of science:
  – production
  – consumption

*Office of Acronym Control
Founding of the National Academy of Sciences, 1863
Federal Funding for R & D, selected categories, 1955-2014

Take out your microscopes
On the brighter side...

Doctoral Degrees Conferred, Selected Fields, 1970-2013

But behind the silver lining...

Award rates, selected agencies
On the private side: “foundations” of science

- Wealth and altruism
- Andrew Carnegie and beyond
- Shifting stands
- Rhetoric and reaction
More good news: American generosity

<table>
<thead>
<tr>
<th>Country</th>
<th>CAF World Giving Index ranking</th>
<th>CAF World Giving Index score (%)</th>
<th>Helping a stranger average (%)</th>
<th>Donating money average (%)</th>
<th>Volunteering time average (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myanmar</td>
<td>1</td>
<td>70</td>
<td>63</td>
<td>91</td>
<td>55</td>
</tr>
<tr>
<td>United States of America</td>
<td>2</td>
<td>61</td>
<td>73</td>
<td>63</td>
<td>46</td>
</tr>
<tr>
<td>Australia</td>
<td>3</td>
<td>60</td>
<td>68</td>
<td>73</td>
<td>40</td>
</tr>
<tr>
<td>New Zealand</td>
<td>4</td>
<td>59</td>
<td>61</td>
<td>71</td>
<td>44</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>5</td>
<td>57</td>
<td>61</td>
<td>61</td>
<td>49</td>
</tr>
<tr>
<td>Canada</td>
<td>6</td>
<td>56</td>
<td>65</td>
<td>65</td>
<td>38</td>
</tr>
<tr>
<td>Indonesia</td>
<td>7</td>
<td>56</td>
<td>43</td>
<td>75</td>
<td>50</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>8</td>
<td>54</td>
<td>61</td>
<td>69</td>
<td>33</td>
</tr>
<tr>
<td>Ireland</td>
<td>9</td>
<td>54</td>
<td>56</td>
<td>65</td>
<td>40</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>10</td>
<td>53</td>
<td>75</td>
<td>63</td>
<td>21</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>11</td>
<td>52</td>
<td>67</td>
<td>62</td>
<td>27</td>
</tr>
<tr>
<td>Kenya</td>
<td>12</td>
<td>52</td>
<td>70</td>
<td>44</td>
<td>42</td>
</tr>
<tr>
<td>Netherlands</td>
<td>13</td>
<td>52</td>
<td>55</td>
<td>66</td>
<td>33</td>
</tr>
<tr>
<td>Norway</td>
<td>14</td>
<td>50</td>
<td>52</td>
<td>67</td>
<td>31</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>15</td>
<td>50</td>
<td>49</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>Malta</td>
<td>16</td>
<td>49</td>
<td>47</td>
<td>73</td>
<td>28</td>
</tr>
<tr>
<td>Iceland</td>
<td>17</td>
<td>49</td>
<td>52</td>
<td>70</td>
<td>26</td>
</tr>
<tr>
<td>Bhutan</td>
<td>18</td>
<td>49</td>
<td>52</td>
<td>56</td>
<td>39</td>
</tr>
<tr>
<td>Kuwait</td>
<td>19</td>
<td>48</td>
<td>78</td>
<td>48</td>
<td>17</td>
</tr>
<tr>
<td>Denmark</td>
<td>20</td>
<td>47</td>
<td>54</td>
<td>62</td>
<td>23</td>
</tr>
</tbody>
</table>
Milestones in philanthropy

- **1907**
  - Russell Sage, $10M

- **1911**
  - Carnegie Corporation, $130M

- **1913**
  - Rockefeller, $35M

- **1917**
  - *Charitable deduction*

Since then:

<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kellogg</td>
<td>1930</td>
</tr>
<tr>
<td>Ford</td>
<td>1936</td>
</tr>
<tr>
<td>Lily</td>
<td>1937</td>
</tr>
<tr>
<td>Packard</td>
<td>1964</td>
</tr>
<tr>
<td>Buffett</td>
<td>1964</td>
</tr>
<tr>
<td>Hewlett</td>
<td>1966</td>
</tr>
<tr>
<td>Mellon</td>
<td>1969</td>
</tr>
<tr>
<td>MacArthur</td>
<td>1970</td>
</tr>
<tr>
<td>Walton</td>
<td>1987</td>
</tr>
<tr>
<td>Broad</td>
<td>1999</td>
</tr>
<tr>
<td>Gates</td>
<td>2000</td>
</tr>
</tbody>
</table>
Turbulence and growth

