Measuring Returns to Education: What Has Changed?

Samantha Alvis
Mickey Leland International Hunger Fellow
Associate Director, International Development and Programs
Association of Public and Land-grant Universities
Gross enrollment levels in higher education around the world

Adapted from “African higher education: Opportunities for transformative change for sustainable development” by the Knowledge Center for Advancing Development through Higher Education, Association of Public and Land-grant Universities. (2014).
Understand how the measurements of returns to education investments have changed in the past 40 years.
Returns to Education: an updated international comparison

GEORGE PSACHAROPOULOS

One of the first questions that was asked following on from what Mary Barbour described as the human capital revolution in economic thought, was what the return on investment in the new form of capital was? Hesitantly, at best, but more or less, researchers around the world started estimating the social or private returns on educational and other human-capital-related expenditures for diverse populations from special samples, using a variety of assumptions and methodologies ranging from econometric techniques to extremely sophisticated econometric techniques.

The year 1973 was a landmark in the ‘rate of return’ literature— as it can be seen thereafter— because of the publication of the first systematic comparative study (Psacharopoulos, 1973). A total of 53 rates of return case-studies were reviewed.

This paper is an attempt to update the earlier rate of return evidence by country that had been conducted in the seventies. The result of this update is the annex of four new country cases and a revision of most of the figures in the old country set.

However, I go beyond the compilation of comparable figures and discuss the more controversial arguments that have been associated with the rate of returns. 1970s. Also, I try to give an interpretation of the summary findings following the data set.

Claudio E. Montenegro
World Bank and Department of Economics, University of Chile

&

Harry Anthony Patrinos
The World Bank Group

ABSTRACT

This paper updates evidence adding estimates for new countries, the total number of countries included confirms and reinfirms the highest returns for primary education and countries with the lowest returns for higher education.

George Psacharopoulos
The World Bank, Washington, DC
Measurement Techniques

• Elaborate
  ▫ 1973
  ▫ 1981
  ▫ 1985/86
• Earnings Function
  ▫ 1994
  ▫ 2002
  ▫ 2013
• Shortcut Method
## Returns to Investment in Education by Country Type and Level - 1981

<table>
<thead>
<tr>
<th>Region</th>
<th>Private</th>
<th>Secondary</th>
<th>Higher</th>
<th>Number of countries reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td>29</td>
<td>17</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Asia</td>
<td>16</td>
<td>12</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Latin America</td>
<td>44</td>
<td>17</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>LDC Average</td>
<td>27</td>
<td>16</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>Intermediate</td>
<td>16</td>
<td>14</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Advanced</td>
<td>*</td>
<td>10</td>
<td>9</td>
<td>14</td>
</tr>
</tbody>
</table>

* not computable because of a lack of control group of illiterates.
Returns to schooling by educational level and region - 2013

<table>
<thead>
<tr>
<th>Region</th>
<th>Primary (%)</th>
<th>Secondary (%)</th>
<th>Tertiary (%)</th>
<th>GDP/pc</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>10.3</td>
<td>6.9</td>
<td>16.8</td>
<td>6,719</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>9.4</td>
<td>3.5</td>
<td>8.9</td>
<td>3,645</td>
</tr>
<tr>
<td>South Asia</td>
<td>9.6</td>
<td>6.3</td>
<td>18.4</td>
<td>2,626</td>
</tr>
<tr>
<td>Eastern and Central Europe</td>
<td>8.3</td>
<td>4.0</td>
<td>10.1</td>
<td>6,630</td>
</tr>
<tr>
<td>High Income Economies</td>
<td>4.8</td>
<td>5.3</td>
<td>11.0</td>
<td>31.748</td>
</tr>
<tr>
<td>East Asia and Pacific</td>
<td>11.0</td>
<td>6.3</td>
<td>15.4</td>
<td>5,980</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>9.3</td>
<td>6.6</td>
<td>17.6</td>
<td>7,269</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>13.4</td>
<td>10.8</td>
<td>21.9</td>
<td>2,531</td>
</tr>
</tbody>
</table>

# Findings - Data Sources

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>44</td>
<td>61</td>
<td>78</td>
<td>98</td>
<td>131</td>
<td></td>
</tr>
</tbody>
</table>


All utilized data from other studies on returns to education

Used International Income Distribution Database
Returns

- **1973-2002**
  - Private returns to education were higher than social returns.
  - Returns to primary education were higher than at any other level for both private and social returns.
  - Returns to education in developing countries were higher than those to developed countries.

- **2013**
  - Returns to higher education were higher than at any other level
  - Did not measure social returns
Findings-Policy Implications

• Recovering the public cost of higher education and reallocating government spending on education toward with level with the highest social returns (i.e. primary);
• Developing a credit market for education, together with selective scholarships, especially in higher education;
• Decentralizing management of public education and expanding private and community supported schools (Psacharopoulos, Tan & Jimenez, 1986, p. 2)
Conclusions and Recommendations

- Shift to new datasets in 2013 may not allow for comparison against earlier studies
- Despite disclaimer, studies are oft attributed to the World Bank
- Additional investigation is needed to explain influences and changes to the data