A Civil Rights Agenda for the Next Quarter Century

INVESTING IN OUR NATION'S FUTURE: Advancing Educational Opportunity for Underserved Students

DECEMBER 2025

Emma García Henry Levin

The Civil Rights Project
Proyecto Derechos Civiles

25 YEAR ANNIVERSARY

LEARNING POLICY INSTITUTE

Suggested Citation:

García, E., Levin, H. (2025). *Investing in Our Nation's Future: Advancing Educational Opportunity for Underserved Students*. Los Angeles, CA: The Civil Rights Project/Proyecto Derechos Civiles, UCLA.

About the Series

A Civil Rights Agenda for the Next Quarter Century

The Civil Rights Project was founded in 1996 at Harvard University, during a period of increasingly conservative courts and political movements that were limiting, and sometimes reversing, major civil rights reforms. In 2007 the Project moved to UCLA. Its goal was—and still is—to bring together researchers, lawyers, civil rights advocates and governmental and educational leaders to create a new generation of civil rights research and communicate what is learned to those who could use it to address the problems of inequality and discrimination. Created a generation after the civil rights revolution of the 1960s, CRP's vision was to produce new understandings of challenges and research-based evidence on solutions. The Project has always maintained a strong, central focus on equal education and racial change.

We are celebrating our first quarter century by taking a serious look forward—not at the history of the issues, not at the debates over older policies, not at celebrating prior victories but at the needs of the next quarter century. Since the work of civil rights advocates and leaders of color in recent decades has often been about defending threatened, existing rights, we need innovative thinking to address the challenges facing our rapidly changing society. Political leaders often see policy in short two- and four-year election cycles but we decided to look at the upcoming generation. Because researchers are uniquely qualified to think systematically, this series is an attempt to harness the skills of several disciplines, to think deeply about how our society has changed since the civil rights revolution and what the implications are for the future of racial justice.

This effort includes two very large sets of newly commissioned work. The first is a series on the potential for social change and equity policies in the nation. The second set of studies focuses on California, a vast state whose astonishing diversity foretells the future of the U.S. and whose

profound inequality warns that there is much work to be done. All these studies will initially be issued as working papers. They will be brought together in statewide conferences and in the U.S. Capitol and, eventually, as two major books, which we hope will help light the way in the coming decades. At each of the major events, scholars will exchange ideas and address questions from each other, from leaders and from the public.

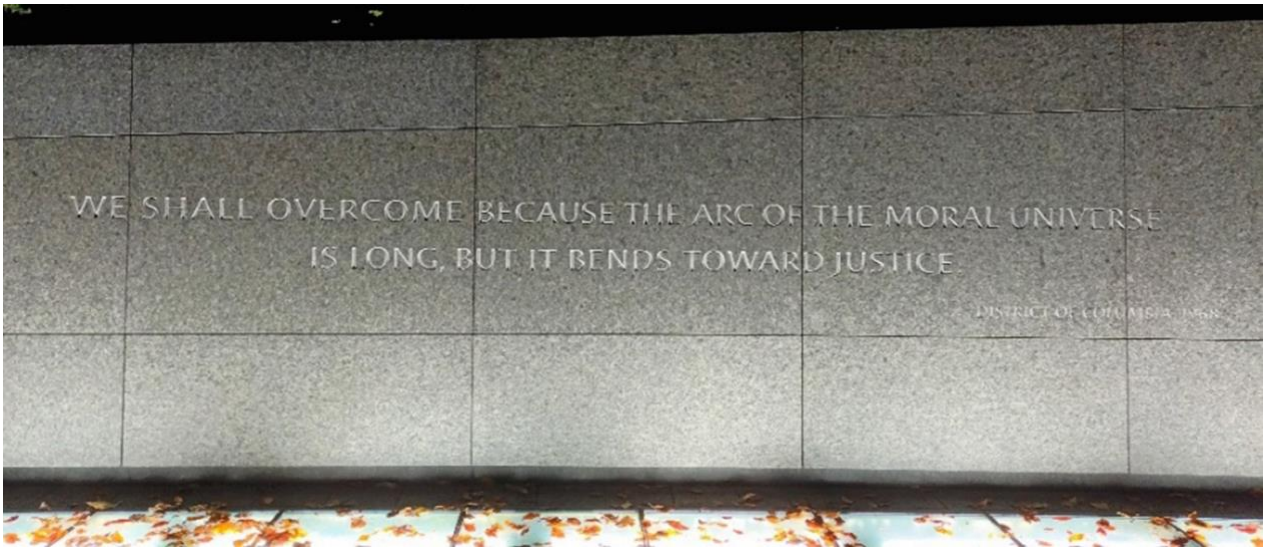
The Civil Rights Project, like the country, is in a period of transition, identifying leadership for its next chapter. We are fortunate to have collaborated with a remarkable network of important scholars across the U.S., who contributed to our work in the last quarter century and continue to do so in this new work. We are also inspired by the nation's many young people who understand that our future depends on overcoming division. They are committed to constructing new paths to racial justice. We hope these studies open avenues for this critical work, stimulate future scholars and lawyers, and inform policymaking in a society with the unlimited potential of diversity, if it can only figure out how to achieve genuine equality.

Gary Orfield

Patricia Gándara

Acknowledgements

The authors are indebted to Patricia Gándara and Gary Orfield for the initiative, the commissioning of, and the feedback received on this paper. They and their colleagues at the Civil Rights Project contributed their support and understanding at times when they made a big difference. We also thank Yilin Pan and Jennifer McCombs for providing ideas in the earliest stages of this work, and Robert Shand for his careful reviews during the development of the paper. Finally, we are extremely grateful to Richard Murnane, Russell Rumberger, and Elaine Weiss for their sound and needed suggestions during the Roundtable review, and for their inspiring work over many years.



"We shall overcome because somehow the arc of the moral universe is long, but it bends towards justice."
Martin Luther King, 1965

Foreword

School reform is complex and the results often discouraging. This paper, however, shows compelling economic evidence for a number of high-profit investments in our schools. Many of the conservative economic claims about public school failure assume that reforms have failed, without seriously assessing the best evidence on policies that produced large economic benefits relative to costs. The idea that public schooling and educational reforms have failed underlies many arguments against increasing education funding and desegregating schools. These arguments also support the shifting of support from public to non-public schools with no requirements to desegregate. These ideas dominate the educational agenda of the Trump administrations and earlier conservative periods. The basic conservative political contention has been that more money won't help; we should give up on public schools by greatly expanding private school vouchers, as Congress decided in 2025. To the contrary, this paper's analysis shows not only that there are programs and policies that offer new educational opportunities for students, but it also documents economic benefits far in excess of the costs. Moreover, the benefits are especially large for the students most in need.

In the U.S., the principal public investment for youth is in the schools and public schools have long enjoyed widespread bipartisan support. However, serious skepticism has developed about the value of more investments in the schools. Beginning a third of a century ago, the rise of an anti-government political movement and a succession of tax cuts at all levels of government have generated severe doubts about whether the investment in public education has been worth it, and if funds should be shifted to private schools. In response, Congress has enacted legislation cutting budgets and transferring resources. This analysis, by economists Emma García and Henry Levin, shows compelling scientific evidence to the contrary—that some educational reforms have succeeded in both strengthening the preparation of the next generation and creating substantial economic benefits for society as a whole.

During the mid-twentieth century, there were major increases in educational investment, from preschool to college. This period was characterized by substantial federal investment in high poverty schools and concern for excluded students of color, concentrated in weak schools. The civil rights era also included the first major support for low-income students to access higher education. By the 1980s, however, the focus on increased funding and racial justice was replaced by growing skepticism and strong attacks on "failing" schools and school districts. Policies were based on the belief that the problem was not lack of investment in education but weak standards and accountability.[1] Although these claims were strongly disputed by major researchers,[2] this approach prevailed, reaching its peak in the No Child Left Behind law and the Obama follow-up programs. Policymakers assumed that specific testing goals (standards), accompanied by strong sanctions (including loss of funds), would force schools to be successful for all groups of students. This focus drove federal policy for a third of a century but resulted in widespread failure of schools to reach the arbitrary standards the law demanded. The growth of funding ended.

By 2015, bipartisan frustration with the failure to meet standards led Congress to return federal education dollars to the states through the Every Student Succeeds Act. During this period the courts reversed civil rights era policies, there was growing isolation of children in extremely unequal schools and teachers' salaries were falling much further behind other professionals as resources were limited. There was a strong revival of traditional beliefs and rote learning. Economic success in the U.S. economy became far more linked with completion of post-secondary education, but state-level tax cuts led to sharp declines in investment in higher education. This, in turn, led to soaring tuitions, which priced lower income families out of higher education. With strong bipartisan

[1] United States (1983). National Commission on Excellence in Education. A Nation at Risk: The Imperative for Educational Reform. Washington, D.C.
[2] David C. Berliner and Bruce Biddle (1995). The Manufactured Crisis: Myths, Fraud, and *the Attack on America's Public Schools*, Addison Wesley Publishing.

support, there was also a major growth of charter schools, based on the belief that investment in semi-autonomous schools with public funds would produce substantial gains through competition and markets. Charter schools typically had no civil rights policies. In many states there was a significant shift from public systems to individual schools that were free to implement the ideas of independent educators and boards with little public accountability. Major equity initiatives were assailed.

The next step in this process was the spread of a variety of voucher policies for private schools, mostly religious institutions, in a number of states.[3] That has now become a major federal policy in President Trump's 2025 gigantic "big, beautiful bill," which sharply redistributes federal funds and tax subsidies. It makes a major investment in private schools, despite research showing that such funds end up subsidizing higher income families, many of whom had already been enrolled in religious private schools. Vouchers, research shows, actually produce an average decline in educational outcomes for low-income families, who tend to have weak private school choices in their isolated communities that often provide no transportation.[4]

Justified by the ideas of conservative economists, investment in public schools has been hampered by anti-tax and anti-government ideologies, by conservative desires to control curriculum content, and by beliefs that markets tend to produce better outcomes. Most of the attacks against greater investment in public schools tend to use simple charts or tables suggesting that test scores don't rise enough. Critics assume that the outcomes measured, usually standardized test scores, are the product of the schools and that low outcomes show low return on investments. In reality, however, research has long shown that low test scores are strongly linked to family and community resources and previous educational privilege, and public schools that serve middle class and upper

[3] Kevin Welner, Gary Orfield, and Luis Huerta (2023). *The School Voucher Illusion: Exposing the Pretense of Equity,* New York: Teachers College Press.
[4] Welner, Orfield, Huerta.

income students fare very well in student outcomes. These parents are able to make private investments in their children's education, both in school and out.

It is, of course, a legitimate question to ask whether educational dollars produce educational gains. It certainly cannot be answered by simple correlations that relate test scores to dollars, omitting all the variations among schools and teaching staffs and family resources, and that seek to measure outcomes prematurely. This important, major paper shows that there are, in fact, educational investments producing positive economic benefits when carefully measured over time.

Economists García and Levin examine generations of research on the impact of investments in schools. They dig deeply into the data on the impact of a variety of programs and conclude—with extensive scientific evidence—that investments in schools can produce large economic gains for society. In a direct challenge to conservative critics, evidence that spending more on well-studied reforms would not be an act of futility but a high-profit investment, with the largest gains coming for disadvantaged students. (In recent works, other scholars, including Rucker Johnson and Kirabo Jackson, looked at the impacts of increasing school resources on the students' lifetime outcomes in employment, income, college, graduate school and professional attainment, health, and criminal behavior. The effects are the largest for disadvantaged students.[5])

García and Levin tell us what many economists and businesspeople know—it is critical to compare the costs of an additional expenditure with the measurable gains it produces. Cost-benefit evaluation, using sophisticated analyses of data and findings from previous studies, can show whether a program or policy produces economic gains greater than its cost. Such findings matter, especially in a society where there is intense competition for the scarce resources in the public sector.

[5] Rucker Johnson (2019). Children of the Dream: Why school integration works. New York: Basic Books; Karabo Jackson (2009). Student Demographics, Teacher Sorting, and Teacher Quality: Evidence from the End of School Desegregation, Journal of Labor Economics, 27, 2.

The authors of this paper are experts in comparing costs to measurable economic gains from education, which they combine with a deep understanding of the stratification of educational opportunity. They do not expect readers to take their conclusions on faith. They rely on serious, independent, scientific studies. They examined the actual data on the per student costs and found statistical evidence for the economic value of the outcomes. Since their conclusions directly challenge ideological assertions that have long driven policy, they take review of key research very seriously. They provide key citations for readers needing specific evidence. If readers are convinced, they need to think seriously about how the education policy debate should be reframed.

How can their findings be reconciled with the conservative arguments? Having been deeply involved in arguments over charters and vouchers, and a variety of major civil rights disputes in education, it is easy to point to some of the flaws. First is the overwhelming focus on test-based outcomes over relatively short periods of time, such as the beginning and end of one academic year. This is insufficient time to observe change since most interventions require at least a year or two to become integrated into the curriculum and more time to take hold. Neither does their short-term assessment model consider the differential advantages students experience inside and outside school. Middle class families focus on giving their children strong preparation at home[6] and in the schools they attend, often paying higher housing costs, subsidizing the schools with fundraisers, and committing to longer commutes to pursue quality educational options. Yet there is little public discussion of programs and policies that provide similar experiences and opportunities to low income and nonwhite children who cannot afford housing in many areas with strong schools. This makes it critical to take into account the differences in contexts that disadvantaged children experience, as they are often segregated in schools with less prepared peers, teachers without

[6] Sean Reardon (2011). The Widening Academic Achievement Gap Between the Rich and the Poor: New Evidence and Possible Explanations, in Wither Opportunity: Rising Inequality, Schools, and Children's Life Chances. New York: Russell Sage Foundation.

experience, more limited curriculums, and less parental support. Moreover, students with a different home and neighborhood language, or with physical disabilities, often confront special challenges that are not caused by the schools but need to be effectively addressed to give those children a fair chance of competing academically.

When we think about the economic value of reforms, we need to move beyond tools that predict academic grades (tests). We should think about reforms that have longer impacts on life chances and deal with the broader skills that employers especially value. Interpersonal skills are very highly valued and influence employment and success but are often not tested. We do not evaluate things like fluency in a second language for success in diverse settings and international trade. In a racially polarized society with diverse employees, having leadership skills in crossing lines of division and generating teamwork are invaluable, as America's military leaders have long recognized. Yet these skills and abilities are rarely considered when comparing program outcomes. These are not just psychological attributes; they have the potential to change economic outcomes. Policies and programs that increase these skills can produce gains that are invaluable to civil society and to public and private institutions.

This paper is a direct attack on the pessimism that has dominated so much of educational policymaking for more than a generation, much of which is linked to gloomy predictions of economic decline. There are, if this research is correct, a number of well-documented programs and policies that not only show positive student benefits and more equal opportunity, but their outcomes also produce measurable economic gains. In a political system in which educational reforms are often dismissed as deadweight costs, there are clear, research-based educational investment strategies that produce substantial gains for the nation.

In a culture fixated on the "bottom line," it is time to move beyond ideological assumptions, to consider serious research that changes the educational policy discussion. Educational equity has

been a central civil rights goal since the powerful movement that led to *Brown v. Board of Education* and the Civil Rights Act. The politics of the anti-public school, anti-civil rights agenda that generates such deep pessimism must give way to a new politics, one built around solid evidence. These authors have done us a great service. This paper demonstrates that it is possible to make major gains in educational outcomes, far exceed the cost of the investments and ultimately produce equity, if we carefully measure inputs and outputs over time.

-Gary Orfield

Table of Contents

Table of Tables

Table of Figures

Executive Summary

Many decades of education research have identified strategies that improve education outcomes for all students and yield substantial returns for both individuals and taxpayers. As disparities in educational opportunity and outcomes by race/ethnicity and income persist, and the nation undergoes significant demographic changes, this body of evidence has become especially critical to outlining education policy decisions moving forward. It provides a compelling, research-based case for why devoting more public funds to education is a good social investment.

Proven Educational Interventions

This study summarizes the evidence on the net benefits to society of education interventions across multiple areas, including enrollment and completion in early childhood, secondary, and higher education; school integration; and accelerated or comprehensive programs such as community schools and socioemotional learning initiatives. Interventions in these areas are both effective and equitable—improving targeted outcomes while reducing racial and income-based disparities. When paired with their economic evaluations, the findings show that they have returns that are very substantial—generating net benefits to the taxpayer ranging from approximately $2 to over $10 for every dollar invested.

Persistent Educational Inequities, Demographic Shifts, and their Consequences

Why this evidence is important is twofold. First, previous efforts to reduce gaps in educational opportunities and outcomes by race/ethnicity and by income background—i.e., to alter the links between demography, educational demography, and aggregate outcomes—fell short, as sizable inequities have persisted. Second, the country is undergoing a profound demographic transformation. Individuals from racial and ethnic minority backgrounds are becoming the majority, the White population is declining, and the youth population is shrinking: by 2060 the population will include 64 million more individuals from racial and ethnic minority backgrounds, 33 million fewer

White individuals, and 8 million fewer children and youth, according to the latest U.S. Census projections.

Building on the existing evidence, the study outlines two starkly contrasting paths forward for the country. On the one hand, maintaining the current course would lead to worsened educational and economic aggregate outcomes for the U.S., which would growingly reflect those of individuals from historically disadvantaged backgrounds and the deep-seated and persistent inequalities in opportunities to learn they experience.

On the other hand, pursuing an equity-centered agenda, at scale, that improves educational opportunities and outcomes for all individuals would present an opportunity to activate the potential of the growing majorities. This choice would not only address long-standing inequities but also yield substantial net benefits for the nation as a whole. The simulations for the gains to the taxpayer to improving education participation and outcomes for Black and Hispanic children, bringing them closer to the levels of White children, suggest increased net benefits ranging from $20.2 to $72.6 billion per year. For example, increasing early childhood education (ECE) enrollment rates of Black and Hispanic children to the level of White children would lead to about 136,000 additional children enrolled in ECE per year, and to an increased net benefit to the general public of about $40.9 billion per year.