Growth rate of number of large US foundations, 50-year trend

New “large” foundations established in the 1990’s: 8,139 (Fleishman)

Total number of large foundations (assets > $1M), by end of 1990’s: ~ 22,000
Number of family foundations: ~ 41,000
Largest foundation today: Gates, ~$44B
Second largest: Ford, ~$12B
Gates spending on education, 2002-2012: ~$2.3B
Today’s crowded scene

Top Twenty Foundations by Spending on Education, 2012, in millions

Source: Author’s computations based on data from Foundation Center, 2015
Top Ten Foundations by Spending on Education, 2002, in millions*

Bill & Melinda Gates Foundation: $394.6
Lilly Endowment Inc.: $389.6
Annenberg Foundation: $355.2
Carnegie Corporation of New York: $118.8
Robert W. Woodruff Foundation, Inc.: $118.7
The Andrew W. Mellon Foundation: $96.8
Ford Foundation: $85.8
Mississippi Common Fund Trust: $84.9
Walton Family Foundation, Inc.: $75.6
F. W. Olin Foundation, Inc.: $64.8

Foundations with diagonal lines dropped from top-10 between 2002 and 2012.

Total spending on education by top-10 foundations, in 2012 inflation-adjusted dollars: $1.78B

Source: author's computations based on data from the Foundation Center, 2015.
Top Ten Foundations by Spending on Education, in millions, 2012

- **Bill & Melinda Gates Foundation** $326.6
- **Walton Family Foundation, Inc.** $172.7
- **Silicon Valley Community Foundation** $106.5
- **The Andrew W. Mellon Foundation** $99.5
- **W. K. Kellogg Foundation** $75.2
- **Robert W. Woodruff Foundation, Inc.** $67.1
- **The Duke Endowment** $65.2
- **John Templeton Foundation** $59.2
- **The Wallace Foundation** $53.8
- **GE Foundation** $52.2

Foundations with diamonds added to top-10 between 2002 and 2012.

Total spending on education by top-10 foundations in 2012: **$1.08B**
Cause for concern?

**FIGURE 1. Percent of major foundation grant dollars in traditional institutions versus jurisdictional challengers, 2000-2010**

Source: Sarah Reckhow and Jeffrey W. Snyder, The Expanding Role of Philanthropy in Education Politics, EDUCATIONAL RESEARCHER 2014
The greatest contribution of America’s private foundations, therefore, is in continually empowering widely diverse individuals and groups, holding a rainbow of views on every conceivable matter of social policy and civic concern, to organize themselves, to make their views heard, and to transform their ideas and dreams into reality.

We have never in the history of the United States had foundations with the wealth of the Gates Foundation and some of the other billionaire foundations ... committed now to charter schools and to evaluating teachers by test scores...

A few billion dollars in private foundation money, strategically invested every year for a decade, has sufficed to ... sustain a crusade for a set of mostly ill-conceived reforms...

The diversity of goods supplied by foundation grantees helps to create an ever evolving, contestatory, and diverse arena of civil society. Such decentralization tempers government orthodoxy...
The evidence movement

Think tanks in 2014

- N. America: 1,989
- USA: 1,830
  - 1/3 established 1981-1990
  - 91% established since 1951
- In DC: 40%
- Globally: >6,000
### Annual expenditures, selected (social science) think tanks and research organizations, 2009-2013

