

Education and Poverty Reduction

Amory Gethin¹

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Abstract. Education can reduce absolute poverty by increasing productivity, relative poverty by lowering inequality, and multidimensional poverty by improving dimensions of well-being beyond income. Research indicates that it contributes to all three. Returns to schooling are large, especially for policies enabling children from disadvantaged backgrounds to acquire more education, and typically exceed the costs of education provision. Education also benefits low-wage workers through labor market spillovers: reducing the share of low-skilled workers in the economy raises their relative wage. The expansion of education has played a major role in reducing extreme poverty and can account for over half of income gains among the world's poorest individuals since 1980. The non-monetary benefits of schooling are also large and may imply total returns that are twice as high as monetary gains. Substantial educational inequalities persist nonetheless, with important implications for global equity and the trajectory of poverty in the 21st century.

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Introduction

International organizations, policymakers, and researchers have increasingly warned of a global “learning crisis” (World Bank, 2018). Despite dramatic increases in educational attainment, learning outcomes as measured by international assessments remain low. According to the latest estimates, two-thirds of children in low- and middle-income countries are unable to read and understand a simple text by age ten, a phenomenon referred to as “learning poverty” (UNESCO, 2022). These patterns have led many observers to question whether improvements in schooling have translated into meaningful gains in human capital. If schools are failing to equip students with basic skills, the contribution of educational progress to poverty reduction may be far more limited than commonly assumed.

Against this backdrop, this chapter reviews the available evidence on the role of education in reducing poverty. I focus on three research questions. First, how successful has education been in reducing poverty and improving living standards over the past decades? Second, does education specifically benefit the poor, and under which conditions? Third, to what extent does education improve economic and social deprivation along dimensions other than income?

I consider three alternative definitions of poverty that map onto these three research questions. Absolute poverty refers to deprivation in real living standards. It can correspond to the average income of the poorest individuals in a given society or worldwide, or to the fraction of people living with less than a given income. Relative poverty evaluates living standards relative to the average individual in a given society. It is inherently a measure of inequality focused on the bottom of the distribution. Multidimensional poverty goes beyond income to consider other dimensions of socioeconomic and psychological deprivation. Education can reduce absolute poverty by increasing individual and aggregate productivity, relative poverty by disproportionately benefiting low-income individuals, and multidimensional poverty by improving dimensions of quality of life other than income such as crime, job satisfaction, or psychological well-being. I argue that education plays a powerful role in shaping all three dimensions of poverty.

A large and growing literature studies the individual returns to schooling, defined as the effect of an additional year of schooling on individual income. There is extensive empirical evidence that these returns are positive in a wide range of contexts. Big push public education policies, such as school construction programs, compulsory schooling laws, or free education reforms generate particularly large returns when they succeed in increasing educational attainment, especially for students from disadvantaged socioeconomic backgrounds. Returns to schooling are neither systematically higher nor lower in poorer countries, and they are uncorrelated with education quality at the country level. Hence, improving access to schooling can deliver high returns even in countries with low education quality. While policies that improve learning should be encouraged, high levels of learning are not a necessary condition for designing education policies that successfully reduce absolute poverty in the long run.

In addition to these individual benefits, education can also reduce poverty through labor market “supply effects.” Many studies document that workers tend to be imperfectly substitutable: high-skilled and low-skilled workers cannot be replaced by firms one for one. As a result, relative wages tend to respond to shifts in relative supply: a decrease in the share of unskilled workers in the economy raises their relative wage. These supply effects have been extensively documented and are quantitatively large. Together with individual returns, they imply much greater benefits of education policies at the bottom of the income distribution. These direct and indirect effects are sufficiently large to rationalize over half of real income gains among the world’s poorest 20% in the past decades. This estimate is likely a lower bound, given that education has also been found to generate positive economic externalities such as firm growth and innovation.

Much of the existing literature focuses on income. However, there is also evidence that education can positively affect other dimensions of quality of life. Multidimensional poverty indicators explicitly

incorporate measures of educational deprivation as a component of poverty. These approaches recognize that the absence of education, such as illiteracy, can have negative effects on many dimensions of human well-being and should therefore be considered a fundamental source of deprivation in its own right. Accordingly, a growing empirical literature documents positive effects of education on a broad range of outcomes beyond income. The list is long and includes such diverse outcomes as crime, fertility, marriage, employment stability, job satisfaction, psychological well-being, interpersonal trust, and democratic values. Drawing on a simple correlational analysis relating subjective well-being to education and income in a sample of five countries representative of all levels of development, I show that completed years of schooling are significantly correlated with self-reported happiness even after conditioning on income. The coefficient is equivalent to increasing income by about 10%, quantitatively similar to the economic return to an additional year of schooling found in existing studies. Taken at face value, this finding suggests that non-pecuniary returns could be about as large as monetary returns: purely economic approaches might underestimate the value of education by a factor of two.