Lessons Learned to Help Advance an Equity-focused Agenda

The study issues multiple considerations that are informed by the existing evidence.

The economic evaluations suggested numerous additional lessons learned around essential conditions for the investments to yield returns. For example, the quality, intensity, and duration of the interventions are important, as higher benefit-to-cost ratios are usually associated with more resource-intense programs and those with stronger dosage effects and/or with longer exposure. In addition, while the benefits are often larger for the most disadvantaged children, all participants can

reap significant benefits, or, at the very least, experience no harm, so that improving the human capital of any group results in broader societal benefits. While the use of economic evaluation has greatly expanded, policy guidance would greatly benefit from making it an essential component of the toolkit used to uncover the full returns and their distribution of any new investments.

This study also finds answers in the existing literature to caveats around programs' scalability, accountability, or the gap in time between when the costs are faced and when the benefits are happening, which could become obstacles in supporting these investments at scale. For example, the evidence shows that sustained gains in generalized and large settings are feasible. It also shows how to overcome implementation problems, changing participant and/or technology conditions that influence their effectiveness and/or generalizability. Similarly, it discusses the role other public investments—ranging from access to health care, childcare, housing, social services and broader economic policies—may play in providing equal educational opportunities.

Conclusion

Investing in the education of all children is not only a long-standing moral imperative but also an increasingly strategic economic decision, particularly in light of the nation's need to equip all children to contribute to its future prosperity. The empirical evidence is clear: educational investments at scale would yield substantial public returns. And while the monetary metrics are compelling, it is the vision of a more just and prosperous society—with reduced inequality, a more dynamic economy, and enhanced well-being—that truly underscores the enduring value of such investments.

Investing in Our Nation's Future
Advancing Educational Opportunity for Underserved Students

Emma García and Henry Levin

Section 1: Introduction

Alongside several of the social, economic, and political movements that are inherent in every nation's historical development, the U.S. is also undergoing another singular transformation. Slowly yet relentlessly, the country is nearing a pivotal juncture in its demographic composition, as the combined number of individuals from racial/ethnic minority backgrounds—historically disadvantaged due to deep-seated and persistent inequalities in a range of opportunities, including education, economic, and others—increases and surpasses the number of White individuals who have been traditionally better off. This demographic shift is already taking place in schools and will reach the adult population in the foreseeable future, progressively increasing the diversity of the entire society.[7]

In this paper, we examine what this demographic shift could imply for the country's future productivity and aggregate human capital, given both the historically tight links between race/ethnicity, social class, educational opportunities, and educational, economic, and social outcomes; and the knowledge about successful strategies to improve education levels that bring significant returns to societies. We also show how using an economic evaluation approach can help outline the most advantageous education policy agenda for all of our country's racial and demographic subgroups.

[7] The composition of the student population in public elementary and secondary schools became "majority minority," in 2014-15 after the number of students of color combined (Black, Hispanic, Asian, Pacific Islander, American Indian/Alaska Native, or two or more races) exceeded the number of White students for the first time (U.S. Department of Education, 2021). Among the U.S. total population, majority-minority status will happen in 2046, according to our calculations using U.S. Census Bureau, Population Division (2023), the most up-to-date population projections.

Our approach is threefold. First, we demonstrate that increasing education levels for individuals from relatively disadvantaged backgrounds is an investment that has benefits for society that are very substantial.[8] To do this, we build on the evidence showing that educational and subsequent adulthood outcomes are lower among individuals from these groups, due largely to deep-seated and persistent inequalities in opportunities to learn that are also linked with race and social class; and on findings from economic evaluations of education interventions that improve educational outcomes for participants.

Second, we argue that it is important for education policymakers and researchers to point out that these education interventions also benefit historically better-off groups. Whether the benefits arise directly from the interventions or indirectly through externalities or social mobility, improving the educational attainment of any group yields broader societal gains that benefit all groups.

Third, we suggest that expanding the use of economic evaluation, or benefit-cost analysis, to monetize the impacts of education interventions can help realize the magnitude of the gains, as well as uncover the real costs of inaction—those we face when we fail to invest. Benefit-cost analyses' results further underscore that promoting educational investments in favor of relatively disadvantaged population subgroups is, in fact, not a cost but rather a beneficial investment—one that can be estimated in dollars and that secures greater prosperity and more equity for the entire nation.

[8] In the rest of the paper, we use the term "relatively" as a qualifier that helps distinguish a position in a distribution relative to others' position in the same distribution. While in most cases, disadvantages among the "relatively disadvantaged" are absolute, historical, and for a fact, it does not imply that all members in a group experience them in the same degree, or that there are not individuals among the relatively better off who are not experiencing any challenge. Most importantly, belonging within a group that is relatively disadvantaged is a byproduct of the system's functioning and its historical trends, and it can be changed as shown in this paper.

In section 2, we briefly introduce human capital theory, the framework linking education and productivity that we adopt in this paper, and we explain how demography is factored into aggregate human-capital outcomes. Next, we describe some of the gaps in various outcomes between groups, including by racial/ethnic minority or income background, as well as some of their root causes and drivers, and their persistence over time.

We then turn our attention to the anticipated demographic changes in the country in section 3. We compare both the total number of individuals by race/ethnicity in 2022 versus 2060 and their share of the total U.S. population, using the most updated U.S. Census projections. We discuss the consequences of this changing demography for some aggregate outcomes to illustrate the need for an equity-focused agenda that improves outcomes for all groups.

In section 4, we describe the methodology used in economic evaluation, including benefit-cost analysis, and explain how it allows us to estimate separate costs and gains for participants, the taxpayers who fund the interventions and reap some of the benefits (referred to as general public hereafter), and society as a whole.

In section 5, we review several education interventions that have been promising in terms of improving outcomes and/or reducing gaps and that, according to the research examining their benefits net of costs, have led to efficiency gains or to positive net benefits.

In section 6, we use the lessons from economic evaluations on the net returns to interventions and the demographic projections to offer a simulation of the gains to the general public of an equity-focused agenda provided to specific age groups at scale. We include evidence about why devoting more public funds to public education is a good social investment, even in light of concerns around scalability, accountability, and mixed-findings evidence in some areas.

Finally, while this article does not prescribe specific solutions, the assembled evidence, based on various types of strategies that have improved outcomes and equity and are good social

investments, offers a suite of options for future consideration. These options also include recommending the adoption of a more comprehensive evaluation framework that accounts for effectiveness and returns to investments to inform decision-making processes in education policy. Limitations and pathways to further this agenda are also discussed in the last section.

Section 2: The Role of Education in Predicting Productivity

The Links Between Demography, "Educational Demography," and Productivity

We follow the human capital theory, the main framework linking education and productivity, which has established that education, or human capital more broadly, enhances a person's skills and increases productivity in the workplace, and that investments in education anticipate a wide range of benefits (Becker, 1962, 1964; Blaug, 1992; Schultz, 1961; Tan, 2014). While estimates of the returns to human capital typically focus on increased earnings and on the individual, advances in human capital components—such as education, schooling, on-the-job training, adult education, health, and migration—predict both individual and collective economic gains, as well as other nonmonetary and consumption gains and externalities.

This theory has been widely adopted and tested in multiple contexts and at multiple levels. For example, the empirical evidence shows rates of return of about 10% for an additional year of education, with some variation by gender and race/ethnicity (Psacharopoulos & Patrinos, 2018); a causal effect of education on health, social protection, and crime (Lochner, 2011); indirect benefits or externalities (accounting for about 40–60% of the private income benefits, McMahon, 2006); as well as increases in the rate of economic growth, at a national scale, for countries with a higher aggregate human capital (Hanushek & Woessmann, 2008; Montenegro & Patrinos, 2021; Valero, 2021). In this research, the aggregate human capital in a country is the nation's combined skills, attainment, and other human capital components, with the educational, economic, and social

outcomes of its population subgroups weighted according to the country's demographic composition.

Through this last equation, demography predicts "educational demography" and determines aggregate outcomes in two ways. First, a country's demographic composition—the size of each group and each group's share of the overall population—determines the contribution of each group's education performance and productivity to the country's aggregate outcomes. Second, each group's education performance and productivity, as well as any differences in them among groups, are factored into the aggregate outcomes. This is important given the overwhelming body of evidence showing that education performance and productivity of individuals from a minority/low-income background are, on average, below those of White and better-off individuals—and regardless whether these gaps in education performance and beyond are largely the result of unequal opportunities to learn and their underlying causes, including social inequality, segregation, racism and others, for which there is also overwhelming evidence.[9]

Outcome and Opportunity Gaps by Race/Ethnic Minority Background

As such, models that do not account for other factors influencing the outcomes reveal substantial gaps in skills and educational attainment by race/ethnicity and by socioeconomic status, along with unequal outcomes in the labor market, income and wealth, and health status, including life expectancy—partly attributable to long-lasting consequences of gaps in education attainment (Altonji & Blank, 1999; Cutler & Lleras-Muney, 2010; Duncan & Murnane, 2011; Duncan, et al., 2011; García & Weiss, 2017; Hahn, 2022; Jencks & Phillips, 1998; Kalil, et al., 2016; Kim, et al.,

[9] We note here that differences in outcomes by race/ethnicity between individuals from a minority background with respect to white individuals depend on the specific group. Similarly, there can be significant differences within a single group. For example, on average, Asian individuals' outcomes are on the par or even better than outcomes from white individuals. Within Asian students, performance of non-English language learner (ELL) Asian students is better than performance of ELL-Asian (Carnoy & Garcia, 2017). Other differences exist, and the statement in the main text applies to the overall comparison between all individuals from a minority background and whites.

2022; Magnuson & Waldfogel, 2008; Mishel, et al., 2012; Putnam, 2015; Reardon, 2011; Reardon & Portilla, 2016; Rothstein, 2004; Schanzenbach, et al., 2016; Schultz, 1980; Shakeel & Peterson, 2022; Stringhini, et al., 2017; Thomson, 2018) (see Appendix A and Table A1 for a summary of some of these gaps).

As has also been well documented, children from minority or low-income backgrounds often do not have the same educational opportunities as their more privileged counterparts (e.g., Darling-Hammond, 2018; Ladd, 2012; Orfield, et al., 2014; Murnane, 2021; Rothstein, 2004; Rothstein, 2014). For instance, they have access to fewer educational inputs, such as teacher quality, positive school discipline, afterschool activities, early childhood education, and access to advanced courses in school; and those they receive are often of a lower quality (e.g., Adamson & Darling-Hammond, 2012; Cardichon, et al., 2020; García, 2015; Leung-Gagné, et al., 2022; Losen & Martinez, 2020; McCombs, et al., 2019; U.S. Department of Education for Civil Rights, 2014).

Children from a minority background are also more likely to live in concentrated poverty and to do so over prolonged periods of time (Jargowsky, 2013; Orfield, 2013; 1978; Sharkey, 2013; Wilson, 1978; 1987). Partly as a result of this, children from minority or low-income backgrounds tend to attend schools that are highly segregated by income and by race/ethnicity, where per-student revenue and expenditures are lower than in wealthier and less diverse districts (Allegretto, et al., 2022; Carnoy & García, 2017; Morgan & Amerikaner, 2018).[10] Moreover, these publicly funded inequities are then compounded by private ones; parental investments in key educational resources, from quality early childhood education to time and spending on enrichment, are greater for the high-

[10] On average, per-student revenues are about 14% lower in high-poverty districts than in low-poverty districts; their finances are greatly affected by economic recessions, to a point that they not only fall more during recessions, but also it takes longer for them to return to their own prerecession levels (Allegretto, et al., 2022).

income families with resources to afford them (Duncan & Murnane, 2011; Morsy & Rothstein, 2015; Van Voorhis, et al., 2013).[11]

Gaps in both opportunities and outcomes by socioeconomic status have not only persisted over time, but have widened in recent decades (Reardon, 2011) and been cumulative (Dearing, et al., 2024).[12] Related, while a handful of state-level systems and reforms have produced gains and improved long-term outcomes for some groups, many others compound the opportunity and outcome gaps described here, and those that are making progress still leave a long way to go in equalizing opportunities for students from key subgroups (Carnoy, et al, 2015; Mantil, et al., 2023; NAEP, n.d.; Papay, et al., 2020). Monitoring these will continue to be important, especially in this long aftermath of the COVID-19 pandemic, whose negative consequences on performance and equity persist to date (NAGB, 2025; Gamoran & Murnane, 2023). Considering all these circumstances, that the numbers of children growing up in disadvantage are rising actually becomes an important contributor to the urgencies and needs expressed in this paper.[13]

[11] In addition, spending on education-enhancing activities by parents in the top income fifth nearly tripled between the 1970s and the 2000s (from $3,500 in 1972 to $8,900 in 2006), while such spending by parents in the bottom income fifth remained low and changed much less (from $800 in 1972 to $1,300 in 2006) (Duncan & Murnane, 2011, amounts in 2008 dollars).

[12] This recent paper measures the disparities in the accumulation of opportunities across five settings (home, childcare, school, afterschool, and in the neighborhood) and across children's lives (from birth through the end of high school), using a longitudinal sample of children over 26 years whose family income varies. The study also finds support for the hypothesis that cumulative opportunities shaped by early childhood income are linked with educational attainment and earnings in early adulthood (Dearing, et al., 2024).

[13] From now onwards, we focus on race/ethnicity as the factor identifying relative disadvantage. We note that the numbers of individuals in other socioeconomically disadvantaged groups are large and have increased. According to NCES, 26.2 million public-school students were eligible for free or reduced-price lunch in 2018-19 (NCES, 2020a), with more than 8 million students (nearly one-third) added to this group between 2000 and 2018. A more equitable agenda would affect other groups, including about 7.3 million students ages 3 to 21 served under IDEA (14.4% of enrollment) in 2019-20; the 1.4 million homeless students enrolled in public elementary and secondary schools 2016-17 (2.7% of enrollment and growing each year); and over 5 million English language learner (ELL) students in 2018 (10.2% of public-school enrollment) (based on Digest of Education Statistics information). Race, ethnicity, class, and opportunities are closely related.

Section 3: A Shifting Demography Increases the Need to Improve Outcomes and Opportunities for All

A Growing Population Becoming More Diverse and with Fewer Children

The demographic shifts mentioned earlier, and the pace at which they are expected to occur, are illustrated in the population pyramids by age and race/ethnicity in 2022 and in 2060 in Figure 1 and in Table 1. Several key trends stand out. First, the U.S. total population is growing. According to the most recent U.S. Census projections, the total population will increase from 333.3 million in 2022 to 364.3 million in 2060—an increase of about 31 million, or 9.3%.[14] Second, this is happening despite the relative aging of the U.S population. The population ages 0–17 is expected to decrease by more than 11% over this period, from nearly 72.5 million in 2022 to about 64.3 million in 2060, with the number of school-age children (ages 5–17) similarly declining, from about 54 million to about 47 million.[15] Finally, the population is becoming more diverse, with more residents from racial/ethnic minority backgrounds and fewer Whites in almost all age groups. The number of Hispanic, Black, Asian, American Indian and Alaska Native (AIAN), Native Hawaiian and Other Pacific Islander (NHPI), and multiracial individuals combined is expected to surge by nearly a third, from 137.1 million in 2022 to 200.7 million in 2060. In contrast, the number of Whites will decrease from nearly 200 million (196.3) in 2022 to 163.3 million in 2060.

[14] These projections offer a more modest population increase than the prior decade's projections (U.S. Census Bureau, 2017; Frey, 2021). Additional projections are available in a recent report published by The Civil Rights Project (Van Hook, et al., 2023), which projects a slightly larger school-age population in 2050 than Census 2023 does (58.3 million vs 52.3 million). Importantly, the authors note that "We also recognize that projections of the racial and ethnic composition of the population could be inaccurate or misleading because racial and ethnic identities and the meanings of those identities could change in the future." This limitation also applies to the data in this study.

[15] See Figure D1 in Appendix D, for the trend of the size of this population group over the period 2022–2060.

