

Companion for Chapter 8

Education for All

SUMMARY

- Economic development depends on investment in "human capital", which are inputs such as education, health care, and nutrition that contribute to a healthy and productive life. Societies and individuals can accumulate human capital through properly directed investments.
- The concept of human development includes two related ideas. First, an individual's development depends on a cumulative process: through investment and accumulation of human capital, particularly in early childhood. Second, an individual's development should be considered over an entire life span or "life cycle." Each stage of the life cycle sets up the conditions for the stages that follow.
- There has been significant progress in achieving universal access to primary education. In 2010, the gross enrollment rate at the primary was above 100%. The progress in educational enrollment and attainment at the secondary and tertiary levels, however, is much less notable, especially in tropical Africa and parts of Asia. The work towards achieving the Sustainable Development Goals must increase access to higher education and job-training programs, as the lack of adequate enrollment in higher education is becoming a major impediment to the economic progress of low-income countries.
- Recent research has shown the importance of early childhood development (ECD). In the first three years of a child's life, the brain develops in key and dynamic ways, and the opposing ways in which a nurturing or detrimental early childhood can affect an individual's development later on. Investing in the early health, wellbeing, safe environment, and cognitive development of young children is therefore crucial for children's subsequent development. Investments in ECD requires foresight and good governance, and this will beget tremendous social returns such as increased national income and increased labor force productivity. As age increases, the returns that one can achieve by incremental investments in human capital are lower; thus, ECD is key.
- The formal education process should begin well before the start of primary school and with adequate cognitive stimulus. From there, primary education, secondary and then tertiary or vocational training are required skills for young adults to prosper in today's technological age.
- Since the children of poor families are more likely to suffer the deficits of underinvestment in ECD, the vicious cycle of poverty can ensue. Effective government programs must attend to this, working to help children of impoverished families and provide access to educational initiatives. Ample public financing and support can lead to key ECD investments and more upward social mobility, breaking the pattern of generational poverty and closing the gap between rich and poor youth. More equal societies, such as the notable social democracies of Scandinavia, which generally boast good governance and access to quality education at all levels, end up with greater intergenerational mobility and social inclusion.

- Though education is the path to a more productive life, it can also be an amplifier of social inequality due to high tuition costs and wage premiums. This is apparent in the United States which faces a three-fold challenge to educational attainment: (1) highly unequal access to higher education; (2) very little increase in the rate of college graduation since the 1970s; and (3) a massive buildup of student debt. A lowering of tuition costs and a focus on technological progress in the form of mass online education are proposed solutions to these challenges.
- Education plays a key role in both endogenous growth¹ (where technological breakthroughs are the result of R&D activities and carried out by highly skilled scientists and engineers) and catch-up growth¹ (where some technologies require a skilled workforce to be deployed locally). As a result, investments in education will be critical to achieving sustainable development.

¹The concepts of endogenous and exogenous growth are explained in further detail in Chapter 3.

REVIEW

Concepts and Definition

Can you define or explain the significance of these concepts?

Human capital	Education supply bottleneck
Life-Cycle Approach	Technology transfer
Gross Enrollment Rate	Great Gatsby curve
Net Enrollment Rate	Social mobility
Early Childhood Development (ECD)	Research & Development (R&D)
Wage premium	Morrill Act

Check your facts

- 1) What was the change in the global gross enrollment rate at the primary level from the 1970s to 2010?
- 2) What was the gender gap in primary level gross enrollment in 1990? In 2010?
- 3) How has the college completion rate changed from 1940 to 2010?
- 4) In 2012, what was the percentage of white people over age 25 with a four-year university degree in the US? African-Americans? Hispanics?
- 5) Approximately what was the total US level of student debt in 2011?
- 6) When was the Morrill Act, a major piece of legislation, passed by the US Congress?
- 7) What does it imply when the school enrollment rate at the primary level is greater than 100%?
- 8) From 1979 to 2005, how has the wage premium for college graduates changed compared to high school diploma holders?