I conclude with a discussion of educational resource inequalities and their role in shaping poverty. Many studies find that educational investments pay for themselves, and a growing literature identifies large causal returns to increasing education spending on learning and later-life outcomes. The evidence at our disposal also suggests that the lower levels of schooling and learning observed in poorer countries are primarily due to lower levels of investment rather than to inefficiencies in the way these resources are used. Inequalities in education spending and access to higher education remain abysmal, both within and across countries, and have only marginally improved over the past decades. Given the major role played by human capital in shaping the world distribution of income and well-being, ensuring global poverty reduction and equitable growth will require unprecedented international efforts to level the playing field.

1. Economic Returns to Schooling and Poverty Reduction

1.1. Returns to Schooling around the World.

A large literature studies the individual returns to education, defined as the effects of additional schooling on earnings. The empirical specification typically used in the literature is:

$$\log y_i = \alpha + \beta_i S_i + X_i \gamma + \varepsilon_i \quad (1)$$

with y_{ic} earnings of individual i , S_{ic} completed years of schooling, and X_{ic} a vector of controls (such as gender and potential experience). For the analysis of education and poverty reduction, two questions arise. First, how large are the benefits of additional schooling (absolute poverty)? Second, how do these returns vary across individuals, such as by education level, by socioeconomic background, or by level of economic development (relative poverty)?

Numerous empirical studies estimate equation (1) by ordinary least squares using cross-sectional individual data on education, earnings, and other sociodemographic characteristics. Four main results emerge from this literature.

First, the returns to schooling are large, typically around 10% per year of schooling on average. This implies quantitatively large effects of education on poverty. For instance, moving from 0 to 10 years of schooling is associated with an increase in individual income of about 160%.

Second, there are large variations in returns to schooling across levels of education, contexts, and individuals. Among recent studies, Gethin (2025) provides a global comparative analysis on variations in returns to schooling, drawing on a new microdatabase covering 156 countries representative of 97% of the world population (see also Psacharopoulos 1994; Psacharopoulos and Patrinos 2004; Montenegro

and Patrinos, 2021). Returns to schooling exhibit substantial variation. Average returns per year of schooling are largest in Sub-Saharan Africa and Latin America at about 10%, while they are lowest in the Middle East and North Africa at about 2%. In almost all regions, returns to schooling are convex: in the average country, the returns to a year of primary, secondary, and tertiary education are 2%, 8%, and 12%, respectively. This suggests that higher levels of education are associated with the development of more complex forms of knowledge that are particularly valuable in modern economies.

Third, the existing literature supports a causal interpretation of these correlational facts. In particular, a growing number of studies investigate how large-scale educational expansion policies, such as school construction programs, free education policies, or compulsory schooling laws affect schooling and earnings in the long run. Almost all of these studies find that these policies generate significant earnings gains when they succeed in increasing educational attainment.² The implied returns to schooling are typically larger than those found in naïve cross-sectional regressions as in equation (1). This pattern has been observed for policies expanding education at all levels and in countries as diverse as China, India, Nigeria, and the United States (see Card 1999 and Gethin 2025 for meta-analyses). One possible interpretation of this finding is that the returns to schooling are particularly large for marginal individuals, who would not have acquired additional education absent the policy. In many cases, these beneficiaries are from disadvantaged socioeconomic backgrounds, suggesting that educational expansion policies have particularly large returns for marginalized populations most at risk of poverty.

Fourth, the economic returns to schooling are generally much larger than its cost of provision: education is a highly profitable investment. Many studies compare the costs and benefits of education policies, such as school construction programs or compulsory schooling laws. The benefits commonly far outweigh the costs, with internal rates of return found to exceed 10% in contexts as different as Argentina (Berlinski et al. 2026), Indonesia (Akresh et al. 2023), Norway (Bhuller et al. 2017), and the United States (Zimmerman 2014). Surveying 133 policy changes implemented in the United States over the past decades, Hendren and Sprung-Keyser (2020) find that investments in child education display some of the highest benefit-to-cost ratios across all categories of policies (see also Angel-Urdinola et al. 2025 for a meta-analysis of the welfare value of education policies).