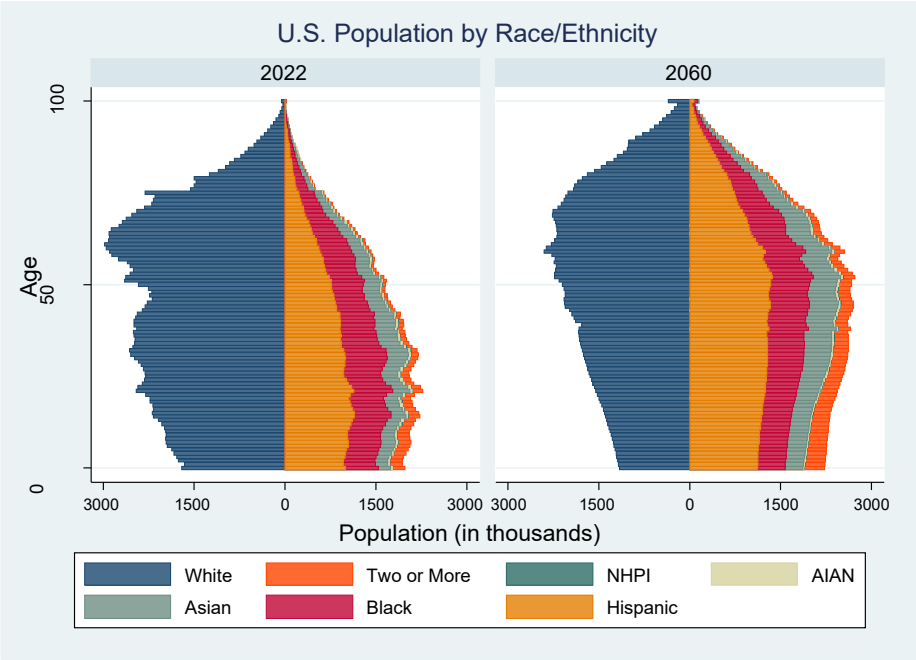
Table 1 U.S. Population and Distribution by Race/Ethnicity, by Selected Age Groups, 2022-2060

	2022			2060		
	Population ages 5-17	**Population ages 18-64**	**Total population**	**Population ages 5-17**	**Population ages 18-64**	**Total population**
Total	53,912,000	203,042,000	333,288,000	47,204,000	211,163,000	364,287,000
Total by race:						
White	26,599,000	117,589,000	196,226,000	17,379,000	90,929,000	163,630,000
Hispanic	13,895,000	39,571,000	63,664,000	15,130,000	59,132,000	97,994,000
Black	7,414,000	26,544,000	42,070,000	6,388,000	28,756,000	48,736,000
Asian	2,974,000	13,395,000	20,276,000	4,020,000	20,304,000	33,306,000
AIAN	434,000	1,510,000	2,421,000	276,000	1,367,000	2,332,000
NHPI	116,000	406,000	636,000	131,000	543,000	935,000
Two or More	2,482,000	4,027,000	7,994,000	3,879,000	10,132,000	17,354,000
Share by race:						
White	49.3%	57.9%	58.9%	36.8%	43.1%	44.9%
Hispanic	25.8%	19.5%	19.1%	32.1%	28.0%	26.9%
Black	13.8%	13.1%	12.6%	13.5%	13.6%	13.4%
Asian	5.5%	6.6%	6.1%	8.5%	9.6%	9.1%
AIAN	0.8%	0.7%	0.7%	0.6%	0.6%	0.6%
NHPI	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%
Two or More	4.6%	2.0%	2.4%	8.2%	4.8%	4.8%

Notes: Population total numbers rounded to the closest 1,000. Racial/ethnic categories reflect those used in the original source. Hispanics are of any race (Hispanic origin is considered an ethnicity, not a race). Other races are non-Hispanic. AIAN: American Indian and Alaska Native. NHPI: Native Hawaiian and Other Pacific Islander.
Estimates and Shares are built using https://www2.census.gov/programs-surveys/popproj/datasets/2023/2023-popproj/np2023_d1_mid.csv (see documentation in https://www2.census.gov/programs-surveys/popproj/technical-documentation/file-layouts/2023/np2023_d1.pdf).
Source: Own analysis of U.S. Census Bureau, Population Division (2023). 2023 National Population Projections. NP2023_D1: Projected Population by Single Year of Age, Sex, Race, and Hispanic Origin for the United States: 2022 to 2100. File: Release date: November 2023, 2023 National Population Projections Datasets
Projections for the United States: 2023 to 2100 (https://www.census.gov/data/datasets/2023/demo/popproj/2023-popproj.html).

As a result of these trends, by 2060, about 57 percent of the adult population between the ages of 18–64, 55 percent of the total population, and nearly 3 out of every 4 school-age children will be from a minority background (Table 1, bottom panel). These figures contrast sharply to 2022, when nearly 60 percent of both the working-age and overall populations, and about half of the school-age population, were White. Moreover, as the fastest-growing groups, Hispanic and Asian individuals will undergo the most significant shifts both in their overall numbers and share of the total population (see also Brown, 2014, for a discussion).[16]

Figure 1 U.S. Population by Race/Ethnicity



Notes: Racial/ethnic categories reflect those used in the original source. Hispanics are of any race (Hispanic origin is considered an ethnicity, not a race). Other races/ethnicities are non-Hispanic. AIAN: American Indian and Alaska Native. NHPI: Native Hawaiian and Other Pacific Islander.
Source: Own analysis of U.S. Census Bureau, Population Division (2023). 2023 National Population Projections. NP2023_D1: Projected Population by Single Year of Age, Sex, Race, and Hispanic Origin for the United States: 2022 to 2100. File: Release date: November 2023: 2023 National Population Projections Datasets
Projections for the United States: 2023 to 2100 (https://www.census.gov/data/datasets/2023/demo/popproj/2023-popproj.html).

[16] In 2060, 26.9 percent of individuals (or about half of the share of population with a minority background) will identify themselves as Hispanic, 13.4 percent will be Black, 9.1 percent will be Asian, nearly 5 percent will be of two or more races, 0.6 percent will be American Indian and Alaska Native, and 0.3 percent will be of Native Hawaiian and Other Pacific Islander origin (Table 1, bottom panel).

In the current context, and though revised population projections will likely be made available and will somewhat impact the numbers provided above, it is important to note that the diversification of the population is already underway. Even if we allowed for zero immigration, or other demographic parameters were altered, the trends and outcomes would remain.

Implications of Anticipated Demographic Shifts on Aggregate Outcomes and on the Need for an Equity-Focused Agenda

In the absence of major policy action to support education investments for individuals from racial/ethnic minority backgrounds, the shifting demography anticipates likely negative consequences to the aggregate education and economic outcomes. A simple calculation—weighting observed educational and economic outcomes by race/ethnicity by the 2022 and the projected 2060 relative sizes of each group—illustrates how a decrease in the share of individuals with higher average values of those outcomes, and an increase in the weight of individuals with lower average outcomes, would result in aggregate declines.[17]

As discussed earlier, the disparities in outcomes by race/ethnicity we focus on in this discussion originate from deep-seated and persistent unequal opportunities to learn and their underlying causes; they are driven by a difficult-to-disentangle combination of racism, segregation, and other forms of discrimination that have led to persistent high levels of social inequality. Recognizing these realities—and understanding their various legal, political, and societal factors—is vital when seeking solutions to break this vicious cycle of disadvantage and to prevent more lost potential. A lack of public policy action around investments with an equity focus—i.e., investments that increase the outcomes for individuals from race/ethnic minority backgrounds, that improve

[17] For illustration purposes, this exercise is applied to some outcomes in Appendix A: projected high-school graduation rates, performance on the NAEP mathematics and reading assessments, and adult population with an associate's degree would decline by close to 4 percent each (Appendix Table B1). These potentially negative changes could be extrapolated to any other domain showing disparities by race/ethnicity, such as socioemotional skills, college enrollment rate, post-secondary completion, employment outcomes, wealth, or health outcomes, assuming no other changes would alter outcomes in adulthood.

their opportunities to learn, and that counter the broader factors at the root of the problems that drive the inequities—will have seriously detrimental effects on the country's economic potential, as well as worsening its social cohesion. Indeed, just preventing such harms provides a strong rationale for policy change.

The need to improve the outcomes for all groups, but especially historically disadvantaged groups, becomes apparent. Increasing educational investments in emerging majorities would yield important returns for these groups, redressing some of the historical wrongs wrought on them and paving the way for their sustained prosperity. Moreover, findings from impact and economic evaluations of a variety of educational interventions speak to the economic returns of an agenda focused on improving the outcomes and the learning opportunities of the growing majorities. These interventions are not only *effective,* they also produce substantial *net benefits to taxpayers and society*.

Section 4: Successful Educational Interventions

Analyses of Education Interventions: Impacts and Investments

Effective educational programs can have positive economic outcomes for both disadvantaged populations and society as a whole. For example, improving educational outcomes of relatively disadvantaged populations can drive important benefits for society in terms of higher social productivity and increased tax revenues. Improved education also lowers public spending on criminal justice, public assistance, and public health, and is associated with indirect benefits gains in both productivity and earnings for individuals at all levels of education (e.g., Lochner, 2011; Muening, 2006; Levin, Rouse, & Belfield, 2006; McMahon, 2006).

In general, education evaluations tend to focus on more limited outcomes, such as test scores and educational attainment, and fail to explore their further-reaching economic outcomes. This neglect has been due in part to the failure of most educational evaluations to incorporate the

tools of economic analysis. But, equally important, educational interventions themselves are usually inadequately designed to capture their economic consequences.

For example, over six decades ago, the widely influential Coleman Report found no statistical impact of educational resources on student outcomes—after accounting for family resources (Coleman, et al., 1966). Many social commentators thus concluded that "dollars do not make a difference," and that additional school spending was not effective in improving low-income students' education. But what was ignored in this conclusion was the poor quality of data and the inadequacy of the statistical analysis to evaluate the "educational production function," a weakness found in most subsequent analyses in local and statewide studies of education using multiple regression methods and relying on the Coleman data or similar data (e.g., Hanushek, 1989).

Although there has long been widespread agreement among economists that experimental or quasi-experimental studies were necessary to determine interventions' efficacy, it took a half-century of progress to apply such methods effectively to study the impact of education on outcomes (e.g., of additional years of school or degree attainment on earnings) and of educational resources on outcomes (e.g., of preschool on test scores or school readiness) (Angrist & Pischke, 2009; Murnane & Willett, 2011). Similarly, it took decades to obtain measurements of impacts of financial support of education through rigorous evaluations of school finance reforms, natural experiments or regression discontinuities (e.g., Jackson, et al., 2021; Jackson, 2018). The same timing also applies to the integration of these results into cost-effectiveness and benefit-cost studies of educational investments for populations living in poverty (Levin, 1975) and their adoption in public policy evaluations (IES, 2020).

Benefit-Cost Analysis: Net Benefits to the General Public and Society

The two forms of economic analyses of educational investments that are most pertinent to assessing the economic impact of educational prospects of populations living in poverty are cost-effectiveness and benefit-cost analysis.

Cost-effectiveness studies compare the results of different interventions in terms of the costs of obtaining particular results on a specific educational goal. This technique combines the estimation of effectiveness of interventions with costs to identify the most efficient strategies for obtaining particular educational outcomes. For example, an early study compared the effectiveness of teacher experience versus teacher verbal ability on student mathematics and reading achievement, drawing on data from the Coleman Report for a large metropolitan sample of White and Black sixth graders. The research found that more verbally able teachers had between five and ten times the positive impact on student achievement per dollar of cost compared to more experienced teachers of average verbal ability (Levin, 1970).[18]

In contrast, benefit-cost studies compare the monetary value of the costs with the monetary value of the benefits that are generated by a particular intervention. Such studies can ascertain whether the benefits exceed costs. The costs are the public investments in the intervention, while the benefits flow both to the individuals, families and communities whose outcomes gain significantly, and to society in terms of lower costs of services in various areas (for example, reduced spending, or saved costs, in criminal justice) and higher tax revenues. These studies also provide opportunities to calculate rates of return and other forms of profitability for society on their educational investments. Benefit-costs studies answer the simple question "do benefits exceed

[18] Hanushek found positive effects for teacher experience and verbal test ability. A follow-up focused on the costs was needed to determine what should get priority for selection.

the costs?" through an approach that is far more sophisticated than earlier, more limited analyses of human capital (Becker, 1964).

A widely known application of the cost-benefit approach is the one around the Perry Preschool Program (described below). Its evaluation found both substantial effectiveness on important measures of educational outcomes and strong returns to the investment (Barnett, 1985; Nores, et al., 2005). While its limitations of a single school and a small sample of students raised questions about generalizing the results to multiple locations and larger populations, this study established a useful framework for subsequent evaluations of early childhood education on a bigger scale.

The method for measuring costs of the Perry intervention was the "ingredients method," in which the costs of each intervention are calculated by multiplying the required ingredients by their market prices. As Levin and McEwan note in the second edition of their book, "cost analysis begins with the recognition that resources have value in alternative use, whether paid for or donated, and the most valuable alternative use determines the cost value of the resource" (Levin & McEwan, 2002, p. 87). The ingredients approach provides a tangible and comparative yardstick that allows direct cost-comparisons across different interventions and time periods, a criterion that is rarely satisfied by the data from the costs cited in most studies of cost estimation in education.

The ingredients method, which incorporates both quantitative and qualitative methods for cost identification, was developed for cost consistency and comparability across interventions (Levin, 1975). It has become the most widely used method employed in cost-effectiveness studies, employed by organizations including the World Bank and the Massachusetts Institute of Technology's poverty institute, Abdul Lafif Jameel Poverty Action Lab (JPAL) (Dhaliwal, et al., 2014; JPAL, n.d.; The International Rescue Committee and the World Bank, 2019). The method has been described, documented, and applied since 1983 in textbooks on economic analysis of

education, including examples and methods found in the third edition of the book on cost methods in educational evaluation (Levin, et al., 2018). Through its various applications, in combination with effectiveness and benefit calculations, cost analysis and economic evaluation provide robust evidence that implementing interventions aimed at boosting education outcomes and equalizing learning opportunities is an economically advantageous agenda with significant net returns to those benefited and to society overall.

Section 5: Increasing Societal Benefits by Expanding Educational Outcomes and Opportunities for the "Growing Majorities"

A broad array of educational interventions provides net returns to *all* participants along with large social returns. Returns can vary by participation status, by race/ethnicity or income background, and by scale. Some interventions target disadvantaged populations, often through learning opportunities, leading to both improved outcomes for this group and to greater equity, as well as to increased societal benefits. Some interventions that are provided at scale benefit everyone and have large societal returns. In some instances, they can also increase education equity through allowing more equitable learning opportunities to all, thus benefiting relatively disadvantaged students with the greatest needs and the most room to improve.[19]

In this section, we highlight several types of interventions whose evaluations have shown both costs and net returns for the participants and society, ranging from early-childhood education to curriculum acceleration and school integration. The selection of these examples was based on the

[19] For example, evaluations of large-scale anti-poverty strategies such as the War on Poverty show that the strategies help equalize the education distribution because outcomes of the relatively disadvantaged groups increase *more* than the average (e.g., Hoynes, et al., 2016). Other evidence adds to this: a recent study by Jackson et al. (2022) showed how all students benefit from attending effective high schools, but the least advantaged students experience larger improvements in high-school graduation, college going, and school-based arrests; school funding evaluations also add to the evidence that the impact of school spending differs by students' family income (Jackson & Mackevicius, 2021). However, since sometimes the returns to education investments are not always equal for the relatively disadvantaged than for the more advantaged peers (for example, returns to years of education by race/ethnicity), room to improve equity in that front still exists.

availability of economic evaluations, or, at the very least, studies providing evidence of impact on outcomes associated with societal benefits. The findings from these evaluations are typically offered as aggregate net-benefit estimates that do not differentiate by race/ethnic minority or income backgrounds; these benefits hold regardless of the interventions' impact on particular groups' outcomes or on improved equity.

Preschool and Early Childhood Education

If a field of study has offered consistent and substantial evidence of net benefits, that field is early childhood education (ECE). A summary of close to twenty economic evaluations of ECE programs concluded that benefit–cost ratios are typically in the range of $2–$4 for every dollar invested (Cannon, et al., 2018). According to this study, even higher ratios are possible when very low-cost programs improve costly outcomes, such as health care or incarceration, as well as for "more resource-intensive programs that have longer-term follow-up and thereby capture effects on parent and child outcomes with larger economic consequences (e.g., earnings, crime)" (Cannon, et al., 2018).[20]

Initiatives like the Perry Preschool Program exemplify the second type of intervention. The Perry Preschool evaluation was based on a comparison of a rich preschool program in Ypsilanti, Michigan involving 123 Black students who were randomly assigned to Perry or no preschool program. The Perry study used periodic surveys through participants' middle age to evaluate outcomes between the groups, collecting data on benefits including high school completion, public assistance, crime and delinquency, political participation, intergenerational mobility, and health (Barnett, 1985). Researchers found that overall benefits exceeded costs by a factor of seven or more,

[20] We note the mix of programs here, where the first set of ratios comes from programs with some features that target costly outcomes, whereas the second set of ratios build on one feature of the evaluation, i.e., its ability for monitoring impacts, and accruing their benefits, over a longer-term. This could make it hard to distill a general policy implication from this, but we will discuss these issues in our last section.

a result supported in multiple surveys over the lives of the participants through middle age. Moreover, although the Perry participants received substantial benefits, the net benefits to the taxpayer far exceeded those to student recipients, at $12.90 per dollar invested (Nores, et al., 2005).[21]

Although the Perry Preschool study had relatively few participants for a broad and randomized study, it found large benefits in terms of both important measures of educational outcomes and strong returns to the investment, and, as said earlier, set an important precedent for larger studies with more schools and populations, an important foundation for broader studies and generalization. Other evaluations of preschool programs, such as the Abecedarian Early Childhood Intervention ($2.5 to $3.66 per dollar invested), the much bigger, and public, Chicago Child-Parent Preschool Center Program (up to $7.14 to $10.83 per dollar invested, depending on the program component), and even larger-scale programs (Head Start, Tulsa Preschool, and others) likewise confirm the potential of these interventions to bring significant societal returns (Barnet & Masse, 2007; Council of Economic Advisers, 2014; Nores, et al., 2005; Reynolds, et al., 2002; Reynolds, et al., 2011).

Among the findings from this body of work, one important recommendation is that interventions' quality, intensity, duration and time over which the benefits unfold determines the net benefits. In other words, the more they cost, the larger the benefits. Or, reframed: larger, stronger investments produce larger benefits. Also, the evidence on the benefits is yet limited due to the challenges of monetizing some outcomes, suggesting that net returns could be even larger. Finally,

[21] The return is calculated using a 3% discount rate to benefits after the first year of the program and the perspective of the general public, using self-reported outcomes up to age 40 and projected forward until age 65. Note that the importance of the Perry Preschool study is also the length of time for which data were collected. In that respect, it represents an exceptional example of data collection, as few studies are able to follow participants for such a long time. In doing this, updated evaluations have shown that the net benefits may continue to grow over time, even expanding to generating benefits on the children of the participants (Bennhoff, García, & Leaf, 2024).

program and policy implementations are often complicated, and it is important to draw on lessons learned during the evaluations to improve implementation, as discussed in our recommendations.

High School Completion

Programs that increase high school graduation rates yield significant returns to the taxpayer, with benefit-to-cost ratios of about $2.50 per dollar invested (Levin, et al., 2007).[22] This ratio represents the public benefits that each new high school graduate would yield in higher government revenues and lower government spending. Total benefits varied by race/ethnicity, with larger returns for Black students: total benefits were $196,300 for Hispanics, $239,000 for other, $262,100 for Whites, and $268,500 for Blacks (in 2004 dollars).[23] Interventions that "demonstrably raise high-school graduation rates" included ECE, class-size reduction, increases in teacher salary, and small learning communities with significant supports and various instructional improvement efforts (First Things First). Benefit-to-cost ratios of these interventions also varied, ranging from $1.46 (for class size reduction) to $3.54 (First Things First) per dollar invested.