Answers: 1) 85% to >100% 2) 30%, essentially 0% 3) 1940 to 1975: increase from 5% to 20%, 1975 to 2010: 20% to only 30% 4) 35%, 21%, 14.5% 5) \$1 trillion 6) 1862 7) older children have started school late 8) nearly doubled

Review questions

- Why is a life-cycle approach to human development important?
- Has any progress been made on the Gross Enrollment Rate (GER) in the past 40 years for both primary and secondary levels? Does a gender gap exist? Which parts of the world are still behind?
- What are the most crucial years of human development? What can go wrong during these years?
- How is ECD related to intergenerational income mobility?
- How is preschool enrollment related to income inequality?
- What can you say about the returns to higher education / wage premium?
- Why are there not more college graduates in the US?
- Why and how is the educational system in the US exacerbating inequalities?
- What does the Great Gatsby curve demonstrate?
- What role can education play in sustainable development?
- Why might it be important to have R&D capabilities also located in low-income countries?
- How are social mobility, education, and life cycle investment related?
- Describe and evaluate key measures for educational achievement, both at the country level and at the individual level.

DATA ACTIVITIES

EASY

A. Rising Student Debt

Figure 8.10 in the textbook depicts the rising student debt in the United States. The horizontal axis shows the year and the vertical axis shows the student loan debt in US\$ billions.

- 1) What was the percent increase in student debt from 2006 to 2013?
- 2) Construct a best fit line through this data and predict the debt for 2020 and 2050.
- 3) The levels of debt you have predicted probably seem unsustainable. Using the reading as a resource, discuss two realistic ways to curb and maintain student debt in the near future. Which actors must initiate the process, and how can we ensure it starts as soon as possible?

EASY

B. UNESCO Data Visualization

Take a few minutes to explore the UNESCO data visualization tool, located here:

<http://en.unesco.org/gem-report/report/2015/education-all-2000-2015-achievements-and-challenges#region-report-dataviz>

- 1) What was the percent change in children enrolled in pre-primary school from 2000 to 2012? Which region achieved the highest percentage change and which region achieved the lowest? Provide some key reasons for why these two regions did the “best” and “worst” respectively in terms of child education enrollment.
- 2) Click on the third tab of the data visualization simulation (“How many children completed lower secondary school?”)
 - a. Compare completion rates over time (from 2000 to 2012), for different income groups (lower middle income and upper middle income), and for the male/female category. Draw conclusions based on what you see.

- 2) Based on your own research, summarize what you believe to be the three potential issues with how PISA data is collected or how PISA data is used. Include references that led you to these conclusions.

HARD

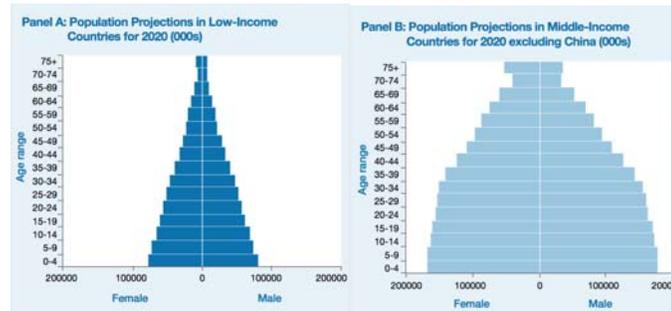
F. World Bank: Educational Improvement

As a recent hire into the World Bank's Education Improvement Project you have been tasked with providing a summary performance evaluation for some selected countries' education sectors. First, you must familiarize yourself with the work the Bank is currently engaged in. Tip: the World Bank has invested in an education-specific Africa dataset so it may be worthwhile to focus your search on countries that are included there.

- 1) The Project & Operations page is a good place to start: <http://www.worldbank.org/projects/P111394/teacher-education-improvement-project?lang=en>. Select one project, preferably approved a few years ago so there is scope for assessing results. Review project documents and provide a 200-word summary of the project's objectives and the rationale to support the chosen intervention.
- 2) Get a better feel for that country's average education performance by visiting the World Bank's EdStats database: <http://datatopics.worldbank.org/education/>. If appropriate data is available for the project, compare it to country performance in the EdStats indicators. Describe any relations between project-level and country data that you observe. Create an Excel spreadsheet with all collected data.
- 3) Now select 5 countries that have roughly the same level of per-capita income. Returning to the EdStats database, select more than 4 indicators that measure some form of public expenditure on education. This can be either in terms of % of GDP or as per capita outlays. Include GDP per capita (constant 2000 US\$) as an indicator in your search query. Construct a scatterplot with education expenditure on the X-axis and real GDP growth rate (which you will construct from the GDP data) on the Y-axis for each of your chosen indicators.
- 4) Based on the collected data, which indicator has strong relationship with GDP growth? Include the best-fit line (either by country or for all data) and describe what you see.
- 5) Pick one of your 5 countries. Assume that the country's Ministry of Education is hoping to expand its budget. Review other EdStats indicators (for either primary or secondary schooling) and show 4 graphs (1 per indicator) that demonstrate recent improvements in the country so that the Ministry of Education has a solid case to present to the Ministry of Finance. Now identify 3 indicators which suggest contrary evidence and graph those.