1.2. Understanding Variations in Returns to Schooling: Supply, Demand, and Quality

Why do we observe such large variations in returns to schooling across countries and education levels? Three factors have been highlighted in the literature: labor demand, labor supply, and education quality. A growing literature recognizes that workers not only vary in their ability but are also imperfectly substitutable: firms cannot perfectly substitute low- and high-skilled workers in performing a given set of tasks. A simple way to rationalize these facts is to model human capital as a function of labor demand A , labor supply L , and education quality Q :

$$H = \left(A_1 Q_1 L_1^{\frac{\sigma}{\sigma-1}} + A_2 Q_2 L_2^{\frac{\sigma}{\sigma-1}} \right)^{\frac{\sigma-1}{\sigma}} \quad (2)$$

assuming for simplicity that there are two types of workers, low-skilled and high-skilled, indexed by 1 and 2. Profit maximization implies the following formula for the return to schooling, defined as the log difference between the wages of high- and low-skilled workers:

² A handful of studies focused on high-income countries find null returns to compulsory schooling laws. These laws have in common that they led students to stay longer in school (typically for only one additional year) but failed to increase educational attainment due to limited investments accompanying the scaling up of school attendance (Grenet 2013; Oosterbeek and Webbink 2007; Pischke and von Wachter 2007; Clark 2023).

$$r(A, Q, L) = \ln \frac{w_2}{w_1} = \ln \frac{A_2}{A_1} + \ln \frac{Q_2}{Q_1} - \frac{1}{\sigma} \ln \frac{L_2}{L_1} \quad (3)$$

The return to schooling is larger when relative demand for skilled workers A_2/A_1 is large. This “skill bias of technology” captures the fact that relative demand for skilled workers is greater when firms use technologies that require a more qualified workforce. The return to schooling is also positively related to education quality Q_2/Q_1 . On the other hand, it is negatively related to the relative supply of skilled workers L_2/L_1 : intuitively, increasing the number of skilled workers depresses their relative wage.

This framework is simple but remarkably useful to understand cross-country and historical variations in returns to schooling. For instance, the rise in the return to college observed in the United States since the 1980s can be rationalized by the fact that skill-biased technological change (growing A_2/A_1) has not been accompanied by a corresponding expansion in education (stagnating L_2/L_1) (see Katz and Murphy 1992; Goldin and Katz 2007; Autor, Goldin, and Katz 2020). This “race between education and technology” plays a pivotal role in shaping variations in returns to schooling and has major implications for inequality and poverty reduction as we will see below.

While these supply and demand factors are well understood, the specific role of education quality is less well documented. Recent research suggests that after accounting for differences in relative supply, about 10–20% of remaining cross-country variations in returns to schooling can be explained by quality Q_2/Q_1 , while 80–90% can be explained by relative demand A_2/A_1 (Rossi 2022). This result suggests that technological choices and policies affecting the demand side of the labor market are more important than policies focused solely on education quality. In other words, designing effective education policies in poor countries requires much more than improving quality: firms must also create jobs and greater economic opportunities for newly skilled workers. Education and labor market policies should go hand in hand.

A related implication is that concerns about the low quality of education in poorer countries should not be exaggerated. Returns to schooling remain high in many low- and middle-income countries, even in those with low education quality (Gethin 2025). For instance, India ranks among the lowest countries in the world in terms international standardized assessments, yet expanding access to primary education was found to generate returns as high as 13% per year of schooling in a recent study (Khanna 2023).

1.3. Individual Heterogeneity

To understand how education affects poverty, it is also important to examine how returns vary across individuals with different income levels and socioeconomic backgrounds.

First, the effects of education may be heterogeneous across the income distribution: β may vary with income y in equation (1). Evidence on such heterogeneity remains scarce. Existing research suggests that returns tend to be slightly larger for poorer workers, but with significant variations across contexts (e.g., Clay et al. 2021; Gethin 2026).

Second, education policies may have differential effects depending on beneficiaries’ socioeconomic background. Given the large correlation between parental income and child income (e.g., van der Weide et al. 2024), the direction of these effects could play an important role in shaping absolute and relative poverty. Evidence in this area is also limited. Among recent studies, Bleemer and Quincy (2025) document a striking long-run transformation in the return to college in the United States. While college degrees yielded similar increases in earnings for students from low- and high-income backgrounds for the 1900 birth cohort, the return to college now rises significantly with parental income. They relate this transformation to changes in the allocation of education funding, greater sorting into different types of colleges, and differential enrollment across high-return majors.

