

# Reduce Deficits and Strengthen the Economy: Invest in Families

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To strengthen its economy, the United States needs to reduce its deficit and increase productivity in the workplace, government and schools. Yet, those addressing this problem often overlook a promising solution—that is, reducing economic and social inequality by promoting economic opportunity and social mobility by making the most efficient and effective economic and social investments. James Heckman, Henry Schultz Distinguished Service Professor of Economics at the University of Chicago and winner of the 2000 Nobel Prize in Economics, focuses on the growing disparities in skills and abilities in our population. He argues that the most effective approach to fostering the skills and abilities of American children is to help troubled American families through access to quality early childhood development. Improving parenting skills and fostering non-cognitive skills in children through early childhood development pays dividends for life. Indeed, from a purely economic standpoint, the highest returns on dollars invested in programs to help children be successful in school, college, career and life come from the earliest investments, from birth to age five. These foundational investments have exponential returns because they build upon each other throughout the entire educational, career and life experience. Excerpts of Heckman's remarks at the Forum's 2011 Aspen Symposium are reprinted here.<sup>1</sup>

I want you to step out of the more narrow concerns that you have as college presidents and academic administrators and consider broad questions about the production of skills, the quality of students going to college, and the skills being produced that advance the economy. I'd like you

to consider why we should break down disciplinary barriers and approach these issues in a more integrated way. It's important to think more broadly about the roles of universities, families and the public and private sectors in creating the skill base for a thriving modern economy.

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● The Gini coefficient is a measure of income equality on a scale of 0 (all incomes are equal) to 1 (one person has all the income). About 30 years ago, the Gini coefficient for household incomes in the United States was around .3. Today it's .41. For the sake of comparison, today the Gini coefficient in Sweden is about .25, in Brazil it's about .54, and in Mexico it is .52.

● A major fault line in American society is the growing disparity in skills and abilities in our population. Skills are the major determinant of social advantage and disadvantage in our society; the livelihoods of most people in modern economies depend on their skills and compensations they receive for those skills. Several strategies based on social science can come together to tackle the challenges posed by this fault line.

● Gaps in test scores at age 18 are already present by age 5, when children are entering the public school system. It is striking that elementary and high schools, however badly or well they perform, essentially have very little effect on either exacerbating or alleviating these gaps.

● To foster the skills and abilities of disadvantaged American children, we need to help troubled American families. Teaching parenting and fostering non-cognitive skills in children pays dividends for life. Indeed, from a purely economic standpoint, the highest returns on dollars invested in programs to help a child along the range from birth to employment are to be had at the very beginning, at age zero.

How can we meet the challenges of our times to reduce deficits, increase economic productivity and provide a strong measure of upward mobility for individuals and society? I want to draw on some wisdom from the Bowles-Simpson Commission's report, which was released in late 2010 and intended to inform Congress and the President on the best ways to strengthen our economic future.

The Bowles-Simpson Commission had as its motto, "Make the wisest investments for growth." As an economist, I completely agree. The report outlines a few fundamental principles, and asks Americans to think hard about making America better off tomorrow than it is today. The commission emphasized that the United States will go broke unless it substantially revises its fiscal system.

The report notes that since the financial crash in late 2008, many Americans have made very tough choices, and the commission asks government officials to make tough choices too. The principles the commission put forth to guide those choices are: to protect the truly disadvantaged; focus benefits on those who need them; promote productivity to keep America competitive; cut inefficient spending; and prioritize spending.

To accomplish these things, we have to face economic realities. Our leaders have to move beyond focusing on just winning the next election, or passing the next budget. With regard to public policy, we have to look very hard at what our options are, and understand that we can act, and act far more effectively, if we look at the facts in a much more objective and creative way.

The priority actions are quite clear. First, we have to reduce deficits. Second, we have to increase productivity in the workplace, in schools, and in government. And third, we need to grow the middle class by reducing economic and social inequality, promoting social mobility, and providing economic opportunity for all. While there is widespread agreement on these priorities, there is substantial political disagreement about how to achieve them, much of which is uninformed by the facts. The message sent to Americans is that the problem cannot be solved and we are somehow in an inevitable decline. That is far from the truth. We can move forward, but only when we understand the fault lines of the American economy, and put significant knowledge and data to use about how educational institutions and other societal institutions can help to address these fault lines and right the country.