DISCUSS AND DEBATE

- 1) Providing precise examples, explain what may trigger an intergenerational poverty trap. Discuss possible policies to prevent or fix intergenerational poverty traps.
- 2) How is the demand for education related to the following demographic landscapes?



Source: World Bank, *Health Nutrition and Population Statistics, Population Projections Tables by Country and Group, 2010-2050*.

- 3) Describe how low educational attainment in developing countries is an example of a market failure. Pick a country of interest, find out the level of compulsory education of the chosen country and explain the components that lead to inadequate provision of education.
- 4) In your opinion, what is the first step that needs to be taken in order to increase access to secondary and tertiary education? Develop a specific and nuanced argument that includes key actors, challenges, and solutions.
- 5) “The Millennium Development Goals, focusing on universal primary education, are adequate to support the sustainable development of low-income economies.” Do you agree or disagree? If you agree, explain why, and if not, discuss the inadequacies and alternative solutions.
- 6) Using the case study below, discuss the impacts of wars and conflicts on human capital. Discuss potential solutions and challenges in implementing such solutions.

CASE STUDY

Education in a situation of dramatic displacement: Syrian Arab Republic

What are the long-term ramifications of the Syrian crisis? Some believe the crisis will lead to a "lost generation," with the majority of Syrian children lacking fundamental necessities and unable to gain an education. In 2013 alone, over 9,500 people a day fled their homes as the Syrian Arab Republic entered its third year of conflict. As of December 2013, of the 4.8 million school-age Syrian children, some 2.2 million inside the country were out of school, as were a half-million refugee children in Egypt, Iraq, Jordan, Lebanon and Turkey. The Syrian Network for Human Rights alleges that the government has turned a thousand schools into detention and torture centres, and numerous schools have been converted into barracks. Two-thirds of the refugee children are out of school, and this group now faces lower enrolment ratios than those found in Afghanistan, a country with a much longer history of conflict and a poorer tradition of education. The sheer numbers of refugee children are overwhelming education systems in neighbouring countries. The multinational nature of the Syrian crisis is recognized, with separate coordination groups working in each country. In the Syrian Arab Republic, a working group on education focusing on a coordinating role is hosted by Save the Children. A Syria Regional Response Plan examines education activities in Egypt, Iraq, Jordan, Lebanon and Turkey. A high-level regional conference on education and the Syrian refugee crisis has been held. Activities include providing school kits, rehabilitating schools and learning spaces, and running summer learning programmes. Childfriendly spaces have been set up in at least 16 camps. However, meeting the education needs of this diverse population will remain a key challenge, given country capacities and ongoing tensions. Despite major pledges by most wealthy nations, humanitarian aid has trickled in slowly over the past four years. The need for education financing remains underserved.

Source: EFA Global Monitoring Report. Education for all 2000-2015: Achievements and Challenges (2015). Box 2.4
<http://unesdoc.unesco.org/images/0023/002322/232205e.pdf>

FURTHER READING

- **MDGs and SDGs**

This report provides an update on progress that countries are making towards the global education goals agreed in 2000.

[UNESCO. \(2014\). Education for All: Global Monitoring Report. Teaching and Learning: Achieving quality for all. Summary.](#)

This document details the goals related to education for the next two decades and provides recommendations as to how to achieve them.

[Sustainable Development Solutions Network Thematic Group on Early Childhood Development, Education and Transition to Work. 2014. The Future of Our Children: Lifelong, Multi-Generational Learning for Sustainable Development. New York: Sustainable Development Solutions Network.](#)

This reports, issued as preparation for the post-2015 UN development agenda, discusses emerging trends and the future of education.