2. Spillovers, Externalities, and their Implications for Poverty Reduction

Until now, our analysis has focused entirely on individual returns to education. Yet, providing access to schooling for some individuals can generate indirect effects on non-beneficiaries. Two types of spillovers have particularly important implications for poverty reduction: supply effects and externalities.

2.1. Supply Effects

Supply effects refer to the fact that educational expansion may affect the wage structure because of changes in the relative supply of skilled and unskilled workers. As shown in equation (3), the relative wage of skilled workers w_2/w_1 is negatively related to their relative supply L_2/L_1 . Expanding education amounts to lowering the share of unskilled workers, which could drive up their wage as they become scarcer in the economy.

This relationship highlights an important fact: supply effects amplify the effects of education policies on poverty. Put differently, some of the benefits of education policies are indirectly “redistributed” from newly skilled workers to poorer unskilled workers through labor market adjustments.

These indirect effects have been extensively documented and are quantitatively substantial. Supply and demand factors can entirely rationalize the evolution of the wage distribution in the United States over the course of the twentieth century (Goldin and Katz 2007). Education policies have been found to indirectly benefit *untreated* low-skilled workers in other contexts, such as India (Khanna 2023), Latin America (Fernández and Messina 2018), and Vietnam (Vu and Vu-Thanh, 2022).

Drawing on these insights, Gethin (2025) revisits the aggregate and distributional effects of three large-scale policies implemented in India (Khanna 2023), Indonesia (Duflo 2001), and the United States (Acemoglu and Angrist 2000). The results show that improving access to education disproportionately benefited poorer households. In India, for instance, increasing schooling by one year at the regional level improved the real income of the poorest quintile by over 20%, which is almost twice as large as individual returns found in the same study. Strikingly, these results are similar to those obtained when micro-simulating these policies using a supply framework comparable to equation (2).

Taking stock of this evidence, Gethin (2025) goes one step further and quantifies how much of worldwide poverty reduction can be accounted for by education. Combining a new microdatabase on education and earnings covering 154 countries with the imperfect substitution model, education is found to explain about 45% of global economic growth and 60% of pretax income growth among the world’s poorest 20% from 1980 to 2019 (see Figure 1). A large fraction of these gains accrued to poor households indirectly through the supply channel documented above, highlighting the crucial role played by labor market spillovers in driving global poverty reduction.

[Figure 1 here]

2.2. Externalities

Beyond supply effects, education may generate other forms of externalities. Individual returns could overstate benefits of schooling in the presence of negative externalities. For instance, education could reflect a signal on ability rather than a true increase in productivity. On the other hand, aggregate effects may exceed individual returns if schooling benefits the economy through channels other than individual earnings, such as innovation.

The direction and magnitude of these externalities remain a topic of debate among economists. However, the literature points to two tentative conclusions. First, externalities associated with basic education have been found to be close to zero, suggesting that individual returns provide a good proxy for its aggregate effects (e.g., Acemoglu and Angrist 2000; Ciccone and Peri 2006; Duflo 2004; Gethin 2025). Second, there is growing evidence of large positive externalities associated with higher education, consistent with the role played by upper-tail human capital in shaping long-run growth (e.g., Chauvin et al. 2017; Glaeser and Lu 2018; Hsieh et al. 2019; Moretti 2004; Squicciarini and Voigtländer 2015; Queiró 2022; Nimier-David 2023).

These findings have contrasting implications for poverty reduction. Positive externalities could imply that education has even larger effects on economic growth and absolute poverty reduction than standard analyses suggest. However, externalities related to the intergenerational transmission of human capital or innovation could reduce social mobility and increase cross-country inequalities and relative poverty, especially if new technologies are mainly used by high-skilled workers. The net effect is likely to vary substantially across contexts, depending on the nature of technological progress and the policies accompanying it.

3. Beyond Income: Education and Multidimensional Poverty

The previous analysis focused on income. This approach is very restrictive: any serious understanding of poverty should encompass other dimensions of quality of life, such as health, physical security, social and political liberty, and psychological well-being. All of these outcomes may be strongly shaped by education. The literature has taken two broad directions to overcome this limitation.