Socioemotional Interventions

With growing understanding of the importance of outcomes beyond test scores, studies have increasingly assessed other outcomes, but the application of cost-benefit analysis to interventions that improve socioemotional learning (SEL) still lag (Belfield, et al., 2015; Darling-Hammond, et al., 2020; Levin, 2012; Learning Policy Institute & Turnaround for Children, 2021). The first economic evaluation of SEL interventions suggested large benefit-to-cost-ratios, ranging from about $3.50 (for reducing delinquency), to $10 (improved academic success), and up to $14 (reducing substance abuse) per dollar invested, with an average of about $11 per dollar invested (Belfield, et al., 2015). These interventions included: a learning literacy program combating aggression; curricula that

[22] $209,000, in 2004 dollars, using a discount rate of 3.5%, for present values of costs and benefits at age 20, for an overall investment of $82,000.
[23] Gross benefits do not account for the costs of additional educational attainment.

promoted positive thinking, actions, and self-concept, and improved problem-solving and emotional management; and a classroom program to reduce substance abuse, among others. The interventions targeted students at various grade levels as well as adults.[24]

Comprehensive School Services

Community schools—and other initiatives providing comprehensive school services or integrated student supports—are an evidence-based strategy to advance equity and reduce barriers to learning by providing the services needed to support student and family well-being. A summary of the evidence on community schools included the evidence on benefit-to-cost ratios of various of these initiatives. Most benefit-to-cost ratios were around ten, within a bracket of $3 to $15 in benefits per dollar invested: a return on the investment of $11.60 in benefit to each $1 invested for Communities In Schools; returns of $10.30 and $14.80 to each $1 invested in two sites with Children's Aid Society's programs (P.S. 5/Ellen Lurie Elementary School and Salomé Ureña de Henriquez Campus); and $9.96 in benefit to each $1 invested in Elev8 Oakland, including the value of leveraged partnerships and economic benefits (Maier, et al., 2017).[25] Similarly, the evaluation of another intensive integrated student supports strategy, City Connects, showed returns to society of $3 per each dollar invested, with an upper bound of $11.80 in benefits for each dollar invested (Bowden, et al., 2020).[26]

[24] The net benefits per 100 students for the different evaluated programs were $44,000 (for program "Life Skills Training:" Costs $13,000, Benefits $57,000), $109,000 (for program "4Rs (Reading, Writing, Respect, & Resolution)": Costs $68,000, Benefits $177,000), $276,000 (for program "Second Step:" Costs $44,000, Benefits $320,000), and up to $1,222,000 (for program "Responsive Classroom:" Costs $110,000, Benefits $1,332,000).

[25] See Maier et al. (2017), pages 99-100, for an explanation of the benefits and costs that can be monetized, both in the short and long run. For example, more comprehensive calculations of the program's benefits include benefits associated with reduced suspension rates and with a better-prepared workforce. Costs can include the direct cost of a community school coordinator, or the value of all services provided by individuals or through partnerships. For a recent initiative to estimate the costs of community schools, see Griffith, et al. (2022).

[26] The net benefits of City Connects were $9,280 per student (the benefits per student at $13,850 minus the total cost per student of $4,570; Present value estimates at kindergarten, using a discount rate 3.5%, and in 2013 dollars). The more conservative model includes the cost of supports provided to students by community-based partners, and both models exclude productivity benefits.

Accelerated College Completion

A pressing challenge the higher education community has long faced is that disparate access and enrollment in tertiary education are compounded by very low completion rates. Among first-time, full-time undergraduate students who entered public two-year degree granting institutions in fall 2017 to pursue a certificate or associate's degree, only 29 percent graduated within 150% of the normal time required for program completion; meanwhile, 43 percent had not graduated, were no longer enrolled, or had not been reported as a transfer at a different institution (NCES, 2022).

In light of these results, some institutions have been implementing initiatives to improve their students' success (Kirp, 2019; White House, 2015; 2023). One particular program implemented by the City University of New York, called Accelerated Study in Associate Programs (ASAP), received a comprehensive evaluation that included both cost-effectiveness and cost-benefit analyses. ASAP offered students a robust package of supports, including financial resources, counseling, consolidated schedules, career development services, and more. The program aimed to achieve a graduation rate of at least 50% within three years, and several impact evaluations demonstrated its success, with graduation rates nearly doubling over those three years (Linderman & Kolenovic, 2012; Scrivener, et al., 2015). The two economic evaluations illustrated the efficiency of the program in producing graduates and the net benefits to both participants and taxpayers.[27] The cost-benefit analysis, in particular, highlighted the large returns to taxpayers' investments; the benefit-to-cost ratio was 3.5 (about $3.50 per dollar invested), for a net benefit of $146,000 in constant 2010 dollars per graduate (Levin & García, 2017).[28]

[27] Levin and García (2012) show that the cost per three-year graduate with an associate degree was lower for ASAP than for the comparison group. Although the program costs per student were greater, the increase in the number of three-year graduates was so substantial that the cost per completed degree for ASAP students was about $6,500 less than for the comparison group.

[28] Present value of lifetime benefits and costs at age 23, using a discount rate of 3.5%. The benefits per graduate were $205,500 for individuals ages 23 to 65; the institutional costs per graduate $59,300, for net benefits of $146,200. CUNY expects that ASAP at scale will help double the overall 3-year associate graduation, from a 2013 baseline of 18% to 36% for the 2019 full-time freshmen cohort (Linderman, 2018). The initial cohort included 1,132 students at six CUNY

Accelerated Schools and Curricula

The next two areas of intervention are important because they shed light on the distribution of benefits among subgroups. Evaluations of accelerated schools and curricula, and of racial integration initiatives (see next section) show that benefits to participants can reach all groups, with no detrimental effect on any subgroup.[29] Their partial economic evaluations only capture some of the costs saved, and thus, offer limited information; however, these imply that expanding them could identify other benefits and enable the estimation of their total benefits.

The evaluation of an accelerated mathematics curriculum by Burris, et al. (2006) used a quasi-experimental cohort design to test the effects of providing this curriculum in heterogeneously grouped middle-school classes in a diverse suburban school district over time. Following six different cohorts over grades six through 12, the authors found that the probability of completion of advanced math courses increased significantly and markedly in all groups; students from racial/ethnic minority background and White students, students from both low- and high-socioeconomic status backgrounds, and students at all initial achievement levels completed more advanced math courses. The larger gains are attributable to higher-quality instruction in high-track classes that include higher-level thinking skills, with more time spent on instruction rather than drill-and-practice activities (Burris, et al., 2006, citing Oakes, 1986). The performance of initial high achievers did not differ statistically in heterogeneous classes relative to previous homogeneous grouping, and their rates of participation in advanced-placement calculus classes and test scores

community colleges to an expected FY18 enrollment of 21,400 students across nine CUNY colleges and to 25,000 students in FY19 (Linderman, 2018). The program has been replicated into the baccalaureate space, and in three other states: three community colleges in Ohio (Lorain, Cuyahoga, and Cincinnati State), California (Skyline Community College in San Bruno, CA) and New York (Westchester Community College in Valhalla, NY, SUNY) (Linderman, 2018). For more information, see https://www1.cuny.edu/sites/asap/evaluation/reports-and-publications/

[29] In economic terms, the education interventions lead to gains that are non-excludable, non-rival.

improved, showing no tradeoffs in the program's impacts among groups (i.e., no gains of one group at the expense of the other group).

The researchers made inferences about costs saved, as accelerated models and schools can lower net costs relative to conventional schools because "with greater academic success fewer students are placed in expensive special education programs or are required to repeat a year" (Levin, 1997). The costs of the intervention were typically less than 1% of the school's expenditures (about US$30–$40 per student per year), and can lead to gains in efficiency and productivity, as well as to greater net benefits, as previous examples show.[30] The findings are important in demonstrating that better instruction and a rigorous curriculum benefits all students, including both those typically ineligible for high-track classes and those who typically are. Moreover, while the latter group's scores are unaffected by the more diverse profiles, they may gain in other skills, as discussed below around the benefits of school integration.

School Integration

In a context of increased diversity, integrated schools where White, Black, Latino/a, Asian, and students from other racial/ethnic backgrounds learn together is another important intervention type. Despite several decades of focus on school integration after the US Supreme Court's 1954 *Brown v. Board of Education* decision, these efforts slowed through the mid-80s, and progress has receded since then. Schools, especially those in the South and in large urban centers, remain segregated (Carnoy & García, 2017; Darling-Hammond, 2018; Frankenberg, et al., 2003; 2019; Lallinger, 2023; Orfield, 2018; Orfield & Lee, 2004; Orfield, et al., 2008; 2014; Rothstein, 2013).[31]

[30] Substantial gains in productivity can be obtained at a marginal cost of less than 1% of the school budget through transforming schools to improve their "x-efficiency." And, as mentioned, net costs may actually be lower for accelerated schools, because they lead to fewer students being placed in expensive special education programs or required to repeat a year (Levin, 1997). See Wu, et al. (2023) for an evaluation of peer effects on achievement and personality traits, which reinforce the possibility of even greater returns if these gains are also monetized.

[31] Gamoran and An (2016), based on Hochschild and Scovronick (2003), explained how school desegregation was an educational success, but a political failure.

Research shows that racial integration initiatives influence multiple outcomes and can benefit all student groups through a broad set of mechanisms (Coleman, et al., 1966; Antman & Cortes, 2022; Gamoran & An, 2016; Johnson, 2019; George & Darling-Hammond, 2019; Johnson & Nazaryan, 2019; Kahlenberg, 2006; Orfield, 1978; Tefera, et al., 2011; Wells, Fox, & Cordova-Cobo, 2016). These interventions allow a redistribution of children across schools, which leads to changes in the quality of schools (measured by class size, teacher quality, and other learning opportunities), as affected by different levels of resources, and also to changes in peer effects (e.g., expectations, social capital,) (Johnson, 2012; Chetty, 2023).[32]

As Johnson highlighted about his research: "The evidence shows significant improved performance of children of Black individuals exposed to integration, improved occupational attainment, improved adult earnings, health, and reduced poverty."[33] (Johnson, 2012; 2019). Moreover, he noted: "There was a concern that integration was going to have negative effects on White children. […] Results demonstrate that did not happen" (Johnson, 2012; see also Orfield, et al., 2008).

Johnson's work identifies a set of impacts, such as more than an additional completed year of education, for those who attended integrated schools from K-12, compared to Black children in segregated schools. He estimates that, for each year that a Black child spends in a legally mandated desegregated school, the likelihood of graduation increases "by 2 percentage points" (Hahn, 2022, p. 270). Five years in a desegregated school led to increased wages and work hours that, combined,

[32] Lallinger (2023) explains the evaluation of a program that allowed students to attend either a low-poverty school or a high-poverty school that received $2,000 in compensatory funding per student above the district average. The results showed that the students who joined low-poverty schools far outperformed their peers in the high-poverty school, "demonstrating how much more impactful integration was for them than funneling additional resources to their peers in high-poverty schools." The evidence is drawn from Schwartz (2010), who analyzed a natural experiment generated by a lottery process in Montgomery County, MD.

[33] Efficacy of strategies used to promote educational opportunities. 3 major government interventions that have dramatically influenced the provision of resources and have substantially narrowed black-white differences in access to school quality: redistributing children (peer effects), distributing resources, school desegregation. (Johnson, 2012).

raised earnings by nearly a third—30 percent. And enrollment in "desegregated schools in elementary school led to a 22-point decline in the probability the student would be incarcerated as an adult" (Phenicie, 2019).

Other recent evidence shows additional effects of desegregation on health outcomes. Kim, et al. (2022) show that school segregation is associated with a lower probability of good self-rated health, a higher probability of binge drinking, and a higher probability of heart disease (although instrumental variables estimates do not show the latter effect). More dramatic, Hahn (2022) finds an indirect positive impact of desegregation on life expectancy, through education. The author links Johnson's estimates on the impact of attending desegregated schools to educational attainment—high school graduation, specifically—with mortality rates by race and by educational attainment, to find a life-expectancy gap between Black students who completed and did not complete high school of about nine years.[34] Thus, attending desegregated schools is "a second-degree" cause of increased life expectancy, with high-school completion being the direct cause of this most critical life outcome.

These impacts of school integration strategies anticipate economic returns for individuals and society, but economic evaluations that measure them explicitly are yet scarce. In part, this is due to the multiple strategies used to promote integration, such as busing, social capital, cross- class interaction, and others. In addition, school integration can be the byproduct of interventions promoted in other areas of policy, such as housing or economic policy. The few references to the costs of integration strategies that do exist admit the "cost and complexity of desegregation plans" and, related, the "difficulties to generalize," because most interventions are implemented in a particular setting (Chetty, 2023; Gamoran & An, 2016). We discuss these challenges in our conclusions.

[34] Data on mortality rates by educational attainment come from the National Center for Health Statistics.

Still, we do have some sense; the following two estimates, resulting from housing-voucher programs, anticipate the potential societal gains of integration. First, the estimate of the short-term gains to participants of two housing-vouchers programs that promote economic integration suggested conservative short-term net benefits in the order of $20,000 for each family offered the opportunity to relocate (Johnson, Ladd, & Ludwig, 2002). The authors noted the lack of estimates for benefits (on the origin and destination communities), and for how sensitive the results would be to changes to the programs' components or to their scale. The second estimate shows that the lifetime earnings of the average child who grows up in a high opportunity community as a result of participating in a voucher program (with additional services that cost $2,000), are about $200,000 higher than the lifetime earnings of children in the control group (voucher program only). Increased public revenues from the increased lifetime earnings would follow (Chetty, 2023).[35]

Section 6: The Benefits to the General Public from an Agenda Centered on Equity

One pressing question is whether the benefits of shifting the current agenda to one that prioritizes improving the learning opportunities and outcomes of the growing majorities—*at scale*—outweighs the costs in economic terms. Focusing on the net benefits to the general public (excluding those for participants) helps determine whether an equity-focused agenda could feasibly be enacted through public investments. Unfortunately, this question is elusive because we lack estimates of the burden of the gaps, or of the potential benefits of closing gaps at scale, or of the full costs of inaction (with a few exceptions, see discussion below based on Belfield, 2021, and others).

[35] The supported intervention increased the share of families who moved to high-upward-mobility areas from 15% to 53% (Bergman, et al., 2023). The work by Chetty and colleagues highlights that your social capital (including "who you're interacting with and who you're connected to, what your networks look like") is a key driver of mobility and other related outcomes (Chetty, 2023; Chetty, et al., 2022).

The following exercise illustrates the size of the returns of an equity-focused agenda through some examples. We simulate what the additional net benefits to the general public would be if Black and Hispanic students, on average, enrolled in high-quality ECE, graduated from high school, or completed their associate's degrees at the same rates as White students, on average, between 2023–2060. We rely on the estimated net benefits to the general public from three interventions discussed above and on several assumptions about the gaps between Black and Hispanic students and White students, starting with assuming that gaps would close.

Additional Net Benefits from Closing Gaps

At the interventions' scales, the net benefits to the general public were (rounded to the closest $1,000): $180,000 in 2000 dollars for each participant in the Perry Preschool program (Nores, et al., 2007); $127,000 in 2004 dollars for each additional high-school graduate (Levin, et al., 2007); and $146,000 in 2010 dollars for each individual who completes an associate's degree (AA) (Levin & García, 2017). These net benefits correspond to about $300,000, $187,000 and $189,000 in 2022 dollars, respectively, using the Bureau of Labor Statistics CPI Inflation Calculator.[36] We assume these net returns per participant are constant regardless of the scale of the intervention, i.e., the total net benefits of an agenda providing these at scale would be proportional to the new scale of the intervention.[37] We also assume that the net benefits from the three interventions can be added up at a given point in time (each year), even though the intervention's net benefits are calculated for lifetime net benefits at different ages (typically after the first year of the programs). For simplicity, we only report estimates for the three age groups of a cohort in a given year (not any cumulative gain).

[36] https://data.bls.gov/cgi-bin/cpicalc.pl?cost1=21%2C000.00&year1=201701&year2=202401. Net returns are used for the inflation adjustment.

[37] Most of the economic evaluations examined do not offer a comparison of the net returns of the same intervention at different scales, which makes it hard to modify this assumption with certainty. We will discuss this later.

As we mentioned, we assume that Black and Hispanic students and youth average enrollment rates and outcomes would rise to the levels of White students and youth, eliminating racial gaps between these three groups in each cohort: center-based Pre-K attendance, HS graduation rate, and AA completion rate would be that of Whites (see Appendices A and C).

For the youngest cohorts, ECE enrollment rates would rise to 58% in the projected years, up from current rates for Hispanic children (46.5%) and Black children (55.5%). Given the average size of the four-year cohorts in 2023–2060, ECE enrollment of Black and Latino children would increase by nearly 136,400 students per year (see Table 2, Scenario A).[38] From these students, the general public could receive $40.9 billion. Raising high-school graduation rates of 17-year-old Black and Latino students to 89.4% (from 79.6% and 81.7% respectively) would increase the number of additional high-school graduates by nearly 141,800 students per year, for an additional net return to the general public of $26.5 billion. Finally, raising AA completion rates to 9.3% (from 8.9% and 7.1% for Blacks and Latinos, respectively) would increase the number of AA completers by nearly 27,500 individuals per cohort, for an additional net return of $5.2 billion.

In sum, if, in a given youth group in a given year, Black and Hispanic children and youth enrolled in ECE, graduated from HS, and completed AA at the same rates as White children and youth, just from those three age groups we could expect an increased net benefit to the general public of around $72.6 billion per year.

[38] See full trend in Appendix Figure C1. In order to calculate the average number of individuals per cohort, we calculate the average of the trends shown in the Figure.

