The Human Capital Gap

Getting Governments to Invest in People

By Jim Yong Kim July/August 2018

Teach your children well: a teacher in northeastern Nigeria, June 2017
AKINTUNDE AKINLEYE / REUTERS

Governments in pursuit of economic growth love to invest in physical capital—new roads, beautiful bridges, gleaming airports, and other infrastructure. But they are typically far less interested in investing in human capital, which is the sum total of a population's health, skills, knowledge, experience, and habits. That's a mistake, because neglecting investments in human capital can dramatically weaken a country's

competitiveness in a rapidly changing world, one in which economies need ever-increasing amounts of talent to sustain growth.

Throughout the World Bank Group's history, our development experts have studied every aspect of what makes economies grow, what helps people lift themselves out of poverty, and how developing countries can invest in prosperity. In 2003, the bank published the first annual *Doing Business* report, which ranked countries on everything from taxation levels to contract enforcement. The findings proved hard to ignore: heads of state and finance ministers faced the possibility that foreign direct investment could go down as companies chose to invest in countries with a better business climate. In the 15 years since, *Doing Business* has inspired more than 3,180 regulatory reforms.

Now we are taking a similar approach to marshaling investments in people. The staff of the World Bank Group is developing a new index to measure how human capital contributes to the productivity of the next generation of workers. Set to launch at the World Bank Group's annual meetings in Bali this October, the index will measure the health, as well as the quantity and quality of education, that a child born today can expect to achieve by the age of 18.

Scholars know a great deal about the many benefits of improving human capital. But their knowledge has not turned into a convincing call for action among developing countries. One constraining factor is the shortage of credible data that make clear the benefits of investing in human capital, not just for ministers of health and education but also for heads of state, ministers of finance, and other people of influence around the world. That's why an index of human capital across countries can galvanize more—and more effective—investments in people.

Over the past three decades, life expectancy in rich and poor countries has started to converge. Schooling has expanded tremendously. But the agenda is unfinished: almost a quarter of children under five are malnourished, more than 260 million children and youth are not in school, and 60 percent of primary school children in developing countries are still failing to achieve minimum proficiency in learning. In too many places, governments are failing to invest in their populations.

PEOPLE POWER

The value of human capital can be calculated in several different ways. Traditionally, economists have done so by measuring how much more people earn after staying in school longer. Studies have found that each additional year of education increases a person's income by about ten percent on average. The quality of the education matters, too. In the United States, for example, replacing a low-quality teacher in an elementary school classroom with an average-quality one raises the combined lifetime income of that classroom's students by $250,000.

But cognitive abilities are not the only dimensions of human capital that count. Socioemotional skills, such as grit and conscientiousness, often have equally large economic returns. Health also matters: healthier people tend to be more productive. Consider what happens when children no longer suffer from parasitic worms. A 2015 study conducted in Kenya found that giving deworming drugs in childhood reduced school absences and raised wages in adulthood by as much as 20 percent—lifelong benefits from a pill that costs about 30 cents to produce and deliver.

The different dimensions of human capital complement one another starting at an early age. Proper nutrition and stimulation in utero and during early childhood improve physical and mental well-being later in life. Although some gaps in cognitive and socioemotional skills that manifest themselves at an early age can be closed later, doing so becomes more expensive as children reach their teens. It is no surprise, then, that focusing on human capital during the first 1,000 days of a child's life is one of the most cost-effective investments governments can make.

How does all of this relate to economic growth? For one thing, when the benefits of individual investments in human capital are added up, the overall impact is greater than the sum of the parts. Going back to those schoolchildren in Kenya: deworming one child also decreases the chances of other children becoming infected with parasites, which in turn sets those children up for better learning and higher wages. Some of the benefits from improved human capital also accrue beyond the generation in which the investments are made.

Educating mothers about prenatal care, for instance, improves the health of their children in infancy.