[UNESCO. \(2015\). UN System Task Team on the Post-2015 Development Agenda, Education and skills for inclusive and sustainable development beyond 2015](#)

This report analyzes existing training and education programs for development practitioners and to make recommendations for a new educational system focused on sustainable development practice.

[International Commission on Education for Sustainable Development Practice. \(2008\). Final Report: Executive Summary](#)

The 2010 human development report focuses on progress in education and health.

[United Nations Development Program. \(2010\). Human development report 2010. The real wealth of nations: pathways to human development.](#)

- **Early childhood**

This document argues that the foundations of lifelong health are built in early childhood.

[National Scientific Council on the Developing Child and the National Forum on Early Childhood Policy and Programs. 2010. The Foundations of Lifelong Health Are Built in Early Childhood. Cambridge, Mass.: Harvard University Center on the Developing Child.](#)

This article synthesizes the literature on the economics of child development and the economics of health.

[Heckman, J. J. \(2007\). The economics, technology, and neuroscience of human capability formation. PNAS, 104 \(33\).](#)

This article summarizes the evidence from diverse literatures on the importance of early life conditions in shaping multiple life skills

[Heckman, J. J., & Mosso, S. \(2014\). The economics of human development and social mobility \(No. w19925\). National Bureau of Economic Research.](#)

This article surveys the various risks preventing young children from attaining their developmental potential, as well as the protective factors.

[Walker, Susan P., Theodore D. Wachs, Sally Grantham-McGregor, Maureen M. Black, Charles A. Nelson, Sandra L. Huffman, Helen Baker-Henningham et al. 2011. "Inequality in Early Childhood: Risk and Protective Factors for Early Child Development." *Lancet* 378\(9799\): 1325–1338.](#)

This paper summarizes evidence on the effects of early environments on child, adolescent, and adult achievement.

[Heckman, James J. 2006. "Skill Formation and the Economics of Investing in Disadvantaged Children." *Science* 31\(5782\): 1900–1902. doi:10.1126/science.1128898.](#)

This paper discusses the role of cognitive and noncognitive ability in shaping adult outcomes, the early emergence of differentials in abilities between children of advantaged families and children of disadvantaged families, the role of families in creating these abilities, adverse trends in American families, and the effectiveness of early interventions in offsetting these trends.

[Heckman, James J. 2008. "Schools, Skills, and Synapses." IZA Discussion Paper No. 3515. <http://ftp.iza.org/dp3515.pdf>.](#)

This document summarizes the design, findings and conclusions of the High/Scope Perry Preschool experiment which has identified both the short- and long-term effects of a high quality preschool education program for young children living in poverty.

[Schweinhart, Lawrence J., Jeanne Montie, Zongping Xiang, W. Steven Barnett, Clive R. Belfield, and Milagros Nores. 2005. *The High/Scope Perry Preschool Study Through Age 40: Summary, Conclusions, and Frequently Asked Questions*. Ypsilanti, Mich.: HighScope.](#)

- **Economic mobility**

This study presents a comparable analysis of economic mobility over a generation, using the best available administrative data from both the United States and Canada.

[Corak, Miles. 2009. *Chasing the Same Dream, Climbing Different Ladders: Economic Mobility in the United States and Canada*. Washington, DC: Pew Charitable Trusts Economic Mobility Project.](#)

This article investigates whether increasing inequality in the high-income countries, particularly in the United States, is likely to limit economic mobility for the next generation of young adults.

[Corak, Miles. 2013. "Income Inequality, Equality of Opportunity, and Intergenerational Mobility." *Journal of Economic Perspectives* 27\(3\): 79–102.](#)

- **Human development**

This article provides a theory explaining the transition in income, life expectancy, education, and population size as the endogenous outcome of a gradual process of development

[Cervellati, M. & Sunde, U. \(2005\). *Human capital formation, life expectancy, and the process of development*. *American Economic Review*, 95 \(5\).](#)

In their annual letter, Bill and Melinda Gates make a bet that, in the next 15 years, 1) child deaths will go down by half, and more diseases will be eradicated than ever before; 2) Africa will be able to

feed itself; 3) better software will revolutionize learning; and 4) mobile banking will help the poor radically transform their lives.

Bill Gates 2015 Annual Letter <http://annualletter.gatesfoundation.org>