### Fault Lines in the American Economy

Several strategies based on social science can come together to tackle the major fault lines in American society. The most significant fault line is the growing disparity in skills and abilities in our population. The livelihoods of most people in modern economies depend on their skills and the compensation that

they get for their skills. Skills are also the major determinants of social advantage and disadvantage. Even though there's been an increase in demand for skills—and there has been a response in the supply of skills—there has also been an increase in the high school dropout rate, once it's correctly measured.

Data on cohorts of individuals born from 1900 up to 1977 show that for many years there was a gradual increase in college graduation and also a fairly steep increase in high school graduation. These trends continued until around the birth cohort of 1950—so these people are now in their early 60s—when a decline in high school graduation rates began. Today we find ourselves in a very unusual situation. A greater proportion of our population is graduating from college than at any other time in U.S. history and, at the same time, for cohorts born after 1950, we've seen a reduction in the high school graduation rate. And so we have produced two societies—the haves and the have-nots, with a shrinking middle class. With that comes a whole host of social and economic problems.

The Gini coefficient is a measure of inequality in the larger society. About 30 years ago, the Gini coefficient for household income in the United States was around .3. By way of reference, today places like Denmark and Sweden have a Gini coefficient of .25. In Brazil it's about .54 and in Mexico it's about .52. In the U.S., it's now about .41.

Rising inequality is a much discussed problem. In fact, our current economic problems have arisen in part from our economic and social policies toward inequality. Here I draw on a book, by my University of Chicago colleague, Raghuram Rajan. The book is called *Fault Lines*. It's a very interesting and controversial book.

Raghu notes something very important: part of the subprime crisis that led to the crash of 2008 arose because of misplaced American public policy to combat inequality. Instead of focusing on improving skills to try to reverse the income gap caused by the decline in real wages, what we actually did was offer cheap credit instead. Cheap credit was used to address the problem of declining or stagnant real incomes that resulted from lower skills. In addition, the availability of cheap Chinese goods helped to compensate for stagnant wages while producing additional pressure to keep wages low. Instead of addressing the core problem—the failure of American society to address the need for improvement of skills to create a thriving middle class—we gave credit. We now know this backfired in many ways after the bubble broke and it came time to pay the piper.

### Public Policy can Address Inequality

Although public policy took the wrong track in fighting inequality, it doesn't mean it can't take the right track. There is a role for government to incentivize economic opportunity, provided it is

informed by the facts and takes into account that institutions which once may have been productive in combating inequality may not be productive in the the 21st-century economy.

For example, we have to face the fact that trends in globalization are not easily reversed. Any policies that are designed to shut down trade, or otherwise oppose basic economic forces, will just make things worse. Fighting the Chinese over exchange rate policy and the like will not make much of a difference. Instead, we have to adapt to the changing world economy and develop the skills needed to compete and succeed. We can do that because we have a history of doing it. In fact, the world copied our model of investing in human capital and has caught up with us as result.

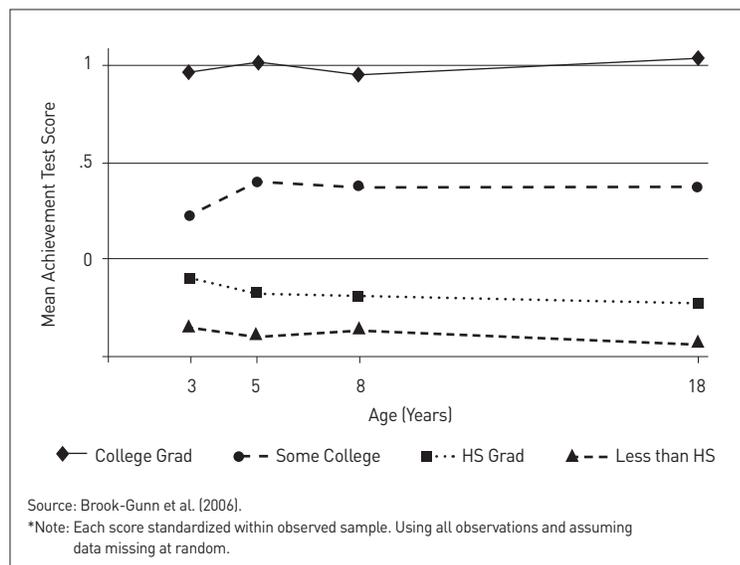
The question is, “What are the most effective investments for promoting productive skills among a wide range of people and classes?” Some say the best policy is fixing schools, others claim it is supplementing families. I would argue that it’s both. However, with tight budgets we need to look at the best investment for the marginal dollar. We need to fix bad schools, but should also understand that we need to supplement families, particularly with resources for the early childhood development of their children from birth to age five. Otherwise, investments in better schools won’t do much good.

