The Returns to Education and Skills Issues: International Evidence

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Human Capital Theory

Earnings/productivity vs. Age

- More educated
- Less educated

Earnings/productivity increases with age for more educated individuals, while less educated individuals show a different trend.
Priors and Stylized Facts

1. Private returns to schooling are positive
2. Higher in low/middle income economies
3. Returns highest at primary level
4. Estimated returns higher for women
5. Returns declined very modestly over time

New Survey

• 131 economies, 545 surveys
• Private Rates of Return
• Multiple uses of returns studies

Estimates of Returns to Schooling

\[ Ln(w_i) = a + \beta_1 S_i + \beta_2 X_i + \beta_3 X_i^2 + \mu_i \]

\[ Ln(w_i) = \alpha + \beta_p Dp_i + \beta_s Ds_i + \beta_t Dt_i + \beta_1 X_i + \beta_2 X_i^2 + \mu_i \]
Full-Method Estimate

Productivity $\rightarrow$

University graduate

High school graduate

18 22

0
Findings
Average Private Return: 10.4%
Highest Returns in Africa

Returns to Schooling (%) by region (latest available year between 2000-2011)

- Sub-Saharan Africa: 12.8%
- Latin America/Caribbean: 10.3%
- East Asia/Pacific: 10.3%
- High Income Economies: 10%
- Eastern/Central Europe: 8.2%
- South Asia: 7%
- Middle East/North Africa: 5.6%

Montenegro and Patrinos 2014
Returns Highest at Tertiary Level

Returns to schooling by region (and World) and by Primary and Tertiary Education

- Sub-Saharan Africa: Tertiary 13.4, Total 21.9
- East Asia/Pacific: Tertiary 11, Total 15.4
- World: Tertiary 10.3, Total 16.8
- South Asia: Tertiary 9.6, Total 18.4
- Middle East/North Africa: Tertiary 9.4, Total 17.6
- Latin America/Caribbean: Tertiary 9.3, Total 17.6
- Eastern/Central Europe: Tertiary 8.3, Total 10.1
- High Income Economies: Tertiary 4.8, Total 11

Montenegro and Patrinos 2014
Rate of Return to Schooling

Latest year

Montenegro and Patrinos 2014
Returns Higher for Women

Montenegro and Patrinos 2014
Returns Higher for Women

Montenegro and Patrinos 2014
Returns Decline with Schooling

Montenegro and Patrinos 2014
Returns Tend to Decrease

Montenegro and Patrinos 2014; Psacharopoulos and Patrinos 2004
High Returns & Lower Schooling
Returns to Schooling Over time

EU Countries

Graph showing data from 2000 to 2012, with the years on the x-axis and a range from 0 to 10 on the y-axis.
Returns to University Education

EU Countries

<table>
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<tr>
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<th>Overall</th>
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Returns to Schooling in EU

Returns to Primary

Returns to Secondary

Returns to University
Private Returns Properties

Undisputable

Universal, global

Explaining behavior

Analyzing distribution effects
  • Example: Student loans

But not sufficient for funding policies
Social Returns for Policy

Narrow social returns
• incorporating direct market effects

Wide social returns
• incorporating external and non-market effects
Social Returns by Level

Private Returns by Type

- General
- Vocational
As Economies Develop, Type of Skills Demanded likely to Change

Levy and Murnane (2005)
How to Succeed in Labor Market?
Automation is Coming

![Graph showing employment trends over years. The graph compares Routine (Effective Units), Routine (Raw CPS), Non-Routine (Effective Units), and Non-Routine (Raw CPS). The data spans from 1970 to 2010, with a notable increase in employment for Non-Routine (Effective Units).]
Invest Early

- Programs targeted towards the earliest years
- Preschool programs
- Schooling
- Job training

Rate of return to investment in human capital

Age

0-3
4-5
School
Post-school

Heckman
Need Relevant Skills

1. Problem-solving skills
2. Learning skills
3. Communication skills
4. Personal skills
5. Social skills
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### That was Then, This is Now

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Expand Higher Education

- Based on efficiency and equity
- Don’t pass on the cost to general taxpayer
- Use future earnings to finance current education
- A more private sector approach might involve Human Capital Contracts [Lumni; Upstart]
How to Finance University

• Using future earnings to finance current education
  – or income contingent loans/repayments –

• Solves many of the equity issues in university finance
Using Future Earnings

Income Contingent Loans

Human Capital Contracts

• Address budget issue
• Create new sources of finance
• Don’t deter students
Income Contingent Loans

Graduate payments vs. Graduate income

How They Differ from Conventional Loans
Or Human Capital Contracts

How They Differ from Conventional Loans
Income Contingent or Human Capital Loans

How They Differ from Conventional Loans

Graduate payments

Graduate income

HCCs

Income-Contingent Loans

Loans
Equity Issues

• Getting disadvantaged youth to apply

• Returns high on *average*

• Avg university grad earns 67% more than high school grad *(Oreopoulos and Petronijevic 2013)*

• Not worth it to enroll and dropout
  ➢ There must be better information
  ➢ Greater support networks to take on challenge
Better Information

• Disadvantaged overestimate (underestimate) benefits (costs)

• Students from poor families sometimes don’t apply
  • even if they have grades; would receive support

• Better information would help
  • yet while information on benefits is available – PayScale – it is not enough
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