Table 2 Simulated Net Benefits to the General Public from Reducing Gaps between Black, Hispanic, and White Children and Youth in ECE Enrollment, HS Graduation, and AA Completion, per Year

	ECE	HS	AA	Total
Parameters				
Benefit-to-cost Ratio	12.9	2.5	3.5	-
Net benefit to the general public per participant/graduate/completer (original estimates in $ of year)	$ 180,000 (in $2000)	$ 127,000 (in $2004)	$ 146,000 (in $2010)	-
Net benefit to the general public per participant/graduate/completer, inflation adjusted (in $2022)	$ 300,000	$ 187,000	$ 189,000	-
Scenario A: Gaps between Black, Hispanic, and White children and youth eliminated (on average)				
Average number of additional Black and Hispanic individuals who are ECE enrollees, HS graduates, or AA completers, per year (average 2023-2060)	136,400	141,800	27,500	-
Additional total net benefits per year from 3 interventions affecting three cohorts (in billions)	$ 40.9	$ 26.5	$ 5.2	$ 72.6
Scenario B: Gaps between Black, Hispanic, and White children and youth halved (or equivalent, including a combination of gaps reduced, net benefits per beneficiary decreasing as scale increases, or returns for the comparison groups improving over time, on average)				
Average number of additional Black and Hispanic individuals who are ECE enrollees, HS graduates, or AA completers, per year (average 2023-2060)	67,500	70,900	13,700	-
Additional total net benefits per year from 3 interventions affecting three cohorts (in billions)	$ 20.2	$ 13.3	$ 2.6	$ 36.1

Notes: ECE: early childhood education; HS: high school; AA: associate's degree. Numbers of additional enrollees/graduation/completers rounded to the closest 1,000. Racial/ethnic categories reflect those used in the original source. Hispanics are of any race (Hispanic origin is considered an ethnicity, not a race). Other races are non-Hispanic.
Source: For net benefits and BCA ratios, Nores, et al. (2005) for ECE, Levin, et al., (2007) for HS, and Levin & García (2017) for AA. Inflation adjustments using https://data.bls.gov/cgi-bin/cpicalc.pl?cost1=146%2C000.00&year1=201001&year2=202201. Population estimates based on U.S. Census Bureau, Population Division (2023). 2023 National Population Projections. NP2023_D1: Projected Population by Single Year of Age, Sex, Race, and Hispanic Origin for the United States: 2022 to 2100. File: Release date: November 2023, 2023 National Population Projections Datasets Projections for the United States: 2023 to 2100 (https://www.census.gov/data/datasets/2023/demo/popproj/2023-popproj.html).

The Magnitude of these Gains: Underestimates, Overestimates

These simulated gains can be viewed as conservative estimates of the returns of an equity agenda for a number of reasons. All the net benefits estimated for the three interventions are conservative, as they tend to operate under overly cautious assumptions (e.g., lifetime net benefits are typically projected only until age 65) and exclude benefits from externalities (Levin, et al., 2001). In all events, we are also only considering the benefits to the general public, in the form of increased tax revenues from higher earnings, and reduced costs or spending on criminal justice, public assistance, and health, as we assume the cost of the agenda's investments is borne by the general public. Estimates only include Hispanic and Black individuals, leaving aside small but growing population subgroups who could also benefit from an equity-focused agenda. From a statistical viewpoint, the benchmark levels are somewhat modest—as they would be placing Black and Hispanic children and youth only at the average level of White children.[39] In addition, if the assumptions held, the net benefits could be even larger for generations that benefited from larger investments (let alone that this would be a fairer society in terms of more equal opportunities and outcomes, and that would be good in itself). More ECE enrollees, HS graduates, and AA completers than we estimated could be produced in generations benefiting from multiple interventions cumulatively over their lifetimes.

In contrast, the simulated gains could be overestimates for several reasons. Perhaps most critical, it is very unlikely that, on average, students in each cohort will perform at the hypothesized levels--closing gaps by race/ethnicity, given historical patterns. The further away those cohorts are from closing gaps, the fewer additional ECE enrollees, HS graduates, or AA completers there will be, and the smaller the total gains. Additionally, net benefits usually decrease when interventions are

[39] As discussed below, we recognize this is not realistic from a historical viewpoint, as we have never come close to eliminating these gaps, but we note that the average white ECE enrollment rate is below the levels observed in most high-performing countries.

provided at scale, whether due to general equilibrium effects or to a lack of effect of a program on the total population (see discussion of the "voltage drop," a term coined by List (2024), in the section below). Lastly, the estimates could be double-counting benefits from individuals who may benefit from interventions at earlier ages, which could either shrink the projected number of additional beneficiaries in the interventions for youth in high-school and young adults completing an associate's degree, or, alternatively, lower the efficiency of the interventions provided at a later age.[40]

However, under these more conservative assumptions, the simulation still confirms significant net gains to the general public. For example, if gaps by race/ethnicity were cut in half, projected gains from the three cohorts affected would be about $36.1 billion every year. Avoiding double counting, net benefits exclusively from the ECE beneficiaries provide a floor-estimate gain of between $20.1 billion (gaps reduced by half) and $40.9 billion (gaps eliminated) per cohort.[41] Any combination of reducing gaps or net benefits per beneficiary would produce net gains to the taxpayer of more than $20.1 billion per cohort (see bottom part of Table 2).

For further context, existing estimates of some costs of inaction around educational opportunities and outcomes are the following. One study estimated the costs of existing misallocations and losses of human capital at between $42–$92 billion over the lifetime for each cohort of Black and Hispanic students of age 18; and $7.5 billion for school districts (in school discipline, special education, grade repetition, and direct spending to combat racism; Belfield, 2021). Putnam (2015) mentioned two other useful numbers: the aggregate annual costs of child poverty to the U.S. economy of about $500 billion per year (about 4% of GDP, including reduced productivity and economic output, higher costs of crime, higher health expenditures, and lower value of health);

[40] For example, ECE participation increases high-school completion; other high-school graduation focused interventions could pick on those earlier gains, and not necessarily generate additional graduates, if interventions were substitutes. In contrast, they could generate additional graduates if they were complementary.
[41] Note that it would count benefits over a longer period of time than the HS and AA interventions, starting after completion of the preschool program until age 65.

and about $1.6 trillion to the taxpayer associated with youth 16–24 who are neither in school nor at work. Another study estimated that closing achievement gaps by race/ethnicity would result in a gain to the country's GDP of about $50 billion annually ($70 billion if closing gaps by income, see Auguste, et al., 2009). Duncan, et al. (2019) acknowledged the costs of poverty to the U.S. as ranging from 4% to 5.4% of GDP in 2018 (between $800 billion and $1.1 trillion).

Addressing Challenges of Moving to Scale: Unpacking Why Programs Work, Ensuring Accountability, and Improving Implementation

Even the most conservative estimates leave some questioning whether devoting more public funds to public education is truly a smart social investment. Concerns among skeptics and critics often arise from the evidence showing the difficulty of scaling up interventions with the fidelity required to retain their gains—generally known as the fadeout effect, and, more recently labelled "voltage drop" (List, 2024). They can also stem from the evidence showing that weak accountability and "rent-seeking"—representing the situation where groups attempt to influence the allocation of resources in ways that benefit them although may harm others—can greatly reduce gains. What does the research tell us about these challenges and responses to them?

A first bucket of evidence shedding light on the feasibility of an at-scale, equity-focused agenda finds large and sustained impacts of large-scale programs. These are especially robust with respect to ECE programs, countering the mixed-findings evidence (if not suggesting fadeout or ineffective programs at scale) that is often based on nonexperimental studies (Bailey, et al., 2017; Gupta, et al., 2021).[42] Several evaluations of state-level or large district-wide preschool programs support the positive potential of large-scale programs and their long-term impacts. For example, among children who participated in Boston's Universal Preschool program between 1997 and 2003, high-school graduation increased by 6 percentage points, SAT test-taking increased by 8.5

[42] See also List and Uchida (2024)'s Figure 1 for a display of the effects' fadeout.

percentage points, high-school completion increased by 8.3 percentage points, and college enrollment followed suit. Children who were randomly assigned a seat in a public preschool by lottery also had fewer suspensions, less juvenile incarceration, and less absenteeism than those who were not (Gray-Lobe, Pathak, & Walters, 2023). Other evaluations of large programs that rely on experimental or quasi-experimental identification strategies, such as the Transitional Kindergarten program in California, attest to the feasibility of sustained gains in generalized and large settings, even though, typically, these studies fail to include benefit-cost estimates (Johnson, 2024).[43]

A second bucket of evidence includes evaluations of public investments in a context in which accountability guarantees the dedication of resources towards their most productive use, without presence of excessive bureaucracy or any inefficiencies. Some research examining the effects of Washington's McCleary school-finance reforms, meant to make state funding more equal, has shown a significant reduction in teacher turnover during the first year and salary increases for the most experienced teachers (Sun, et al., 2024), though no improvement in student outcomes at that very early point. However, another study shows the positive effects of implementing California's Local Control Funding Formula on various student outcomes: funding increases significantly improved academic achievement for every grade and subject assessed, reduced grade repetition, lowered suspension rates, and increased the likelihood of students graduating from high school and being college-ready (Johnson, 2023). Moreover, the impact on student achievement increased with years of exposure to increased funding and with the amount of the funding increases.

The last bucket of evidence prioritizes a more nuanced approach to identify the features of effective versus ineffective programs, or of their targeting or implementation, in evaluations across policy areas. They evaluate what works, for whom, for what purpose, in which contexts, and, most especially, why.

[43] Note the rollout of these programs is still too emergent to have produced evidence on any long-term outcomes.

For example, often, policies run into implementation problems or face changing participant and/or technology conditions that influence their effectiveness and/or generalizability.[44] Perhaps even more fundamental, school- and community-level preconditions for accepting new programs influence their adoption and, thus, their returns (Bryk, et al., 2010); also, different students may have different needs, which must be met for school success.

Indeed, even the most exact evaluations arising from randomized settings tend to leave unanswered questions about the underlying mechanisms through which a program works (the so-called "black box"). But uncovering them is revealing. For example, List and Uchida (2024) find that increases in the share of peers who participated in preschool counter the preschool's fadeout effects—hence, scaled-up or even universal ECE may be optimal. Revisiting existing evaluations from the perspective of why programs worked can become essential to preview effects and advise on critical aspects of scaling.[45] Further, as this study attests, so too is the addition of cost-related evaluations, to help identify how resources could be used in the most productive way and guide investments at scale that can make a big difference.

Section 7: Conclusions – The Road Ahead

The major shifts the United States is undergoing in terms of its demographic composition are making efforts to develop its youth's human capital increasingly critical. Each year, the country is becoming more diverse, as the numbers of individuals from racial/ethnic minority backgrounds grow and surpass the number of white individuals, and relatively older, as the proportion of children and youth in the total population declines.

[44] List (2024) calls these: False positives, representativeness of the sampled population and of the sampled situation, spillovers, and supply side drivers of the voltage drop.
[45] See García and Weiss (2020) for a discussion of how conditions for effective homeschooling or online education were not always met during education provision during the COVID-19 pandemic, and how an examination of the requirements needed for effectiveness is critical to guide policymaking.

By 2060, more than two-thirds of the forthcoming demographic majority will be Latino or Black (combined, an increase of more than 40 million individuals, while there will be 33 million fewer White individuals). The school-age population will decline by seven million (eight million, if we include children ages 0–4), while the population 65 years old and more will increase by nearly 31 million. Given the tight connection between demography and societal and economic structures, these demographic shifts are likely to be accompanied by changes in the country's aggregate outcomes. Additionally, given the evidence on the wide range of investments that can lead to increased outcomes and improved equity, devoting more public funds to public education in favor of the growing majorities emerges as a good social investment—with returns exceeding the costs to the general public and being proportional to the size of the demographic shifts.

Relying on results from economic evaluations of educational interventions that estimate the impacts in terms of dollars in return for each dollar invested, we have emphasized the very substantial societal net benefits of an agenda focused on boosting education outcomes of the growing population subgroups. Interventions shown to be successful included those targeting increased enrollment in and completion of early childhood education; boosting graduation from secondary education and higher education; implementation of accelerated and comprehensive curriculum, programs, and schools; and racial integration—with benefit-to-cost ratios generally ranging from about two to more than ten.

The benefit-to-cost ratios varied depending on the length during which the costs and benefits are measured, the inclusion of outcomes with larger economic consequences, the years of exposure to improved strategies and their intensity, and the scale at which interventions were provided. All the selected cases illustrated that multiple human capital-focused strategies could enhance education excellence and equity, and especially if scaled up, could help achieve a more dynamic economy and a fairer society.

According to basic projections, failing to act will lead to lower high-school graduation rates and a smaller share of people with a bachelor's degree or more. In contrast, activating the potential of the growing majorities could result in gains to the general public as sizable as $20.2 to $72.6 billion of increased net benefits per year. From an aggregated human capital viewpoint, the consequences of the shifting demography therefore more than justify a switch towards an agenda that furthers investments in education. Indeed, they point to the potential of making these investments as money generating.

Several other lessons are also evident. First, multiple evaluations affirm the importance of intensity and duration of the interventions. Higher benefit-to-cost ratios are usually associated with more resource-intense programs, and those with stronger dosage effects and/or with longer exposure. For example, in ECE, while both less and more resource-intensive programs show positive returns, as do programs using both targeted and universal approaches, so-called "model" programs generate larger benefits. In the same vein, programs providing comprehensive services—community schools, accelerated programs, and others—also drive large net returns. In studies of desegregation initiatives—whether from funding or from housing programs—research shows that, the more years an individual spends in the better environment, the better he or she does in life. Bottom line: no shortcuts in public investments are needed to reach high impacts and returns.

The second lesson concerns the distribution of the benefits. While most impact evaluations break down the impacts by race/ethnicity, some research overlooks the larger impacts of diversity and underestimates the societal gains of diversity and equity. As well, few of the economic evaluations that we reviewed distinguished between private or societal returns by race/ethnicity. However, some showed that, while the benefits are often larger for the most disadvantaged children, all participants can reap significant benefits, or, at the very least, experience no harm (for example, see Barnett, 2008 for ECE; Burris, et al., 2006, for accelerated curriculum; Johnson, 2019 for

integration). Bottom line: improving the human capital of any group results in broader societal benefits and, thus, benefits us all.

The third lesson is associated with the time lag between when costs are incurred and when benefits materialize. While cost-benefit analyses take care of this issue statistically, it remains a challenge for policymakers, as one generation may only bear the costs, while the next may reap the benefits.

The fourth lesson speaks to the value of expanding the use of cost-benefit analyses in policy and research, including using a common approach to ensure comparability.[46] Economic evaluation can be applied to new interventions and to interventions that, until now, could only be evaluated in part. It can help reveal both the full magnitude of the gains and the feasibility of the interventions, as well as the closely connected costs, which we are already paying, of not investing or of inaction. Specifically, economic evaluation could be considered an essential additional step in the need to carefully monitor any new investments—as said, why programs for whom they work or fail to work, what hinders efficiency in implementation, adoption, and moving to scale, and how to use resources in the most productive way and guide investments that can make a big difference.

Among current full economic evaluations, some estimated returns are not directly comparable because of their different time periods, outcomes that are monetized, scale, assumptions about uncertainty and discounting, or stakeholders involved. In addition, some of the typical outcomes that tend to be monetized (or not monetized) are associated with outcomes that are not race-neutral. In these instances, less-advantaged students may be relatively more responsive to non-test-score dimensions of school quality, which, if not monetized, could lead to underestimating the

[46] Many complementary areas of intervention, beyond the scope of this paper, provide indirect estimates. For example, Holzer (2011) assesses the benefit-to-cost ratio of education, training and workforce development systems that are targeted primarily on disadvantaged youth and adults. Guryan, et al. (2023), instead, use existing CBA estimates to approximate the returns per dollar investment of other programs to offer a benefit-to-cost ratio for high-tutoring programs. Many variations exist.

total net benefits of programs favoring relatively disadvantaged groups (Jackson, et al., 2022). In other cases, such as incarceration, monetizing the costs saved results into a larger return as a result of similarly not race-neutral incarceration processes (i.e., processes that lead to unequal incarceration rates for individuals of different races, which, if improved upon, would yield some saved costs not attributable to the interventions). In most cases, building on the existing costing and economic evaluation methods and expanding the data that are available would be important next steps to continue advancing cost-related analyses (Chetty, 2023; Gamoran & An, 2016; Johnson, et al., 2002; Levin, et al., 2018).

The purpose of this study is not to lay out a concrete agenda to solve achievement gaps, for which there are copious references in earlier sections in terms of best practices in education, concrete interventions, and the need of taking a broader view (e.g., Darling-Hammond, 2018; Duncan, et al., 2019; García, 2015; García & Weiss, 2017; Putnam, 2015). Nor do we attempt to make recommendations on how to address inequality, discrimination, segregation, or racial stereotypes and attitudes, which are basic structures of our society (Orfield, 2022, p. 46), and which would also require a much broader agenda. The discussion, evidence, and simple illustrative examples offered aim at flagging that potential human capital losses associated with ongoing demographic changes can be not only deterred but reversed. We have sufficient evidence on effective interventions to improve outcomes; many interventions shrink gaps, many are efficient, and many have benefits that outweigh their costs. This body of evidence qualifies as a necessary first step, to be followed by true investments in an agenda to pursue them.

Finally, we acknowledge that, while summarizing all that these interventions do in a monetary figure is easy to communicate, it is also a limited view. As Levin, et al. (2007) have written: "[I]t is important to note that this is more than just good public investment policy with monetary returns. A society that provides fairer access to opportunities, that is more productive and with

higher employment, and that has better health and less crime is a better society in itself. It is simply an added incentive that the attainment of such a society is also profoundly good economics." (Levin, et al., 2007, p. 22). This is possibly the best way forward, as we walk towards living in a more diverse society that seizes better opportunities for its members and for itself.