Since the release of the Coleman report nearly 50 years ago, we have known that the principal determinant of inequality in the performance of high school students is inequality of family life, not the quality in the resources of schools themselves. That point is repeatedly ignored in current policy discussions.

What we’re doing today in education reform is not very effective. We need to recognize that families send children to school, determine their readiness for school, and can support schools. Healthy families promote successful schools. A policy that focuses on the family is likely to be far more effective than many of the policies that currently receive so much attention, like reducing classroom size, monitoring teachers, and improving access to the Internet.

To show the importance of the family, consider Figure 1, which shows mean achievement test scores by age, broken down by maternal education. Achievement test scores are important predictors of success in college and in the labor market. Two features of this graph are very striking. First, the gaps in the test scores at age 18 are already present, more or less, by age 3, and certainly by age 5, when children are entering the public school system. The gaps are real, and the gaps are not that much changed by what’s going on between age 3 and 18. That’s very important to note because the public schools that these kids are attending differ greatly. Many scholarly studies report the same findings. Test score gaps open up very early, and the elementary and high schools, however badly or well

**Figure 1: Mean Achievement Test Scores by Age by Maternal Education\***



**Figure 2: Differences in College Entry Proportions Between Minorities and Whites, Mid-1990s.**

	Black - White	Hispanic - White
Actual	-0.12	-0.14
Adjusted for Ability	0.16	0.15

Source: Stephen V. Cameron and James J. Heckman, “The Dynamics of Educational Attainment for Black, Hispanic, and White Males,” *Journal of Political Economy* 109 (3) [2001].

they may perform, essentially are not doing much to alleviate or to promote these gaps.

Another important point concerns college attainment. College attainment has much more to do with skills and abilities than family income or the cost of tuition. Deficits in college-going across minority and majority groups are not primarily caused by high tuition. Tuition plays a role, and there’s evidence that it’s playing an increasingly important role, but it’s not a first-order explanation for the gaps. In fact, U.S. minorities are *more likely* than whites to go to college once one accounts for differences in ability, measured at the age of college attendance. Figure 2 illustrates this point.

Figure 2 shows gaps in the proportion of students entering all colleges, community college through the elites, between minority and white males. If you look at college entry proportions predicted by test scores, the raw gap in the black compared to white proportions would be .12 points (on a scale of 0 to 1). Once ability is controlled for, minorities are *more likely* to go to college. A similar story is true for Hispanics. Lower ability at the time of potential college enrollment is the cause of the lower college attainment rate. That has very little to do with race. Ability gaps are real and very predictive.

The same is true, by the way, for wages in the economy. If you look at hourly male and female wages for blacks and Hispanics and you adjust for the same kind of ability disparity, you can see that a big chunk of the wage disparity has to do with ability differences. This is not to deny that discrimination plays a role in college-going and wage outcomes, but differences in abilities play a much bigger role.

One of the major points that has emerged from this body of research is that these abilities are not solely genetically determined. In fact, abilities are multiple in nature. They can be shaped by strong families and schools. This challenges the once widely held view that these important abilities have a genetic basis or are set in stone at birth. It supports the notion that skills and abilities can be shaped and enhanced in the earliest years after birth.

### Character and Families Matter

I want to summarize a body of research that doesn't receive as much attention as it should. Colleges and universities, and many other institutions in American society, have to better

understand and acknowledge this truism: Character matters. If you go back to the earliest years of American education, to Horace Mann, you'll find that building character and certain personality traits were essential to education.

These so-called soft skills and character traits really matter in shaping social and economic outcomes. There is an emerging body of evidence that shows that they can also be shaped. Cognitive skills are important, but skills like motivation, sociability, attention, self-regulation, and self-esteem affect performance in school in important ways. A highly motivated, conscientiousness, self-disciplined child is a successful student who is more likely to develop into a highly productive adult.

Both cognitive and non-cognitive traits matter and they can and should be shaped from birth forward. Along with cognitive skills, character traits determine success in school, in the labor force, and in life. Figure 3 shows the early emergence of negative, anti-social character traits. A high score on this graph denotes high levels of antisocial behavior.