3.1. Multidimensional Poverty Indicators

A first strand of the literature focuses on constructing indicators of poverty and social progress that directly incorporate measures of educational deprivation. The Human Development Index, which combines life expectancy, years of schooling, and per-capita income, is regularly used to monitor progress at the country level. In the same spirit, the global Multidimensional Poverty Index combines measures of deprivation in health, living standards, and education (years of schooling and school attendance) to estimate the fraction of individuals deprived in one or several of these dimensions within countries (Alkire and Foster 2011; Alkire et al. 2015).

By incorporating both education and income, these indicators recognize that schooling and economic output are only imperfectly correlated and that education may affect human well-being through channels other than income. The main limitation of these indices is that they impose somewhat arbitrary weights on the different dimensions of quality of life: it is not clear whether education should receive the same, greater, or lower weight than living standards and health in the determination of well-being.

3.2. The Effects of Education on Non-Monetary Poverty

A second strand of the literature explicitly studies how education affects deprivation in dimensions other than income. There is extensive and growing evidence that education has positive effects on a vast array of socioeconomic outcomes, such as civic engagement, crime, employment, fertility, health, interpersonal trust, and job satisfaction (Oreopoulos and Salvanes 2011; Lochner 2011; Heckman, Humphries, and Veramendi 2018; Hunt and Atfield 2019). In some cases, these non-pecuniary benefits are sufficient to make education policies cost-effective investments, even in the absence of any monetary return (e.g., Duflo et al. 2025). This body of research demonstrates that the benefits of

schooling are likely to be even larger than economic gains. One caveat is that some of the non-pecuniary benefits of education may be mediated by income: education may improve health primarily because more educated individuals have the resources to pay for better healthcare.

One way to tackle this problem is to explicitly control for income in regressions relating education to a given outcome of interest. For instance, Oreopoulos and Salvanes (2011) find that education continues to be significantly associated with self-reported happiness in the United States even after conditioning on family income (see also Clark et al. 2018).

Ideally, one would want to compare non-monetary benefits with monetary returns studied in the previous sections. This comparison is challenging, since it requires expressing non-monetary outcomes on the same scale as income. One way to do so is to compare the effect of education on a given outcome with the effect of income on the same outcome. Consider the following empirical specification:

$$U_i = \alpha + \mu S_i + \psi \log y_i + \varepsilon_i \quad (4)$$

Where U_i is a measure of well-being (e.g., self-reported happiness), S_i is completed years of schooling, and y_i is income. Since the regression controls for income, $\mu > 0$ is evidence of positive non-pecuniary benefits of education. Dividing the coefficient on schooling by the coefficient on log income allows converting these benefits into a monetary equivalent:

$$\text{Monetary Equivalent of Non-Monetary Return} = \frac{\mu}{\psi} \quad (5)$$

To illustrate this approach, I have compiled surveys reporting subjective well-being, income, and educational attainment in five countries spanning all levels of economic development: Albania, Iraq, South Africa, Tanzania, and the United States. Table 1 reports individual-level regressions relating self-reported life satisfaction to years of schooling and income in each country, together with the ratio of the two coefficients. Education is positively associated with subjective well-being in all countries, even after conditioning on income. The ratio of the coefficients ranges from 0.05 to 0.2, and averages 0.1. In other words, the effect of one additional year of schooling on self-reported happiness is quantitatively equivalent to increasing earnings by about 10% (5-20% depending on the country). Given that the monetary return to schooling is typically 10% (Section 1), accounting for non-monetary benefits could thus amount to approximately doubling the value of education policies.

Naturally, this analysis is correlational and does not imply causality. The use of self-reported measures of well-being, as well as the assumption of linear convertibility, can also be questioned. It is also important to highlight that education could generate large non-monetary externalities, such as democratic values and interpersonal trust, which are important determinants of societal well-being yet are typically not captured in these regressions. These non-pecuniary externalities are especially evident for outcomes such as crime, which have negative social consequences for both perpetrators and victims.

4. Educational Resources and Poverty Reduction

Expanding the quantity and quality of schooling requires resources. How these resources are allocated and who benefits from them can have major implications for long-run growth, poverty dynamics, and social mobility. In this final section, I discuss existing evidence on cross-country and historical variations in educational investments and their implications for poverty reduction.