Appendix A: Educational and Labor Force Outcomes, and Opportunities to Learn by Race/Ethnicity

The gaps in outcomes and opportunities to learn between individuals from a minority race/ethnic background minority and White individuals, as well as between those from low-income and wealthier backgrounds are substantial and persistent. It is important to note that these gaps are driven by the gaps in educational inputs, which are intertwined with race/ethnicity and socioeconomic status and often accessed in an unequal way.

Table A1 below includes information on gaps by race/ethnicity in outcomes, including high-school graduation rates, performance on the NAEP mathematics and reading assessments, adult population by educational attainment, median earnings, and unemployment; and gaps in educational inputs, including poverty rates, SES status, preschool attendance, segregation, per-student revenues, parental investments, and wealth.[47]

[47] Examination of gaps in other variables is available in de Brey, et al. (2019), and the references provided in the main text.

Table A1 Gaps in Educational Outcomes, Educational Opportunities, Employment, Earnings, Wealth, and Health by Race/Ethnicity

Observed outcome		White	Black	Hispanic	Asian	Pacific Islander	American Indian/ Alaska Native	Two or more races	Total
Public high school 4-year adjusted cohort graduation rate (ACGR) (2018-2019), %, i		89.4	79.6	81.7	92.6		74.3		85.8
NAEP Mathematics, 8th grade (2019), score points, ii		292	260	268	313	266	262	286	282
NAEP Reading, 8th grade (2019), score points, ii		272	244	252	284	252	248	267	263
Adults by educational attainment (2018-2019) %, iii	Less than high school completion	6.0	11.9	27.5	12.2	11.5	15.0	8.1	10.6
	High school	26.2	31.2	28.1	14.0	35.9	34.2	23.7	26.3
	Some college	19.7	23.1	17.5	10.7	24.6	25.4	22.7	19.3
	Associate's degree	9.3	8.9	7.1	6.5	9.3	9.0	10.0	8.8
	Bachelor's or higher degree	38.9	24.9	19.8	56.7	18.7	16.4	35.6	35.0
Median weekly earnings of full-time wage and salary workers (2022), $, iv		$1,085	$878	$823	$1,401				$1,059
Median annual earnings of full-time year-round workers 25 to 34 years old, v		$54,910	$40,850	$41,410	$72,610			$49,950	$49,990
Unemployment rate (2022), %, vi		3.2	6.1	4.3	2.8	4	4.2	5.5	3.6
Poverty rate (2021), %, vii		9.5	21.7	17.6	10.2		25.9	14.1	
Wealth, viii		$171,000	$17,150	$20,000					
Starting school in the lowest socioeconomic status quintile (2010), %, ix		8.9	30.3	42.6	11.8	15.9			20.3
Pre-K care: center-based, %, ix		58.0	55.5	51.2-41.3*	61.7%	57.6%			55.1
In schools with >51% Free-or Reduced-Price Lunch eligible students, %, x		30.7	71.5	49.5-83.8*	30.2-56.2*				48.3
In schools with >51% students from a minority racial or ethnic background, %, x		8.6	64.2	46.1-75.5*	23.1-37.5*				38.5
Life expectancy, 2019, xi		78.9	75.3	82.2	85.7		73.1		

Notes: *Range indicates values for Hispanic (Asian) non-ELL and for Hispanic (Asian)-ELL.

Sources: Own analyses of: ACGR, i: NCES (2020c) (all groups except for NHPI and Two races); NAEP, ii: NAEP (n.d.); Adults by educational attainment, iii: (NCES, 2022a); Earnings: iv: U.S. Bureau of Labor Statistics (n.d.), all groups except for NHPI, AIAN, Two or more races and v: NCES) (2022b), all groups except for NHPI, AIAN. For iv and v, calculation assumes no productivity increases, and includes no inflation adjustments; Unemployment, vi: U.S. Bureau of Labor Statistics (n.d.); Poverty, vii: KFF (n.d.); Wealth, viii.: McIntosh et al. (2020); Center based PreK, ix: García (2015); Starting school by SES (2010), ix: García (2015); Segregation by FRLP and by minority or ethnic backgrounds, x: Carnoy and García (2017); Life expectancy, xi: NIH (2022).

Appendix B: Projected Education and Economic Consequences of a Shifting Demography

To illustrate the consequences of a changing demography on education and labor force outcomes, we project several aggregate average outcomes for a set of variables. In this scenario, outcomes per group remain constant, and other factors are held constant—i.e., aggregate outcomes only change due to changes in the population composition. Projected outcomes include: high-school graduation rates, performance on the NAEP mathematics and reading assessments, adult population by educational attainment, median earnings, and unemployment. We weight the by race/ethnicity-observed outcomes in the most recent year by the current (in 2022) and the projected (in 2060) the relative sizes of each group in each year (Appendix Table A1 and Table 1, respectively).

All projected aggregate outcomes in 2060 are lower than the current ones—with the exception of reading scores, which remain almost flat (Table B1). High school graduation rates would decline by about 4 percent as a reflection of the projected demographic changes, while the share of individuals with some college education or more would decline by close to 2 percentage points.

Table B1 Projected Educational and Adult Outcomes in 2022 and 2060

Outcome		*Projected (weighted) outcomes*		*Change between 2020-2060*		*Percentage Change between 2020-2060*
		2022	*2060*			
Public high school 4-year adjusted cohort graduation rate (ACGR) (2018-2019), %, i		81.8	78.2	-3.6	p.p.	-4.4%
NAEP Mathematics, 8th grade (2019), score points, ii		282.0	281.0	-1.0	score points	-0.3%
NAEP Reading, 8th grade (2019), score points, ii		263.2	263.3	0.1	score points	0.0%
Adults by educational attainment (2021), %, iii	Less than high school completion	11.5	13.6	2.1	p.p.	18.4%
	High school	26.4	26.2	-0.3	p.p.	-1.0%
	Some college	19.2	18.9	-0.4	p.p.	-1.9%
	Associate's degree	8.7	8.4	-0.3	p.p.	-2.9%
	Bachelor's or higher degree	34.2	33.0	-1.2	p.p.	-3.6%

Notes: The years in parenthesis in the first column indicate the year when the outcome structure used in simulations was observed. Projected outcomes in 2022 are obtained weighting the outcomes observed in those years by the population estimates, and thus can differ from the observed outcomes because the simulations assume all individuals in the group perform at the same mean level. For ACGR and NAEP, we used outcomes from 2019 (pre-COVID-19 pandemic) and the 5-17 population estimates in 2022 and 2060. For adult outcomes, we used outcomes from 2022 and the 18-64 population estimates in 2022 and 2060.
Sources for Population: Our own analysis of the U.S. Census Bureau, Population Division (2023); 2023 National Population Projections. NP2023_D1: Projected Population by Single Year of Age, Sex, Race, and Hispanic Origin for the United States: 2022 to 2100. File: Release date: November 2023, 2023 National Population Projections Datasets Projections for the United States: 2023 to 2100 (https://www.census.gov/data/datasets/2023/demo/popproj/2023-popproj.html).
Source for Outcome structures: Our own analyses of: ACGR, i: NCES (2020c) (all groups except for NHPI and two races); NAEP, ii: NAEP (n.d.); Adults by educational attainment, iii: (NCES, 2022a).

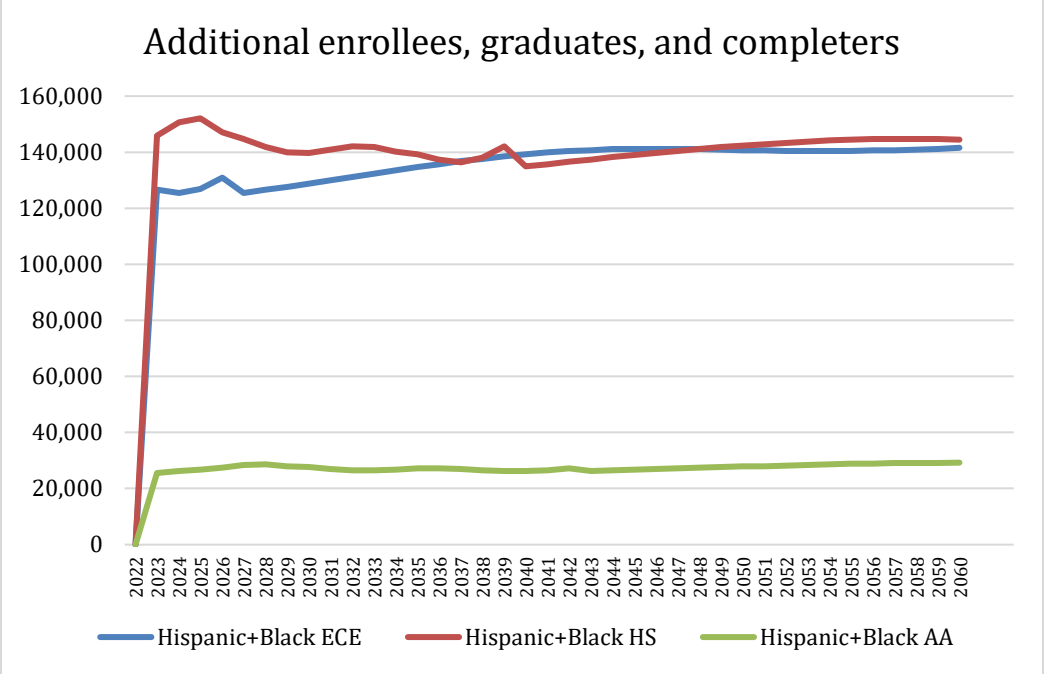
Appendix C: Projected Additional Enrollees in ECE or Graduates from HS or AA (2023–2060)

The numbers of additional enrollees in ECE, graduates from HS, and AA completers by race/ethnicity out of constant enrollment, graduation and completion rates, change every year as the population sizes change every year. To simplify the analyses, Table 2 uses the average additional enrollees and completers over the period of time 2023–2060, rounded to the closest hundred.

The average number of additional ECE enrollees (136,400) is based on the average of the projections for 4-year-old individuals for the period between 2023–2060 (average of values shown in the blue line in Figure C1). The average number of additional high school completers (141,800) is based on projections for individuals aged 17 for the same period (average of values shown in the orange line in Figure C1). The average number of additional AA completers (27,500) are based on projections for individuals aged 20 for the same period (average of values shown in the gray line in Figure C1).

The lines in Figure C1 represent the difference in the number of individuals under the two scenarios proposed: one, the number of enrollees/graduates/completers under the proposed parameters (enrollment/graduation/completion rates of Whites), and two, the number of enrollees or completers under the current parameters (current enrollment/graduation/completion rates of Hispanic or Black children). The number of Hispanic and Black children by age (4, 17, and 20 years old) and year (2022–2060) are obtained from the U.S. Census Bureau Population Projections. Full results are available upon request.

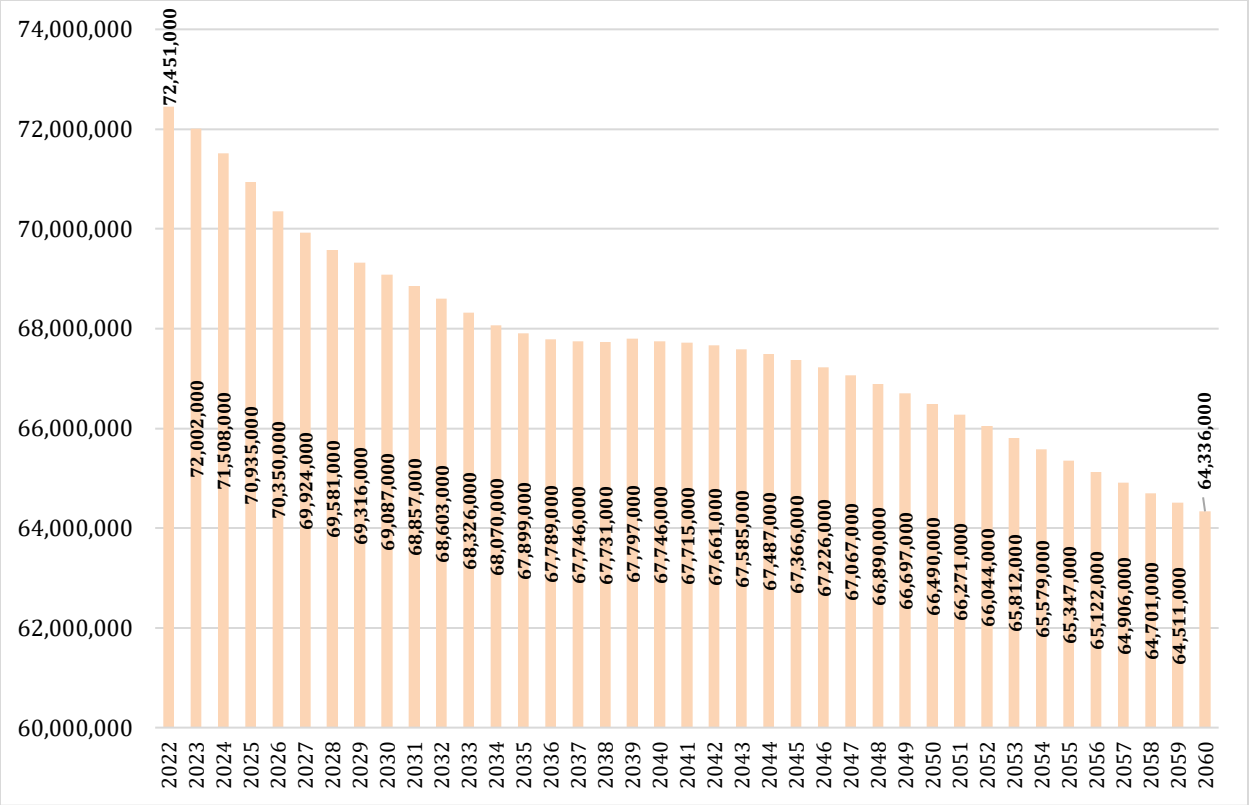
Figure C1 Additional ECE Enrollees, High-School Completers, and Individuals with an AA



Notes: Racial/ethnic categories reflect those used in the original source. We assume average outcomes in 2022 are equal to average outcomes in Table A1 by race/ethnicity. The lines show the difference between two scenarios. In the baseline scenario, we assume that outcomes for Black and Hispanic individuals stay constant, and equal to average outcomes in 2022, during the period 2023-2060. In the simulated scenario, we assume average outcomes in 2023-2060 for Black and Hispanics equal average outcomes for Whites in 2022. In this simulated scenario: ECE enrollment rate: Hispanic: 46.5% in 2022 and 58% in 2023-2060; Black: 55.5% in 2022 and 58% in 2023-2060; HS graduation rate: Hispanic: 81.7% in 2022 and 89.4% in 2023-2060; Black: 79.6% in 2022 and 89.4% in 2023-2060; AA completion rate: Hispanic: 7.1% in 2022 and 9.3% in 2023-2060; Black: 8.9% in 2022 and 9.3% in 2023-2060. Hispanics are of any race (Hispanic origin is considered an ethnicity, not a race). Blacks are non-Hispanic.
Source: Table A1 for outcomes and opportunities by race/ethnicity. Population estimates based on our own analysis of the U.S. Census Bureau, Population Division (2023). 2023 National Population Projections. NP2023_D1: Projected Population by Single Year of Age, Sex, Race, and Hispanic Origin for the United States: 2022 to 2100. File: Release date: November 2023, 2023 National Population Projections Datasets Projections for the United States: 2023 to 2100 (https://www.census.gov/data/datasets/2023/demo/popproj/2023-popproj.html).

Appendix D: Projected Population Ages 0–17, 2022–2060.

Figure D1 Population Ages 0-17 in the U.S., Projected using U.S. Census Population Projections.



Note : Population numbers rounded to the closest 1,000.
Source: Our own analysis of the U.S. Census Bureau, Population Division (2023). 2023 National Population Projections. NP2023_D1: Projected Population by Single Year of Age, Sex, Race, and Hispanic Origin for the United States: 2022 to 2100. File: Release date: November 2023, 2023 National Population Projections Datasets Projections for the United States: 2023 to 2100 (https://www.census.gov/data/datasets/2023/demo/popproj/2023-popproj.html).

References

Adamson, F., & Darling-Hammond, L. (2012). Funding Disparities and the Inequitable Distribution of Teachers: Evaluating Sources and Solutions. *Education Policy Analysis Archives* 20, no. 37. https://doi.org/10.14507/epaa.v20n37.2012

Allegretto, S., García, E., & Weiss, E. (2022). *Public education funding in the US needs an overhaul: How a larger federal role would boost equity and shield children from disinvestment during downturns*, Economic Policy Institute, July 2022.

Altonji, J. G., & Blank, R. M. (1999). "Race and Gender in the Labor Market." In *Handbook of Labor Economics*, Vol. 3C, edited by Orley Ashenfelter and David Card, 3143-3259. Amsterdam: North-Holland.

Angrist, J. D. & Pischke, J. S. (2009). *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press. ISBN: 9780691120355

Antman, F. M., & Cortes, K. (2022). *The Long-Run Impacts of Mexican-American School Desegregation*, IZA Discussion Papers, IZA DP N. 15019.