<table>
<thead>
<tr>
<th>Year</th>
<th>FHI</th>
<th>SRI</th>
<th>RAND</th>
<th>AIR</th>
<th>WestEd</th>
<th>Brookings</th>
<th>Urban</th>
<th>NBER</th>
<th>AEI</th>
<th>Cato</th>
<th>CAP</th>
<th>NAS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>390.9</td>
<td>419.4</td>
<td>286.7</td>
<td>314.7</td>
<td>123.4</td>
<td>100.8</td>
<td>75.0</td>
<td>41.4</td>
<td>29.1</td>
<td>24.6</td>
<td>34.7</td>
<td>321.9</td>
<td>2162.9</td>
</tr>
<tr>
<td>2010</td>
<td>514.5</td>
<td>464.1</td>
<td>289.9</td>
<td>287.8</td>
<td>118.9</td>
<td>95.9</td>
<td>69.8</td>
<td>39.2</td>
<td>31.6</td>
<td>26.2</td>
<td>37.1</td>
<td>342.7</td>
<td>2317.7</td>
</tr>
<tr>
<td>2011</td>
<td>755.4</td>
<td>646.2</td>
<td>298.5</td>
<td>279.3</td>
<td>134.8</td>
<td>100.6</td>
<td>78.1</td>
<td>40.7</td>
<td>34.2</td>
<td>23.5</td>
<td>36.4</td>
<td>369.6</td>
<td>2797.4</td>
</tr>
<tr>
<td>2012</td>
<td>680.2</td>
<td>630.3</td>
<td>286.0</td>
<td>308.9</td>
<td>139.6</td>
<td>100.9</td>
<td>78.0</td>
<td>37.4</td>
<td>33.3</td>
<td>27.0</td>
<td>35.4</td>
<td>342.9</td>
<td>2699.9</td>
</tr>
<tr>
<td>2013</td>
<td>658.9</td>
<td>612.8</td>
<td>288.7</td>
<td>342.7</td>
<td>147.8</td>
<td>102.0</td>
<td>79.6</td>
<td>36.7</td>
<td>35.7</td>
<td>25.5</td>
<td>38.8</td>
<td>313.9</td>
<td>2683.0</td>
</tr>
</tbody>
</table>

Source: IRS Form 990; for WestEd audited financial statements provided

12 Organizations spent about $2.6B in 2013

Is competition a good thing?
Threats to credibility: procedural

**NYT Sept 2014**

“Foreign Powers Buy *Influence at Think Tanks*”

**NYT Aug 2016**

“Think tanks are seen as independent, but their scholars often push donors’ agendas, amplifying a culture of corporate influence in Washington”
Threats to credibility: substantive

Nate Silver:
“Clinton is a 71 percent favorite to win the election according to our polls-only model and a 72 percent favorite according to our polls-plus model...”
--November 8, 2016 10:41 am

Timothy Egan, NYT, Nov 11, 2016:
“... Read your horoscope; it’s far more likely to be accurate.”
“I'm right there in the room, and no one even acknowledges me.”
Pre and post Nov 9

MJF, circa summer 2016:

“Americans may flirt with stupidity but they buy knowledge.”

Scottie Nell Hughes, circa November 2016:

“People that say that facts are facts — they’re not really facts . . . there’s no such thing, unfortunately …”
How much do you trust the data about the economy that is reported by the federal government? Do you...?

- not trust it at all
- somewhat distrust it
- don't know
- somewhat trust it
- completely trust it

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Clinton voters</th>
<th>Trump voters</th>
<th>Other (Johnson, Stein, etc.)</th>
<th>Undecided/Will not vote/refused</th>
</tr>
</thead>
<tbody>
<tr>
<td>not trust it at all</td>
<td>15.4%</td>
<td>8.4%</td>
<td>25.0%</td>
<td>4.8%</td>
<td>2.7%</td>
</tr>
<tr>
<td>somewhat distrust it</td>
<td>30.2%</td>
<td>55.8%</td>
<td>47.5%</td>
<td>30.1%</td>
<td>29.1%</td>
</tr>
<tr>
<td>don't know</td>
<td>10.4%</td>
<td>40.1%</td>
<td>21.5%</td>
<td>31.0%</td>
<td>39.5%</td>
</tr>
<tr>
<td>somewhat trust it</td>
<td>2.9%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>completely trust it</td>
<td>39.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What to do?

Logic model of the current situation

Government

Philanthropy

Evidence for use
## Congenital optimism?

<table>
<thead>
<tr>
<th>Policy option</th>
<th>+</th>
<th>−</th>
<th>Probability of adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tweak the tax</td>
<td>Improved accountability</td>
<td>Where to set the dial?</td>
<td>.5</td>
</tr>
<tr>
<td>Vertical integration</td>
<td>Increased specificity in education advice</td>
<td>Will Congress be interested?</td>
<td>.00001</td>
</tr>
<tr>
<td>Accounting for science</td>
<td>Collaboration and dialog</td>
<td>Who will pay?</td>
<td>.1</td>
</tr>
<tr>
<td>Advisers’ Summit</td>
<td>New approach to indicators</td>
<td>Collective action is costly</td>
<td>.5</td>
</tr>
</tbody>
</table>
For more...

Thank you

Mjfeuer@gwu.edu