4.1. Resources Matter

Resources matter tremendously for the performance of education systems. A growing literature documents that marginal increases in education funding lead to significant increases in test scores and long-run earnings. For instance, Jackson, Johnson, and Persico (2016) estimate that a 10% increase in per-pupil spending increases wages by 7% and reduces the incidence of poverty by 3.2 percentage points in the United States in the long run. Marginal returns to educational investments tend to be larger for students from disadvantaged backgrounds (Jackson and Mackevicius, 2024). Bharti et al. (2026) find similar results in cross-country regressions relating long-run hourly productivity growth to education spending over the past two centuries. The correlation between education spending and economic growth is particularly strong for poor countries and for public education expenditure.

Despite this evidence, inefficiencies in the use of resources are often at the center of policy discussions about education and poverty reduction. A central concern is that poorer countries, especially those with widespread public sector corruption, might not translate additional resources into tangible outcomes. This concern is legitimate, and there are contexts in which extreme public sector inefficiencies have fueled the rise of a more cost-efficient private education sector. Nonetheless, these issues should not be exaggerated. There are many examples of successful public education policies in low-income contexts, such as the school construction programs and compulsory schooling laws documented in Section 1. More generally, a key reason for the weaker performance of education systems in poorer countries is simply that these countries invest considerably less in schooling. Comparing measures of expected human capital with total education spending per school-age child, Gethin (2025b) finds that cross-country differences in educational outcomes are primarily due to differences in resources rather than efficiency (as measured by expected human capital per dollar spent). From a historical perspective, the expansion of schooling in developing countries has been truly remarkable given the limited resources at their disposal. For instance, secondary school enrollment reached about 80% in India in 2010, whereas it was only 15% in France at the same level of GDP per adult (Gethin and Saez 2026).

4.2. Education Spending Inequalities and Poverty Reduction

Given that resources matter, inequalities in access to education and in education spending can play a major role in shaping poverty reduction. A growing literature documents the structure of these inequalities and their implications for social mobility and economic convergence.

One approach taken by the literature is to study education spending as a transfer received by households: parents would have to pay for their children's schooling in the absence of the public education system, and this subsidy can therefore be treated as a component of their posttax income. An important result from this body of work is that public education spending almost always reduces inequality because it is less concentrated than income. Important variations in this pattern exist, however, with poorer countries often displaying more unequal distributions of education spending (Lustig 2018). Among recent studies, Gethin (2025b) constructs new estimates of the world distribution of education spending from 1980 to 2022. The main finding is that there have been considerable improvements in public education transfers received by the global poor, which can account for a significant fraction of income growth at the bottom of the global income distribution. This finding aligns well with the analysis developed in Section 4, which pointed to education as an important dimension of poverty beyond private income.

Despite this recent progress, large inequalities persist within countries. In almost all countries in the world, children from poorer socioeconomic backgrounds both score lower on standardized test assessments and remain in school for fewer years (Dsouza et al. 2019; UNESCO 2026). These disparities are not restricted to poor or highly unequal countries. For instance, tertiary education enrollment is just as unequally distributed in France as in the United States, ranging from about 30% for students born to the poorest parents to over 90% for those born to the richest, despite the dramatically higher levels of inequality and educational segregation observed in the United States (Chetty et al. 2020;

Bonneau and Grobon 2025). Educational expansion also need not imply a reduction in educational inequality. In fact, the opposite may be true in the presence of convex returns to schooling and greater degree differentiation in higher education. In this context, the increasing stratification of the education system in rich countries has been pointed out as one of the drivers of growing educational divides in political behavior (Piketty 2019; Gethin, Martínez-Toledano, and Piketty 2022).

Global education inequalities are even starker and more persistent. In 2025, Sub-Saharan African countries spent about \$300 per child on education at purchasing power parity, while the United States spent about \$10,000. Even expressed as a fraction of national income, education spending per child remains about twice as high in rich countries as in poor countries. This gap has barely changed over the past century (Bharti et al. 2026). These inequalities have big implications for long-run economic growth and global poverty reduction in the decades to come. For instance, Chancel et al. (2026) quantify that productivity convergence between poor and rich countries by 2100 would require enormous investments in human capital, on the order of 10% of world GDP per year—about 30 times larger than total development aid today.