Auguste, B. G., Hancock, B., & Laboissière, M. (2009). *The economic cost of the US education gap: Gaps in academic achievement cost the US economy trillions of dollars a year. Yet there is reason to think they could be closed.* McKinsey&Company. https://www.mckinsey.com/industries/education/our-insights/the-economic-cost-of-the-us-education-gap

Bailey, D., Duncan, G., Odgers, C., & Yu, W. (2017). Persistence and Fadeout in the Impacts of Child and Adolescent Interventions, *Journal of Research on Educational Effectiveness*, 10, 7–39, https://doi.org/10.1080/19345747.2016.1232459

Barnett, W. S. (1985). Benefit–cost analysis of the Perry Preschool Program and its policy implications. *Educational Evaluation and Policy Analysis*, 7(4), 333–342. https://doi.org/10.2307/1163569

Barnett, W. S. (2008). *Preschool education and its lasting effects: Research and policy implications. Boulder and Tempe*: Education and the Public Interest Center & Education Policy Research Unit. https://nepc.colorado.edu/publication/preschool-education

Barnett, W.S. & Masse, L. N. (2007). Comparative benefit–cost analysis of the Abecedarian program and its policy implications, *Economics of Education Review*, Volume 26, Issue 1, February 2007, Pages 113-125 https://doi.org/10.1016/j.econedurev.2005.10.007

Becker, G. S. (1962). Investment in Human Capital: A Theoretical Analysis. *Journal of Political Economy*, 70(5), 9–49. http://www.jstor.org/stable/1829103

Becker, G. S. (1964). *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education* (3rd edition ed.): New York: National Bureau of Economic Research.

Belfield, C. & Levin H. M. (2007). *The Price We Pay*, Washington, DC: The Brookings Institution.

Belfield, C. (2021). *The Economic Burden of Racism from the U.S. Education System,* National Education Policy Center.

Belfield, C., Bowden, A. B., Klapp, A., Levin, H., Shand, R., & Zander, S. (2015). The Economic Value of Social and Emotional Learning. *Journal of Benefit-Cost Analysis,* 6(3), 508-544. doi:10.1017/bca.2015.55

Bennhoff, F. H., García, J. L., & Leaf, D. E. (2024). The Dynastic Benefits of Early-Childhood Education: Participant Benefits and Family Spillovers. *Journal of human capital*, *18*(1), 44–73. https://doi.org/10.1086/728058

Bergman, P., Chetty R., DeLuca, S., Hendren, N., Katz, L.F., Palmer, C. (2023). Creating Moves to Opportunity: Experimental Evidence on Barriers to Neighborhood Choice. *American Economic Review*. Forthcoming.

Blaug, M. (1992). *The Methodology of Economics: Or, How Economists Explain*. Cambridge University Press.

Bowden, A. B., Shand, R., Levin, H. M., Muroga, A., & Wang, A. (2020). An Economic Evaluation of the Costs and Benefits of Providing Comprehensive Supports to Students in Elementary School, *Prevention Science*, Vol. 21, pp. 1126-1135.

Brown, A. (2014). *U.S. Hispanic and Asian populations growing, but for different reasons*. Pew Research Center. https://www.pewresearch.org/fact-tank/2014/06/26/u-s-hispanic-and-asian-populations-growing-but-for-different-reasons/

Bryk, Anthony S., Penny Bender Sebring, Elaine Allensworth, John Q. Easton, and Stuart Luppescu. (2010). *Organizing Schools for Improvement: Lessons from Chicago*. Chicago: University of Chicago Press.

Burris, C. C., Heubert, Jay, P., & Levin, H. M. (2006). Accelerating Mathematics Achievement Using Heterogeneous Grouping, *American Educational Research Journal*, Vol. 43, No. 1 (Spring, 2006), pp. 105-136. http://www.jstor.org/stable/3699404

Cannon, J. S., Kilburn, M. R., Karoly, L. A., Mattox, T., Muchow, A. N., & Buenaventura, M. (2018). Investing Early: Taking Stock of Outcomes and Economic Returns from Early Childhood Programs. *Rand Health Quarterly*, 7(4), 6.

Cardichon, J., Darling-Hammond, L., Yang, M., Scott, C., Shields, P. M., & Burns, D. (2020). *Inequitable opportunity to learn: Student access to certified and experienced teachers*. Palo Alto, CA: Learning Policy Institute. https://learningpolicyinstitute.org/product/crdc-teacher-access-report

Carnoy, M. & García, E. (2017). *Five key trends in U.S. student performance: Progress by blacks and Hispanics, the takeoff of Asians, the stall of non-English speakers, the persistence of socioeconomic gaps, and the damaging effect of highly segregated schools*. Economic Policy Institute, January 2017.

Carnoy, M., García, E., & Khavenson, T. (2015). *Bringing it back home: Why state comparisons are more useful than international comparisons for improving U.S. education policy*, Economic Policy Institute, EPI Briefing Paper #410.

Chetty, R. (2023). The arc of opportunity: a decade of research on housing, neighborhoods, and social mobility. *Poverty and Race Journal*, Vol. 32, Number 3 (Keynote address at the 9th National Housing Mobility Conference. September 20, 2023). https://www.prrac.org/newsletters/August-December2023.pdf

Chetty, R., Jackson, M.O., Kuchler, T. et al. (2022). Social capital I: measurement and associations with economic mobility. *Nature* 608, 108–121. https://doi.org/10.1038/s41586-022-04996-4

Coleman, J. S., Campbell, E., Hobson, C., McPartland, J., Mood, A., Weinfeld, F., & York, R. (1966). The Coleman Report. *Equality of Educational Opportunity*.

Council of Economic Advisers. (2014). *The Economics of Early Childhood Investments.* https://obamawhitehouse.archives.gov/sites/default/files/docs/early_childhood_report_update_final_non-embargo.pdf

Cutler, David M. & Lleras-Muney, A. (2010) Understanding differences in health behaviors by education, *Journal of Health Economics*, Volume 29, Issue 1, Pages 1-28, ISSN 0167-6296, https://doi.org/10.1016/j.jhealeco.2009.10.003.

Darling-Hammond, L. (2018). *Kerner At 50: Educational Equity Still a Dream Deferred*, Learning Policy Institute, Blog. https://learningpolicyinstitute.org/blog/kerner-50-educational-equity-still-dream-deferred

Darling-Hammond, L. (2018). *Education and the Path to One Nation, Indivisible*, Learning Policy Institute. https://learningpolicyinstitute.org/product/education-path-one-nation-indivisible-brief

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). "Implications for Educational Practice of the Science of Learning and Development." *Applied Developmental Science* 24, no. 2: 97–140. https://doi.org/10.1080/10888691.2018.1537791.

de Brey, C., Musu, L., McFarland, J., Wilkinson-Flicker, S., Diliberti, M., Zhang, A., Branstetter, C., and Wang, X. (2019). *Status and Trends in the Education of Racial and Ethnic Groups 2018* (NCES 2019-038). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Accessed 9/16/2021.

Dearing, E., Bustamante, A. S., Zachrisson, H. D., & Vandell, D. L. (2024). Accumulation of opportunities predicts the educational attainment and adulthood earnings of children born into low- versus higher-income households, *Educational Researcher,* 53(9), 496-507. https://doi.org/10.3102/0013189X241283456.

Dhaliwal, I., Duflo, E., Glennerster, R., & Tulloch, C. (2014). Comparative cost-effectiveness analysis to inform policy in developing countries: A general framework with application for education. In P. Glewwe Editor (Eds.) *Education Policy in Developing Countries* (285-338). Chicago, Il.: The University of Chicago Press.

Duncan, G. J., & Murnane, R. J. (2011). *Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances*. New York: Russell Sage Foundation.

Duncan, G. J., Morris, P. A., & Rodrigues, C. (2011). "Does Money Really Matter? Estimating Impacts of Family Income on Young Children's Achievement with Data from Random-Assignment Experiments." *Developmental Psychology* vol. 47, no. 5, 1263–79. doi:10.1037/a0023875.

Duncan, G.J., LeMenestrel, S., Board on Children, Youth and Families, and Committee on National Statistics (2019). *A roadmap to reducing child poverty*, p. 3-8. National Academies of Sciences, Engineering and Medicine. https://nap.nationalacademies.org/catalog/25246/a-roadmap-to-reducing-child-poverty

Frankenberg E., Lee C., & Orfield, G. (2003). *A multiracial society with segregated schools: Are we losing the dream?* Cambridge, MA: The Civil Rights Project, Harvard University.

Frankenberg, E., Ee, J., Ayscue, J. B., & Orfield, G. (2019). *Harming our Common Future: America's Segregated Schools 65 Years after Brown*. Los Angeles, CA: The Civil Rights Project/Proyecto Derechos Civiles, UCLA. https://civilrightsproject.ucla.edu/research/k-12-education/integration-and-diversity/harming-our-common-future-americas-segregated-schools-65-years-after-brown/Brown-65-050919v4-final.pdf

Frey, W. H. (2021). *All recent US population growth comes from people of color, new Census estimates show*, Report, Brookings Institution, https://www.brookings.edu/research/all-recent-us-population-growth-comes-from-people-of-color-new-census-estimates-show/ Wednesday, June 23, 2021

Gamoran, A., & An, B. P. (2016). Effects of School Segregation and School Resources in a Changing Policy Context. *Educational Evaluation and Policy Analysis*, *38*(1), 43–64. https://doi.org/10.3102/0162373715585604

Gamoran, A. & Murnane, R. (2023). *Reducing educational inequality after the COVID-19 pandemic: What do we know, and what research do we need?* William T. Grant Foundation.

García, E. (2015). *Inequalities at the starting gate: Cognitive and noncognitive skills gaps between 2010–2011 kindergarten classmates*. Economic Policy Institute.

García, E., & Weiss, E. (2017). *Education inequalities at the school starting gate: Gaps, trends, and strategies to address them*. Economic Policy Institute.

George, J., & Darling-Hammond, L. (2019). *The federal role and school integration: Brown's promise and present challenges*. Palo Alto, CA: Learning Policy Institute, https://learningpolicyinstitute.org/product/federal-role-school-integration-browns-promise-report

Gray-Lobe, G., Pathak, P. A., & Walters, C. R. (2023). The Long-Term Effects of Universal Preschool in Boston, *The Quarterly Journal of Economics*, Volume 138, Issue 1, February 2023, Pages 363–411, https://doi.org/10.1093/qje/qjac036

Griffith, M., Burns, D., Espinoza, D, & García, E. (2023). *Community schools costing tool* [Excel workbook]. Community Schools Forward Project Series. Learning Policy Institute. https://learningpolicyinstitute.org/product/community-schools-costing-tool

Gupta, S., Supplee, L. H., Suskind, D., & List, J. A. (2021). "*Failed to Scale: Embracing the Challenge of Scaling in Early Childhood*," in "*The Scale-Up Effect in Early Childhood and Public Policy: Why Interventions Lose Impact at Scale and What We Can Do About It*," John A. List, Dana Suskind, and Lauren H. Supplee, eds. (New York, NY: Routledge, 2021)

Guryan, J, Ludwig, J., Bhatt, M. P., Cook, P. J., et al. (2023). "Not Too Late: Improving Academic Outcomes among Adolescents." *American Economic Review*, 113 (3): 738-65. DOI: 10.1257/aer.20210434

Hahn, R. A. (2022). School Segregation Reduces Life Expectancy in the U.S. Black Population by 9 Years. *Health Equity*, Vol.6(1), pp.270-277. doi: 10.1089/heq.2021.0121.

Hanushek, E. A. (1989). The Impact of Differential Expenditures on School Performance. *Educational Researcher*, *18*(4), 45–62. https://doi.org/10.2307/1176650

Hanushek, E. A., and Woessmann, L. (2008). The role of cognitive skills in economic development. *Journal of Economic Literature* 46, no. 3 (September): 607-668.

Holzer, H. J. (2011). *Raising Job Quality and Skills for American Workers: Creating More-Effective education and workforce development systems in the States,* The Hamilton Project Discussion Paper 2011-10, The Brookings Institution.

Hoynes, H., Schanzenbach, D. W., & Almond, D. (2016). Long-run impacts of childhood access to the safety net. *American Economic Review*, 106(4), 903-34.

Institute of Education Sciences. (2020). *Cost Analysis: A Toolkit* (IES 2020-001). U.S. Department of Education. Washington, DC: Institute of Education Sciences.

Jackson, C. K., & Mackevicius, C. (2021). *The Distribution of School Spending Impacts*. National Bureau of Economic Research Working Paper no. 28517, February 2021. https://doi.org/10.3386/w28517

Jackson, C. K., Porter, S. C., Easton, J. Q., and Kiguel, S. (2022). Who Benefits From Attending Effective Schools?

Jackson, K. C. (2018). *Does school spending matter: The new literature on an old question*. NBER Working Paper No. 25368.

Jackson, C. K., Johnson, R. C., & Persico, C. (2016). The effects of school spending on educational and economic outcomes: Evidence from school finance reforms, *The Quarterly Journal of Economics*, (131)1, 157–218. https://doi.org/10.1093/qje/qjv036

Jackson, C. K., Wigger, C. & Xiong, H. (2021). Do School Spending Cuts Matter? Evidence from the Great Recession. *American Economic Journal: Economic Policy*, 13 (2): 304–35. DOI: 10.1257/pol.20180674

Jargowsky, P. A. (2013). *Concentration of poverty in the new millennium: Changes in the prevalence, composition, and location of high-poverty neighborhoods*. The Century Foundation and Rutgers Center for Urban Research and Education. Retrieved from http://www.tcf.org/assets/downloads/Concentration_of_Poverty_in_the_New_Millenniu m.pdf

Jencks, C., & Phillips, M. (1998). *The Black White Test Score Gap*, Washington, DC: Brookings Institution Press.

Johnson, M. P., Ladd, H. F. & Ludwig, J. (2002) The Benefits and Costs of Residential Mobility Programmes for the Poor, Housing Studies, 17:1, 125-138, DOI: 10.1080/02673030120105947

Johnson, R. & Nazaryan, A. (2019). *Children of the Dream: Why School Integration Works*. New York: Basic Books.

Johnson, R. (2012). The impact desegregation had on schools | Rucker Johnson | TEDxMiamiUniversity October 22, 2012. https://www.youtube.com/watch?v=OKCQ32dg2qY

Johnson, R. (2023). *School funding effectiveness: Evidence from California's local control funding formula*. Learning Policy Institute. https://doi.org/10.54300/529.194

JPAL (n.d.). Costing Guidelines https://www.povertyactionlab.org/sites/default/files/research-resources/costing-guidelines.pdf

Kahlenberg, Richard D. 2006. *A New Way on School Integration*. The Century Foundation. http://72.32.39.237:8080/Plone/publications/2006/11/pb592

Kalil, A., Duncan, G. J., & Ziol-Guest, K. M. (2016). Early childhood poverty: Short and long-run consequences over the lifespan. In M.J. Shanahana, J.T. Mortimer, & M.K. Johnson (Eds.), Handbook of the life course (pp. 341-354). Springer.

KFF (n.d.) Poverty Rate by Race/Ethnicity Poverty. Website. https://www.kff.org/other/state-indicator/poverty-rate-by-raceethnicity/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

Kim, M.H., Schwartz, G.L., White, J.S., Glymour, M.M., Reardon, S.F., Kershaw, K.N., et al. (2022). School racial segregation and long-term cardiovascular health among Black adults in the US: A quasi-experimental study. *PLoS Med* 19(6): e1004031. https://doi.org/10.1371/journal.pmed.1004031

Kirp, D. (2019). *The College Dropout Scandal.* Oxford College University Press, ISBN: 9780190862213.

Ladd, H. F. (2012). Education and Poverty: Confronting the Evidence. *Journal of Policy Analysis and Management* no. 31 (2):203–227.

Lallinger, S. (2023). *Is the Fight for School Integration Still Worthwhile for African Americans?,* Report, https://tcf.org/content/report/is-the-fight-for-school-integration-still-worthwhile-for-african-americans/?mc_cid=a88faf7e90&mc_eid=07c6647f47

Learning Policy Institute & Turnaround for Children. (2021). *Design principles for schools: Putting the science of learning and development into action.*

Leung-Gagné, M., McCombs, J., Scott, C., & Losen, D. J. (2022). *Pushed out: Trends and disparities in out-of-school suspension*. Learning Policy Institute. https://doi.org/10.54300/235.277

Levin, H. M. & García, E. (2017). Accelerating Community College Graduation Rates: A Benefit–Cost Analysis, *The Journal of Higher Education*, 89:1, 1-27, https://doi.org/10.1080/00221546.2017.1313087

Levin, H. M. (1970). A Cost-Effectiveness Analysis of Teacher Selection, *The Journal of Human Resources,* Vol. 5, No. 1 (Winter, 1970), pp. 24-33.

Levin, H. M. (1970). A New Model of School Effectiveness *Do Teachers Make a Difference?* (pp. 55-78): U.S. Department of Health, Education and Welfare, Office of Education.

Levin, H. M. (1975) "Cost-Effectiveness in Evaluation Research," Vol. 2, M. Guttentag & E. Struening, ed. (Beverly Hills, CA: Sage Publications, pp. 89-122.)

Levin, H. M. (1997). Raising school productivity: An x-efficiency approach*, Economics of Education Review*, Volume 16, Issue 3, 1997, Pages 303-311, ISSN 0272-7757, https://doi.org/10.1016/S0272-7757(96)00069-6.

Levin, H. M. (2012). More Than Just Test Scores, *Prospects*, vol. 42, no. 3, 269–284.

Levin, H. M., & McEwan, P. (2001). *Cost-Effectiveness Analysis: Methods and Applications*. Thousand Oaks: Sage Publications.

Levin, H. M., & McEwan, P. (2002). *Cost-effectiveness and Educational Policy*. Eye on Education, ISBN:9781930556331, 1930556330

Levin, H. M., Belfield, C., Muennig, P., & Rouse, C. (2007). *The costs and benefits of an excellent education for all of America's children*. New York: Center for Benefit-Cost Studies in Education, CBCSE, Teachers College, Columbia University

Levin, H. M., McEwan, P., Belfield, C., Bowden, B., & Shand, R. (2018) *Economic Evaluation of Education: Cost-Effectiveness and Benefit-Cost Analysis,* 3rd edition, Thousand Oaks, CA: Sage Publications, 2018.