Behavioral problems of children are strongly associated with family income. Children from the most advantaged homes have the least behavioral problems, and those from the least advantaged homes have the most behavioral problems. Note that similar to the test scores shown in Figure 1, these gaps also open up at a very early age.

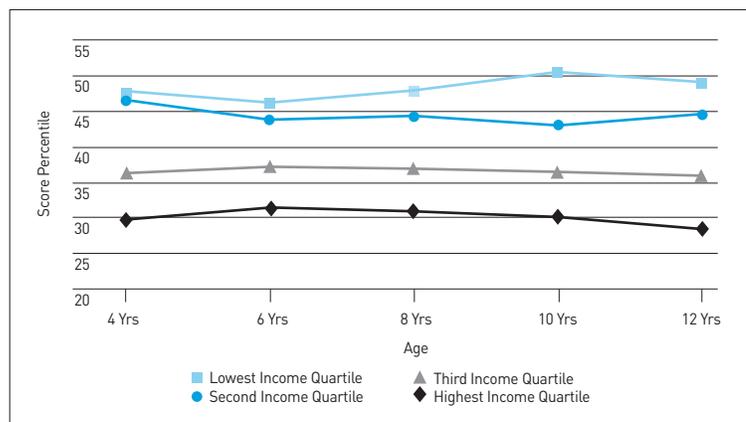
This evidence suggests that we need to direct attention away from our current focus on cognition and scores on standardized cognitive tests. For example, conscientiousness better predicts college grades than the SAT, which only predicts freshmen grades. High school grades are better predictors of college success than SAT scores, and we know that grades are determined more by character and personality traits than IQ.

Families play a critically important role in shaping character and personality traits, and families also play an important role in shaping what goes on in the schools. Inequality in family environments is a major source of inequality in society. Therefore, we have to develop a much deeper understanding of the mechanisms through which families produce skills.

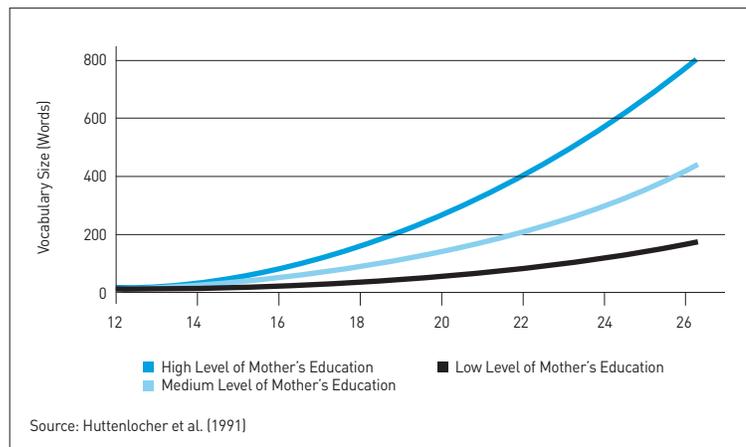
We have come to understand that parents play a crucial role in determining the character traits and personality of their children as well as their level of cognitive attainment. There's a very large body of evidence suggesting that. Unfortunately, there are very substantial differences in parental investment across different socioeconomic groups that have tragic consequences for children, education outcomes, and the economy.

Figure 4 shows the results of a study done some twenty years ago by Janellen Huttenlocher and her group at the University of Chicago. She looked at children's vocabulary up to 26 months after birth and their mothers' level of education.

**Figure 3: Average Percentile Rank on Anti-Social Behavior Score, by Income Quartile**



**Figure 4: Mother's Education and Child's Vocabulary**



There are substantial differences in vocabulary size from very early on, long before the age of three, when the test score data in Figure 1 begin. When a mother reads to her child, talks to her child, and interacts with her child, we see substantial differences in the verbal fluency of that child.

Other studies show substantial differences among Hispanic, black, and low-income families regardless of race in terms of material goods, cognitive stimulation, and emotional support for their children. It is also important to note that these racial disparities remain even if we control for whether the family is intact and for the education level of the parents.

Independent of race, we see substantial differences in terms of material goods, cognitive stimulation, and emotional support for their children by family structure as well. The family structure most likely to produce disadvantage is a child living with one parent. It should be noted that the greatest change in the American family structure is the population growth of children under 18 living in a single parent household.

Since we're seeing a huge growth in adverse conditions of childhood for many American youth, the policy strategy is clear: To foster the skills of American children, we need to help troubled American families.