Individual investments in human capital add up: development economists have estimated that human capital alone explains between ten and 30 percent of differences in per capita income across countries. These positive effects also persist over time. In the mid-nineteenth century, the state of São Paulo, in Brazil, encouraged the immigration of educated Europeans to specific settlements. More than 100 years later, those very settlements boast higher levels of educational attainment, a greater share of workers in manufacturing as opposed to agriculture, and higher per capita income.

Education yields particularly large returns, so it plays an important role in decreasing poverty. Ghana's success story is a testament to this relationship: throughout the 1990s and early years of this century, the country doubled its education spending and drastically improved its primary enrollment rates. As a result, the literacy rate went up by an astonishing 64 percentage points from the early 1990s to 2012, and the poverty rate fell from 61 percent to 13 percent.

Investments in education can also reduce inequality. In most countries, children born to more affluent parents start having access to better opportunities early in life, and these lead to lifelong advantages, whereas children born to poorer parents miss out on these opportunities. When governments take steps to correct that problem, economic inequality tends to fall. One study released this year drew on a trial conducted in North Carolina to estimate that if the United States made effective early childhood development programs universal, U.S. income inequality would fall by seven percent—about enough for the country to achieve Canadian levels of equality.

The societal benefits of investing in human capital extend even further. Staying in school longer reduces a person's probability of committing a crime. So do programs that improve noncognitive skills. In a 2017 study in Liberia, drug dealers, thieves, and other criminally inclined men were enrolled in cognitive behavioral therapy in order to build skills such as recognizing emotions, improving self-control, and navigating difficult situations. The

program, when combined with a small cash transfer, significantly reduced the odds that these men would fall back into a life of crime.

Human capital is also associated with social participation. In the mid-1970s, Nigeria introduced universal primary education, sending a large cohort of children through primary school who otherwise wouldn't have gone. Years later, those same people were more likely to pay close attention to the news, speak to their peers about politics, attend community meetings, and vote.

Investments in human capital increase trust, too. More educated people are more trusting of others, and more trusting societies tend to have higher economic growth. They are also more tolerant: research suggests that the large wave of compulsory school reforms that took place across Europe in the mid-twentieth century made people more welcoming of immigrants than they were before.

Students eating at a school canteen, Cote d'Ivoire, October 2015
Thierry Gouegnon / Reuters

THE VISIBLE HAND

Human capital doesn't materialize on its own; it must be nurtured by the state. In part, that's because individuals often fail to consider the benefits that investments in people can have on others. In deciding whether to deworm their children, for instance, parents take into account potential improvements to their own children's health, but they rarely consider how the treatment will reduce the risk of infection for other children. Or in deciding whether to pay to enroll their children in preschool, parents might not consider the wider societal benefits of doing so, such as lower crime and incarceration rates. These knock-on effects are significant: a 2010 study of one preschool program developed in Michigan in the 1960s estimated that for each $1 spent, society received $7 to $12 in return.

Sometimes, social norms hold parents back from investing in their children. Although the preference among parents for sons over daughters has been well documented, the extent of the discrimination can be astounding. The government of India has estimated that the country has as many as 21 million "unwanted girls," daughters whose parents wished for sons instead. These girls receive much less parental investment, in terms of both health and education. Other times, families want to invest in the human capital of their children but simply cannot afford to do so. Poor parents of talented kids cannot take out a loan on their children's future earnings to pay for school today. And even when education is free, parents still have to pay for transportation and school supplies, not to mention the opportunity cost that arises because a child in the classroom cannot work to earn extra income for the family.

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Despite how crucial it is for governments to invest in human capital, politics often gets in the way. Politicians may lack the incentive to support policies that can take decades to pay off. For example, in the absence of a pandemic, they can usually get away with neglecting public health. It is rarely popular to fund public health programs by raising taxes or diverting money from more visible expenditures, such as infrastructure or public subsidies. The government of Nigeria ran into major resistance in 2012 when it removed the country's fuel

subsidy to spend more on maternal and child health services. Media coverage focused on the unpopular repeal of the subsidy and paid scant attention to the much-needed expansion of primary health care. After widespread public protests, the subsidy was reinstated. In some countries, such resistance is partly explained by a weak social contract: citizens do not trust their government, so they are hesitant to pay tax money that they worry will be misspent.