Linderman, D. (2018). *Doubling Associate Degree Completion Rates: City University of New York (CUNY) Accelerated Study in Associate Programs (ASAP),* Testimony Submitted to the U.S. Senate Committee on Health, Education, Labor and Pensions Reauthorizing the Higher Education Act: Access and Innovation, Thursday January 25, 2018. https://www.help.senate.gov/imo/media/doc/Linderman1.pdf

Linderman, D., & Kolenovic, Z. (2012). *Results thus far and the road ahead: A follow-up report on CUNY Accelerated Study in Associate Programs (ASAP).* New York: City University of New York. Retrieved from http://www1.cuny.edu/sites/asap/wp-content/uploads/sites/8/2014/06/ASAP_Followup_Report_PDF.pdf

List, J. A. & Uchida, H. (2024). *Here Today, Gone Tomorrow? Toward an Understanding of Fade-out in Early Childhood Education Programs*, NBER Working Paper No. 33027

List, J. A. (2024). Optimally generate policy-based evidence before scaling. *Nature*, 626 (7999), 491–499.

Lochner, L. (2011). "Non-Production Benefits of Education: Crime, Health, and Good Citizenship." In *Handbook of the Economics of Education*, Chapter 2, Volume 4, edited by Eric A. Hanushek, Stephen Machin, and Ludger Woessmann. Amsterdam: North Holland: 183-282. - https://doi.org/10.1016/B978-0-444-53444-6.00002-X.

Losen, D. J., & Martinez, P. (2020). *Lost opportunities: How disparate school discipline continues to drive differences in the opportunity to learn*. Palo Alto, CA/Los Angeles, CA: Learning Policy Institute; Center for Civil Rights Remedies at the Civil Rights Project, UCLA.

Magnuson, K. A., & Waldfogel, J. (2008). *Steady Gains and Stalled Progress: Inequality and the Black-White Test Score Gap*. New York: Russell Sage Foundation.

Maier, A, Daniel, J., Oakes, J., & Lam, L. (2017). *Community schools as an effective school improvement strategy: A review of the evidence* (research brief). Palo Alto, CA: Learning Policy Institute.

Mantil, A., Papay, J.P., Ferguson, I.M., Mbekeani, P.P., & Murnane, R.J. (2023). *Rising Numbers, Unmet Needs: Immigrant Newcomers in Massachusetts High Schools*. Providence, RI: Educational Opportunity in MA, Annenberg Institute at Brown University.

McCombs, J. S., Augustine, C. H., Unlu, F., Ziol-Guest, K. M., Naftel, S., Gomez, C. J., Marsh, T., Akinniranye, G., & Todd, I. (2019). *Investing in Successful Summer Programs: A Review of Evidence Under the Every Student Succeeds Act*. Santa Monica, CA: RAND Corporation, 2019.

McIntosh, K., Moss, E., Nunn, R., & Shambaugh, J. (2020). *Examining the Black-white wealth gap*, https://www.brookings.edu/blog/up-front/2020/02/27/examining-the-black-white-wealth-gap/

McMahon, W. W. (2006). Education finance policy: Financing the non-market and social benefits. *Journal of Education Finance*, 32(2), 264-284 https://www.jstor.org/stable/40704293

Mishel, Lawrence, Josh Bivens, Elise Gould, and Heidi Shierholz. 2012. The State of Working America, 12th Edition. Cornell University Press, 2012.

Mishel, L., Bivens, J., Gould, E., & Shierholz, H. (2012). *The State of Working America, 12th Edition.* An Economic Policy Institute Book. Ithaca, NY: Cornell University Press.

Montenegro, C.E. & Patrinos, H.A. (2021). A data set of comparable estimates of the private rate of return to schooling in the world, 1970–2014, *International Journal of Manpower*, Vol. ahead-of-print. https://www.researchgate.net/publication/355682400_A_data_set_of_comparable_estimates_of_the_private_rate_of_return_to_schooling_in_the_world_1970-2014

Morgan, I., & Amerikaner, A. (2018). *An Analysis of School Funding Equity Across the U.S. and Within Each State.* Education Trust, February 27, 2018.

Morsy, L., & Rothstein, R. (2015). *Five Social Disadvantages That Depress Student Performance: Why Schools Alone Can't Close Achievement Gaps.* Economic Policy Institute.

Muennig, P. (2006). *Consequences in Health Status and Costs.* In: Levin, H and Belfield, C (eds.). The Price We Pay: Economic and Social Consequences of Inadequate Education. Washington, DC: Brookings Institution.

Murnane, R.J. (2021). *Can policy interventions reduce inequality? Looking beyond test Scores for evidence.* William T. Grant Foundation.

Murnane, R. J., & Willett, J. B. (2011). *Methods matter: Improving causal inference in educational and social science research.* Oxford University Press.

National Assessment Governing Board (NAGB) (2025). *10 Takeaways from the Newly Released 2024 NAEP Results*, https://www.nagb.gov/powered-by-naep/the-2024-nations-report-card/10-takeaways-from-2024-naep-results.html

National Center for Education Statistics (NCES). (2022). Undergraduate Retention and Graduation Rates. Condition of Education. U.S. Department of Education, Institute of Education Sciences. https://nces.ed.gov/programs/coe/indicator/ctr.

Nores, M., Belfield, C. R., Barnett, W. S., & Schweinhart, L. (2005). Updating the Economic Impacts of the High/Scope Perry Preschool Program. *Educational Evaluation and Policy Analysis,* vol. 27, no. 3, 245–261.

Oakes, J. (1986). Keeping track, Part 1: The policy and practice of curriculum inequality. *Phi Delta Kappan*, 68, 12-17.

Orfield, G., (2018). *Time for a New Civil Rights Movement*. Learning Policy Institute, Blog, https://learningpolicyinstitute.org/blog/time-new-civil-rights-movement

Orfield, G., (2022). The Walls around Opportunity: The Failure of Colorblind Policy for Higher Education. *Princeton University Press.* https://doi.org/10.2307/j.ctv20hcrz5

Orfield, G., and E. Frankenberg, with J. Ee and J. Kuscera. (2014). *Brown at 60: Great Progress, a Long Retreat and an Uncertain Future.* The Civil Rights Project. Berkeley: University of California Press.

Orfield, G., Frankenberg, E. & Garces, L.M. (2008). Statement of American Social Scientists of Research on School Desegregation to the U.S. Supreme Court in Parents v. Seattle School District and Meredith v. Jefferson County. *Urban Rev* 40, 96–136. https://doi.org/10.1007/s11256-007-0073-7

Orfield, G., Lee C. (2004). *Brown at 50: King's dream or Plessy's nightmare?* Cambridge, MA: The Civil Rights Project, Harvard University.

Orfield, Gary. (1978). *Must We Bus? Segregated Schools and National Policy*. The Brookings Institution.

Orfield, Gary. (2013). "Housing Segregation Produces Unequal Schools: Causes and Solutions." In Closing the Opportunity Gap: What America Must Do To Give Every Child an Even Chance, Prudence L. Carter and Kevin G. Welner, eds. New York: Oxford University Press, 40–60.

Papay, J.P., Mantil, A., Murnane, R.J., An, L., Donohue, K., & McDonough, A. (2020). *Lifting all boats? Accomplishments and challenges from 20 years of education reform in Massachusetts*. Providence, RI: Educational Opportunity in MA, Brown University.

Phenicie, C. (2019). *74 Interview: Professor Rucker Johnson on How School Integration Helped Black Students — and How Much More Is Possible When It's Paired With Early Education & Spending Reforms*. The 74, May 27, 2019.

Psacharopoulos, G. & Patrinos, H. A. (2018) Returns to investment in education: a decennial review of the global literature, Education Economics, 26:5, 445-458, https://doi.org/10.1080/09645292.2018.1484426

Putnam, R. (2015). *Our Kids: The American Dream in Crisis*. New York: Simon & Schuster.

Reardon, S. F. (2011). "The Widening Academic Achievement Gap between the Rich and the Poor: New Evidence and Possible Explanations." In *Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances,* Greg J. Duncan and Richard Murnane, eds. New York: Russell Sage Foundation, 91–116.

Reardon, S. F., & Portilla, X.A. (2016). Recent trends in income, racial, and ethnic school readiness gaps at Kindergarten entry. ***AERA Open*** vol. 2, no. 3, 1–18. https://doi.org/10.1177/2332858416657343

Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2002). Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Centers. *Educational Evaluation and Policy Analysis*, *24*(4), 267–303. http://www.jstor.org/stable/3594119

Reynolds, A. J., Temple, J. A., White, B. A., Ou, S. R., & Robertson, D. L. (2011). Age 26 cost-benefit analysis of the child-parent center early education program. *Child development, 82*(1), 379–404. https://doi.org/10.1111/j.1467-8624.2010.01563.x

Rothstein, R. (2004). *Class and Schools: Using Social, Economic, and Educational Reform to Close the Achievement Gap*. Washington, D.C.: Economic Policy Institute; New York: Columbia University Teachers College.

Rothstein, R. (2013). *For Public Schools, Segregation Then, Segregation Since: Education and the Unfinished March*. Washington, DC: Economic Policy Institute.

Rothstein, R. (2014). The Racial Achievement Gap, Segregated Schools, and Segregated Neighborhoods: A Constitutional Insult. *Race and Social Problems* 7, 21–30 https://doi.org/10.1007/s12552-014-9134-1

Schanzenbach, D., Mumford, M., Nunn, R., and Bauer, L. (2016). *Money Lightens the Load*. The Hamilton Project, Brookings Institute.

Schultz, T. W. (1961). Investment in Human Capital. *The American Economic Review*, *51*(1), 1–17. http://www.jstor.org/stable/1818907

Schultz, T. W. (1980). Nobel Lecture: The Economics of Being Poor, *Journal of Political Economy* 1980 88:4, 639-651, https://doi.org/10.1086/260895

Schwartz, H. (2010) *Housing Policy Is School Policy: Economically Integrative Housing Promotes Academic Success in Montgomery County, Maryland*, The Century Foundation.

Scrivener, S., Weiss, M. J., Ratledge, A., Rudd, T., Sommo, C., & Fresques, A. (2015). *Doubling graduation rates: Three-year effects of CUNY's Accelerated Study in Associate Programs (ASAP) for developmental education students*. New York, NY: MDRC.

Shakeel, M.D., & Peterson, P.E. (2022). A Half Century of Progress in US Student Achievement: Agency and Flynn Effects, Ethnic and SES Differences. *Educational Psychology Review*, https://doi.org/10.1007/s10648-021-09657-y

Sharkey, Patrick. 2013. *Stuck in Place: Urban Neighborhoods and the End of Progress toward Racial Equality*. University of Chicago Press.

Southern Education Foundation (SEF). (2015). *A new majority: Low-income students now a majority in the nation's public schools.* January 2015.

Stringhini, S., et al. 2017. "Socioeconomic Status and the 25×25 Risk Factors as Determinants of Premature Mortality: A Multicohort Study and Meta-Analysis of 1.7 Million Men and Women." *The Lancet*. Published online January 31, 2017. doi:10.1016/S0140-6736(16)32380-7.

Sun, M., Candelaria, C. A., Knight, D., LeClair, Z., Kabourek, S. E., & Chang, K. (2024). The Effects and Local Implementation of School Finance Reforms on Teacher Salary, Hiring,

and Turnover. *Educational Evaluation and Policy Analysis*, *0*(0). https://doi.org/10.3102/01623737231213880

Tan, E. (2014). Human Capital Theory: A Holistic Criticism. *Review of Educational Research*, *84*(3), 411–445. http://www.jstor.org/stable/24434243

Tefera, A., Frankenberg, E., Siegel-Hawley, G., & Chirichigno, G. (2011). Integrating Suburban Schools: How to Benefit from Growing Diversity and Avoid Segregation. Civil Rights Project.

The International Rescue Committee and the World Bank. (2019). *Capturing cost data*

The White House (2015). America's College Promise: A Progress Report on Free Community College, Executive Office of the President, https://obamawhitehouse.archives.gov/sites/default/files/docs/progressreportoncommunitycollege.pdf

The White House (2023) Economic Report of the President, together with the Annual Report of the Council of Economic Advisers. Executive Office of the President in the Biden-Harris Administration.

Thomson, S. (2018). Achievement at school and socioeconomic background—an educational perspective. *npj Science Learn* 3, 5 (2018). https://doi.org/10.1038/s41539-018-0022-0

U.S. Bureau of Labor Statistics (n.d.) Table 3. Median usual weekly earnings of full-time wage and salary workers by age, race, Hispanic or Latino ethnicity, and sex, third quarter 2023 averages, not seasonally adjusted Economic News Release. https://www.bls.gov/news.release/wkyeng.t03.htm

U.S. Bureau of Labor Statistics (n.d.). Labor force characteristics by race and ethnicity, 2022 (Chart 4, Report 1105, annual averages) https://www.bls.gov/opub/reports/race-and-ethnicity/2022/home.htm

U.S. Census Bureau, Population Division (2023). 2023 National Population Projections. NP2023_D1: Projected Population by Single Year of Age, Sex, Race, and Hispanic Origin for the United States: 2022 to 2100. File: Release date: November 2023: 2023 National Population Projections Datasets Projections for the United States: 2023 to 2100 (https://www.census.gov/data/datasets/2023/demo/popproj/2023-popproj.html

U.S. Department of Education for Civil Rights. (2014). Data snapshot: School discipline. Washington, DC.

U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) (n.d.) 2003, and 2019, Mathematics and Readings Assessments. https://www.nationsreportcard.gov/ndecore/xplore/NDE

U.S. Department of Education, National Center for Education Statistics (NCES) (2021). "Table 203.50. Enrollment and percentage distribution of enrollment in public elementary and

secondary schools, by race/ethnicity and region: Selected years, fall 1995 through fall 2029." Digest of Education Statistics: 2020, Institute of Education Sciences, U.S. Department of Education. https://nces.ed.gov/programs/digest/d20/tables/dt20_203.50.asp?current=yes Accessed February 19, 2022.

U.S. Department of Education, National Center for Education Statistics (NCES) (2020a). "Table 204.10. Number and percentage of public school students eligible for free or reduced-price lunch, by state: Selected years, 2000-01 through 2018-19." Digest of Education Statistics: 2020, Institute of Education Sciences, U.S. Department of Education. https://nces.ed.gov/programs/digest/d20/tables/dt20_204.10.asp?current=yes Accessed February 19, 2022.

U.S. Department of Education, National Center for Education Statistics (NCES) (2020b). "Table 102.50. Poverty status of all persons, persons in families, and related children under age 18, by race/ethnicity: Selected years, 1960 through 2018." Digest of Education Statistics: 2019, Institute of Education Sciences, U.S. Department of Education. https://nces.ed.gov/programs/digest/d19/tables/dt19_102.50.asp, Accessed February 26, 2022.

U.S. Department of Education, National Center for Education Statistics (NCES) (2022a). "Table 104.40. Percentage of persons 18 to 24 years old and 25 years old and over, by educational attainment, race/ethnicity, and selected racial/ethnic subgroups: 2010 and 2021." Digest of Education Statistics: 2020, Institute of Education Sciences, U.S. Department of Education. https://nces.ed.gov/programs/digest/d20/tables/dt20_104.40.asp?referer=raceindicators, Accessed November 22, 2023.

U.S. Department of Education, National Center for Education Statistics (NCES) (2022b). "Table 502.30. Median annual earnings of full-time year-round workers 25 to 34 years old and full-time year-round workers as a percentage of the labor force, by sex, race/ethnicity, and educational attainment: Selected years, 1995 through 2021." Digest of Education Statistics: 2022, Institute of Education Sciences, U.S. Department of Education. https://nces.ed.gov/programs/digest/d22/tables/dt22_502.30.asp, Accessed November 22, 2023.

U.S. Department of Education, National Center for Education Statistics (NCES) (2020c). "Table 219.46. Public high school 4-year adjusted cohort graduation rate (ACGR), by selected student characteristics and state: 2010-11 through 2018-19." Digest of Education Statistics: 2020, Institute of Education Sciences, U.S. Department of Education. https://nces.ed.gov/programs/digest/d20/tables/dt20_219.46.asp, Accessed November 22, 2023.

U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) (n.d.) 2019 Mathematics and Reading Assessments. https://www.nationsreportcard.gov/ndecore/xplore/NDE

U.S. Department of Health & Human Services National Institutes of Health (NIH). (2022). Life expectancy in the U.S. increased between 2000-2019, but widespread gaps among racial and ethnic groups exist, NEWS RELEASES, Thursday, June 16, 2022.

https://www.nih.gov/news-events/news-releases/life-expectancy-us-increased-between-2000-2019-widespread-gaps-among-racial-ethnic-groups-exist

Valero, A. (2021). Education and Economic Growth. Discussion Paper No. 1764. Centre for Economic Performance; Centre for Economic Performance. London School of Economics and Political Science, Accessed https://eric.ed.gov/?id=ED614082

Van Hook, J., Bélanger, A., Sabourin, P., Patoine Hamel, N. (2023). *The Changing Racial and Ethnic Composition of the School-Age Population in the U.S*. Los Angeles, CA: The Civil Rights Project/Proyecto Derechos Civiles, UCLA. https://civilrightsproject.ucla.edu/research/demographic-studies/the-changing-racial-and-ethnic-composition-of-the-school-age-population-in-the-u.s/National-demographic-11272023.pdf

Van Voorhis, F.L., M.F. Maier, J.L. Epstein, C.M. Lloyd, and T. Leung. (2013). The Impact of Family Involvement on the Education of Children Ages 3 to 8: A Focus on Literacy and Math Achievement Outcomes and Social-Emotional Skills. MDRC.

Wells, A. S., Fox, L., & Cordova-Cobo, D. (2016). How racially diverse schools and classrooms can benefit all students. The Education Digest, 82(1), 17.

Wilson, W. J. (1978). *The Declining Significance of Race: Blacks and Changing American Institutions*. The University of Chicago Press.

Wilson, W. J. (1987). *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. The University of Chicago Press.

Wu, J., Zhang, J., & Wang, Ch. (2023). Student Performance, Peer Effects, and Friend Networks: Evidence from a Randomized Peer Intervention. *American Economic Journal: Economic Policy*, 15 (1): 510-42. DOI: 10.1257/pol.20200563