Recall the haunting Figure 1. It shows that the gaps in the test scores at age 18 are already present by age 3, and certainly by age 5, when children are entering the public school system. The role of parenting is central in producing these gaps—it's not just genes. Schools have a role to play, but they are not playing the decisive role. Family life plays the decisive role.

We need to talk about these disparities in an open, honest way. The recent political dialogue has begun to do so. We have to talk honestly about the condition of the American family. It's not a black-white issue. It is not a racial question. And it's not just an American phenomena. Families are in trouble around the world. It's wrong to blame the families. Instead, we should support policies that supplement families in ways that help them be better producers of skills and abilities of their children, particularly at the youngest ages.

### Helping Troubled Families

How do we aid troubled families? We know that skill development is supported by families, and that gaps in the skills and character traits that lead to success in schools and success in life open up early. As previously noted, the Coleman report shows that the principal determinant of inequality in the performance of high school students is family life—not the quality of the schools themselves. Research in biology and the neurosciences have shown us that skills beget skills. Disadvantage gets under the skin and impedes the development of children in terms of health, character and cognition.

Many programs target disadvantaged families, but not all provide good return on investment. We have evaluated these programs using methods developed since the War on Poverty and found that the best of them supplement the family with high quality early childhood development resources.

For example, the Perry Preschool Program helped teach parenting while fostering non-cognitive skills in very young children. It promoted children's ability to work with others, to stay on task, and to execute tasks. It did not raise the children's IQs. The long-term economic rate of return of the Perry program has been estimated to be between 7 to 10 percent per annum. For each dollar invested society has been getting back 7 to 10 percent per year over the whole life of the child. These kids started in the program at ages three and four in the early 1960s, and a treatment and a control group have been followed since then. Efforts are underway to continue to update the study until the participants reach age 50.

The Perry program and others like it are effective because they start when children are young and they supplement and enrich family skills. These programs do not attack the family or try to replace it. Troubled families can be helped. They are isolated by education, access or resources. Many would do better for their children if they understood how and had the tools to act. These programs are offered as voluntary choices—not forced by some overarching social planning effort. And they engage both the private and public sectors.

Early childhood development programs work because they start at the beginning and leverage the dynamics of skill formation. Skills beget skills. Waiting until a child enters kindergarten is much too late to begin this process, especially for children from families of lower education levels and fewer financial means to devote to developmental resources. There is considerable analytical basis for this approach. We know skill formation is dynamic in nature, and that more motivated and healthier children are better learners in school.

More motivated and healthier children are better learners and higher achievers as adults. As a result, highly motivated kids make great investments. The rate of return on a bright, highly motivated 18-year-old child in terms of further education is not 10 percent per annum, it's closer to 20-25 percent per annum—a very high rate of return. The rate of return to attending an elite school for a child who has low motivation and low cognitive skills is very low—it's basically zero.

That's a harsh conclusion. But a more hopeful notion is that if we build a skill base early on, we can promote an efficient system, one that recognizes the multiplicity of abilities and the fact that skills beget skills. We can effectively address the problems arising from disadvantaged family life if we start

early enough. If we start early on, we can prepare disadvantaged children to succeed in elite colleges.

It's important to note that cognitive, social and emotional skills interact in a dynamic way, and there are different critical and sensitive periods when we can target opportunity to develop these skills. This understanding gives us a more

nuanced view of public policy, and at what stages intervention is most effective. For example, if we're talking about the process of remediation for adolescents who've grown up in disadvantaged homes, we know that non-cognitive and personality skills are by far the most effective traits to focus on—and not IQ-enhancing skills. IQ gets fairly rank-stable by age 11 or 12. You can teach people more facts and so forth, but IQ is very hard to change after that.

What is the role of education in addressing inequality and in promoting social mobility? Figure 5 shows disparities on a number of adult outcomes by education beyond the compulsory, minimum age at which students can drop out of school.

These data are based on a cohort of children, born in 1970, when they were 30 years old. Disparities by education are clear on a number of measures, including: log hourly wages, full-time employment, regular exercise, obesity, fair/poor health, and depression. The question these data raise is, how much of these gaps are due just to the cognitive and non-cognitive skills that children have by the time they enter school?

This evidence leads to an old discussion in the economics of higher education: is education just a signal, or is there a real effect of obtaining it? We know that there is a causal effect and a very important role for education. We can quantitatively measure how high schools and colleges are promoting cognitive and non-cognitive skills, and we know that they are doing so, especially with regard to the non-cognitive skills—character training, personality traits, and the like.