Given these challenges, whether public investments should be complemented by private resources and the non-profit sector remains an open question. Private education has grown rapidly in low- and middle-income countries (e.g., Das and Dobbin 2026). In many contexts, such as India and Pakistan, this expansion has been fueled by unmet demand for high-quality schooling combined with exceptionally low government efficiency. Private schools often outperform public schools in these contexts, or achieve similar learning outcomes at a lower cost (e.g., Andrabi et al. 2025; Muralidharan and Sundararaman 2015). On the one hand, private education may usefully complement the public sector, expanding the set of options available to households and encouraging a healthy degree of competition within the education system. On the other hand, privatization could lead to greater social segregation, given that richer families are almost universally more likely to choose private options where they exist. There is also a risk of cascading differentiation, whereby expensive private schools attract a growing share of the best teachers and students, further reducing the quality of the public system and increasing inequality. These considerations should be taken seriously, given that the majority of children from poor socioeconomic backgrounds continue to be enrolled in public schools.

Overall, privatization may be useful in some contexts but should neither be considered as sufficient nor necessary for success. Northern and Western European countries developed among of the best education systems in the world by relying almost exclusively on the public sector. Broad access to high-quality public education helps explain why these countries are now among both the most productive and the most equal in the world (Andreescu et al. 2025). There is no reason why other countries should inevitably fail to emulate these successful examples.

5. Conclusion and Avenues for Future Research

The evidence reviewed in this chapter points to clear conclusions. Education has been one of the main drivers of global poverty reduction in the past decades. It has increased individual productivity, generated large labor market spillovers benefiting low-income workers, and likely improved multiple dimensions of human well-being beyond income. The rapid expansion of educational attainment since 1980 can account for a substantial share of global economic growth and an even larger share of income growth among the world's poorest individuals. Public policies that expand access to schooling remain among the most powerful tools available to policymakers for reducing poverty in the long run.

This conclusion may appear surprising in light of the widespread concern about the global learning crisis. Learning outcomes remain low in many developing countries, and improving education quality should remain a central policy objective. Yet the evidence reviewed in this chapter suggests that poor learning outcomes should not be interpreted as evidence that educational expansion has failed. Returns

to schooling remain high in many countries with low (measured) learning outcomes. Improving learning would raise these benefits further, but high levels of cognitive skills are not a prerequisite for education to reduce poverty.

Nonetheless, many questions remain open. Four promising directions for future research are worth mentioning.

First, much remains to be understood about variations in returns to schooling across policies and individuals. The literature has produced many case studies but lacks a unifying theory on why returns are larger in specific countries at specific levels of education. Recent studies rule out education quality as the dominant driver but devote little attention to alternative factors. Even less is known about how and why returns vary across the income distribution and by socioeconomic background. Understanding this heterogeneity is an essential step toward understanding how policies shape aggregate economic growth and its distribution, both of which are first-order determinants of poverty reduction.

Second, the existence and nature of economic externalities remain unsettled. Most researchers recognize that externalities may exist, at least for tertiary education, but their magnitude and distributional implications are unknown. Documenting when externalities arise, how they vary across countries and policies, and who benefits from them remain central unanswered questions.

Third, the non-monetary benefits of education deserve considerably more research. Evidence is accumulating but remains scattered across studies and lacks comparability with monetary assessments of the returns to schooling. One difficulty is that nationally representative household surveys, which often form the basis of education policy evaluations, contain far too little information on non-monetary dimensions of quality of life. For instance, living standards surveys fielded in developing countries devote hundreds of questions to household expenditure but almost never include even the most basic questions on psychological well-being. Randomized controlled trials provide more flexibility but face the even greater challenge of longitudinal tracking, as the benefits of educational interventions take decades to materialize during adulthood. This shortcoming perhaps explains why the literature focuses so heavily on standardized test scores, despite evidence that these scores are not the most important margin through which education improves earnings and human well-being.

Finally, more research is needed on how education inequalities vary across countries and over time, as well as on which policies are most effective at reducing them. The distribution of education resources powerfully shapes both intergenerational mobility and the long-run evolution of the income distribution. A growing number of studies document these inequalities, but we still lack a systematic understanding of their causes and implications.

More broadly, the literature reviewed in this chapter suggests that education should occupy a central place in debates on poverty reduction and economic development. While many questions remain about the mechanisms through which education determines productivity, inequality, and well-being, there is little doubt that expanding access to high-quality education has been one of the defining elements of human development over the past century. Ensuring that progress continues and becomes more equally shared will continue to be one of the central challenges of the twenty-first century.