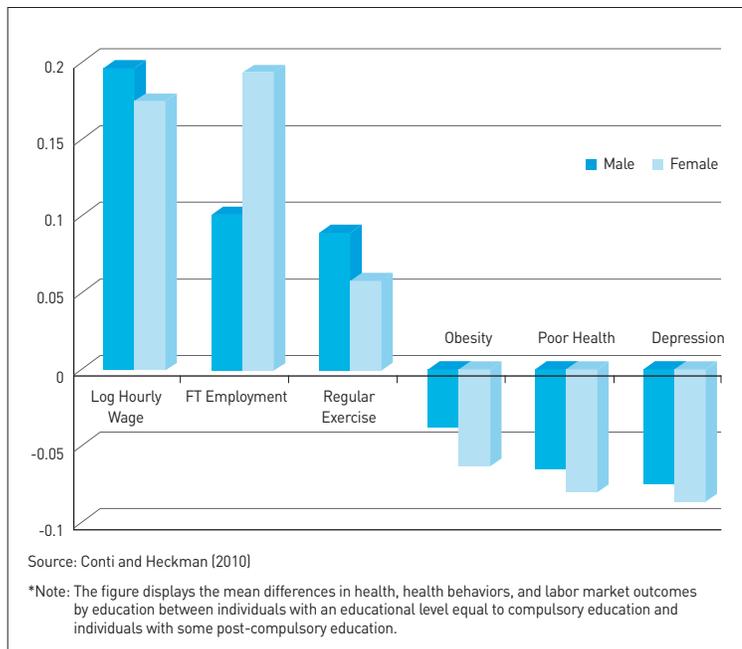
We can decompose the differentials in Figure 5, and show how much of these differentials is due to early-life factors, and how much is due to things caused by the schooling itself—what economists would call the treatment effect.

Figure 6 shows that education has huge effects across many outcomes. However, while there is a causal role for education, we also know that the early-life factors play a key role as well. First, they promote attendance in schooling, and second, they have an independent effect in their own right, particularly on log hourly wages, obesity and physical and mental health—all of which have huge effects on social spending and economic productivity. This evidence strongly suggests that investing in early childhood development is critical for better education, health, and economic outcomes. In fact, it illuminates an effective prevention strategy, providing America with an upstream solution to many of its downstream problems in education, chronic disease, incarceration, and social spending that increases deficits.

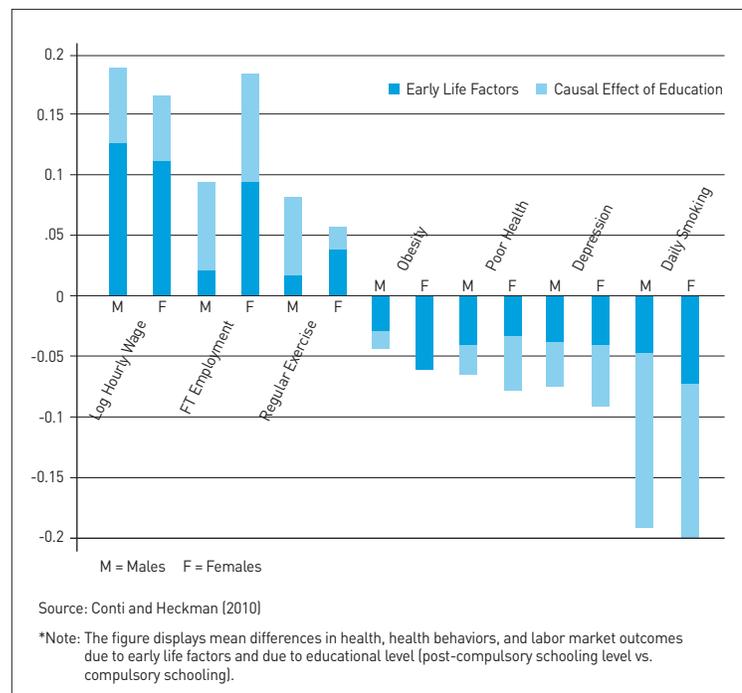
Figure 7 shows the return to a unit dollar invested across different stages of the life cycle. It is based on a large number of careful studies.

If you look at the issue from a purely economic standpoint and think about a child who is just born, you get the sense of

**Figure 5: Differences in Means by Education (Post-compulsory Education)\***



**Figure 6: Disparities in Means Due To Early Life Factors versus the Education Itself\***



the figure. The highest return for a unit dollar invested is at the beginning which builds the base, because the base percolates through the entire educational system.

That's not to say there's no return to schooling or job training. If I were to draw a more nuanced version of this graph, it would show that kids who get a very high level of investment early on are the same ones who would get very high rates of return to adult job training. If you study the earnings of accountants, lawyers, engineers, and other professionals, the rate of return to their training is very high even into their 50s and 60s. On the other hand, if you look at the return to job training for an 18- or 20-year-old who has low character skills, low motivation, and a low level of cognition, virtually all of the programs have shown either zero or negative rates of return.

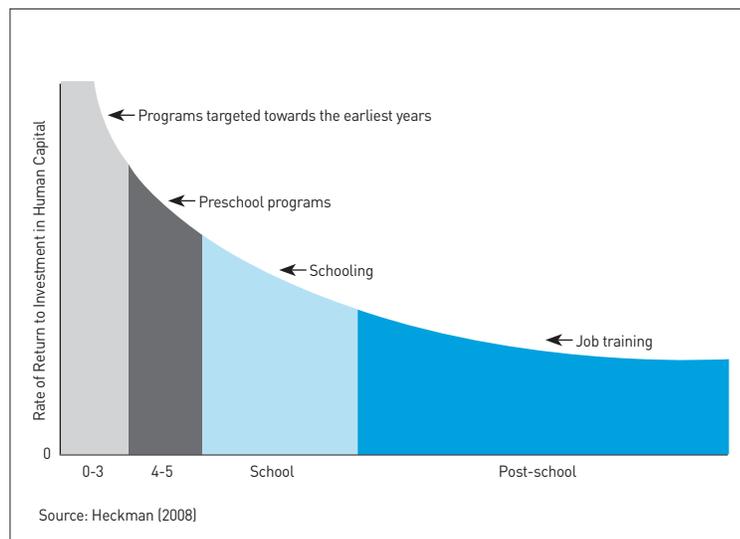
This type of careful analysis suggests much better strategies for improving education and life outcomes, ones far better than fashionable ideas such as reducing class sizes. Studies on the effectiveness of reducing class size in high school reveal that the rate of return is zero or negative. Why? Smaller class sizes boost learning, but you have to hire teachers and build schools to support them. On a purely economic basis, that strategy by itself is ineffective. On a developmental basis, it is ineffective for children of lower abilities because they can't capitalize on the opportunity of additional attention. Children with greater abilities can actualize these opportunities, but that doesn't close the achievement gap. We can shape the abilities children bring to school and in this fashion more effectively close the ability gap and help disadvantaged children learn better from schooling.

Our priority should be creating the ability base among a wide range of children in order to reduce the burden of remediation on schools. Clearly, early childhood programs are essential for improving our schools. It is much more effective to help disadvantaged children early on—from birth. Waiting for formal schooling is too little too late. It is very expensive to remediate in the adolescent years.

This is critical as less-educated women, who tend to be single parents, are working more but either cannot afford to invest more in their children or fail to invest more. Conversely, more educated women, even single parents, are working more and investing more in their children, effectively increasing the gap between advantaged and disadvantaged families and children. As a result, inequality is being perpetuated and even increased across generations. We cannot and should not attempt to solve this problem with artificial income supports, but we can address it in a fair way through access to early childhood development resources.

While investments in early childhood development provide the greatest returns, we cannot abandon a generation of children who, through no fault of their own, had no access to

**Figure 7: Returns to a Unit Dollar Invested By Stage of the Life Cycle**



this foundational opportunity. We can and should remediate problems in adolescents and young adults, but take care to invest in programs that are effective, particularly those that emphasize character development. By the early teenage years, raw cognitive ability is very stable. Personality traits are malleable into the twenties.

## Conclusion

There are many things we could do to reduce deficits, increase productivity, and reduce inequality. There are few things we should do more, and more quickly, than supplementing disadvantaged families with resources that promote childhood development. The scarce resource is parenting, and good parenting matters more than money. As America heads toward very difficult policy and spending decisions, let's embrace the facts and reality. Smart investments in human capital development, particularly in shaping and improving character and personality traits, are our best hope for achieving the education, health and economic outcomes that not only reduce deficits but create a bounty of talent that drives greater and more equal prosperity.

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