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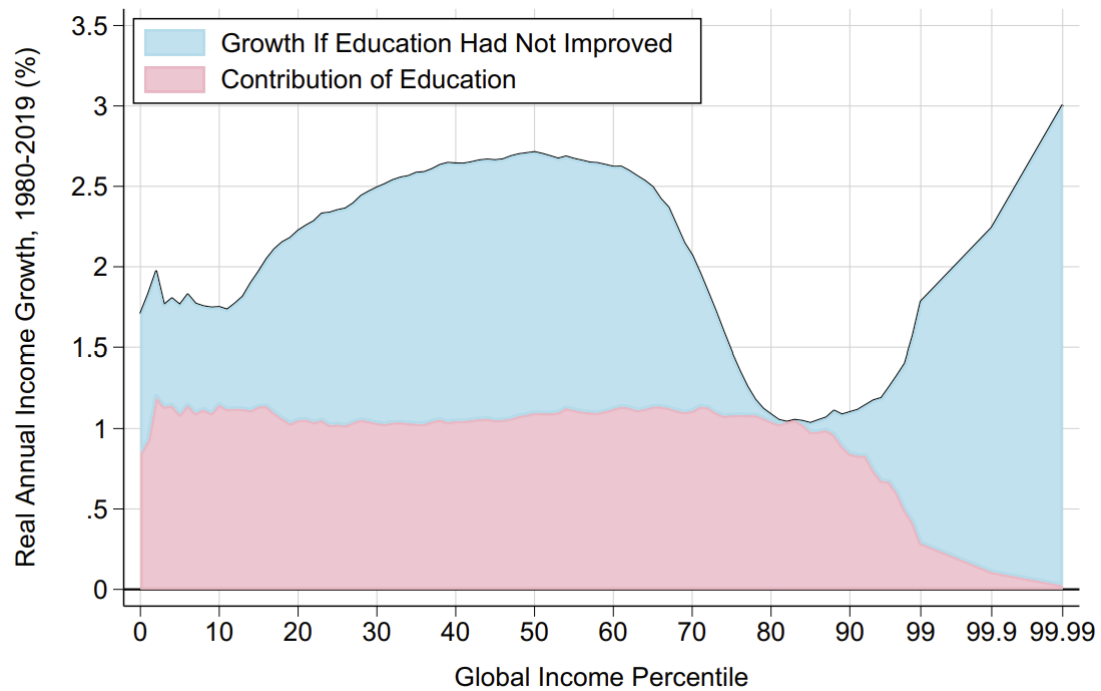
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Figure 1 – Education and the Distribution of Global Economic Growth, 1980-2019



Notes. The figure plots total real income growth by global income percentile from 1980 to 2019, decomposing it into a part that can be explained by education and an unexplained component (see Gethin 2025). The upper shaded area represents the growth rates that would have prevailed absent any improvement in educational attainment of the world's working-age population. The lower shaded area represents the corresponding contribution of education to economic growth. From 1980 to 2019, the average income of the 20th percentile of the world distribution of income grew by 2.2% a year, one percentage point of which can be explained by education. Education thus accounts for about 45% of growth among this group. Overall, education can account for about 45% of global economic growth and 60% of growth among the world's poorest 20% during this period.

Table 1 – Education and Subjective Well-Being

	Albania (1-4)	Iraq (1-4)	South Africa (1-10)	Tanzania (1-7)	United States (1-3)
(1) Years of education	0.06	0.06	0.62	0.05	0.004
(2) Log consumption	0.45	0.13	0.06	0.24	0.11
Ratio (1) / (2)	0.139	0.045	0.098	0.19	0.037
<i>N</i>	6,253	65,469	49,478	3,417	63,127

Notes. This table reports coefficients of individual regressions of life satisfaction on years of schooling and log per-capita consumption in Albania, Iraq, South Africa, Tanzania, and the United States. All regressions also control for gender, age, and age squared (coefficients not reported). The third row reports the ratio between the two coefficients, corresponding to the effect of education on subjective well-being expressed in log consumption points. In all countries, additional years of schooling are associated with significantly higher reported subjective well-being, with a coefficient equivalent to increasing per-capita consumption by about 5-15%. Data from the Albania Living Standards Measurement Survey 2012, Iraq Household Socio-Economic Survey 2012, South Africa Income and Expenditure Survey 2022, Tanzania Household Budget Survey 2020, and United States General Social Surveys 1972-2024. Coefficients on years of schooling and log consumption are not comparable across columns due to the use of different life satisfaction scales across surveys (1-4 in Albania and Iraq, 1-7 in Tanzania, 1-10 in South Africa, and 1-3 in the United States). Log consumption is per-capita household expenditure in all countries, except in the United States where the only variable available is family income. All coefficients are significant at the 1% level (standard errors not reported for readability).