The problem of implementation is equally daunting. Across the world, too many children cannot read because their teachers are not adequately trained. The Service Delivery Indicators, an initiative launched by the World Bank Group in partnership with the African Economic Research Consortium to collect data on sub-Saharan African countries, has revealed the depth of the problem. In seven countries surveyed—Kenya, Mozambique, Nigeria, Senegal, Tanzania, Togo, and Uganda—only 66 percent of fourth-grade teachers had mastered the language curriculum they were supposed to be teaching, and only 68 percent had the minimum knowledge needed to teach math. In health care, medical professionals in these countries could correctly diagnose common conditions such as malaria, diarrhea, pneumonia, tuberculosis, and diabetes just 53 percent of the time.

Implementation is also challenging in places where the people providing a given service lack the motivation to do their jobs well. In those same seven countries, on average, teachers taught for only half the time they were supposed to. In many cases, the problem is that civil servants work in politicized bureaucracies, where promotions are based on connections, not performance.

But there are success stories. When the incentives of central governments, local governments, and service providers are aligned, countries can make great strides in improving human capital. That has been the case with Argentina's Plan Nacer, a program launched in 2004 and supported by the World Bank Group that provides health insurance to uninsured families. Plan Nacer allocated funding to provinces based on indicators measuring the scope and quality of their maternal and child health-care services, an approach that incentivized provinces to invest in better care. Among its beneficiaries, Plan Nacer reduced the probability of a low birth weight by 19 percent.

More and more, populations in developing countries are demanding better health care and education. In Peru, for example, a remarkable campaign led by civil society groups placed stunted growth among children firmly on the political agenda in 2006, an election year. Politicians responded by setting a clear target of reducing stunting by five percentage points in five years. The country managed to outperform even that ambitious goal: from 2008 to 2016, the rate of stunting among children under five fell by about 15 percentage points. It was proof that change is possible.

Removing parasites in Uganda, August 2015
James Akena / Reuters

THE POWER OF MEASUREMENT

When politicians and bureaucrats fail to deliver, poor people suffer the most. But there is a way to empower the people to demand the services they deserve: transparency. Better access to information allows citizens to know what their leaders and civil servants are and aren't doing. In Uganda in 2005, for example, researchers working with community organizations released report cards grading local health facilities, which galvanized communities to demand better services. This simple policy led to sustained improvements in health outcomes, including a reduction in mortality for children under five. Similarly, in 2001, after

Germany's disappointing scores in the inaugural Program for International Student Assessment were released to an embarrassed public—an event known as "the PISA shock"—the government undertook major educational reforms that improved learning.

Learning assessments proved similarly pivotal in Tanzania. In 2011, the nongovernmental organization Twaweza, supported by the World Bank Group, published the results of a survey assessing children's basic literacy and numeracy. The news was dismal: only three out of ten third-grade students had mastered second-grade numeracy, and even fewer could read a second-grade story in English. Around the same time, the results of the Service Delivery Indicators surveys came out and shined a spotlight on teacher incompetence and absenteeism. The ensuing public outcry led to the introduction of Tanzania's "Big Results Now" initiative, a government effort to address low levels of learning.

As these examples show, when credible analysis on the state of human capital development is made public, it can catalyze action. That is the logic behind the metrics the World Bank Group is developing to capture key elements of human capital. In countries where investments in human capital are ineffective, these measurements can serve as a call to action. We are focusing our efforts on health and education by looking at the basics. Will children born today live long enough to start school? If they do survive, will they enroll in school? For how many years, and how much will they learn? Will they leave secondary school in good health, ready for future learning and work?

In many developing countries, there is a great deal of work to be done for the health of young people. In Benin, Burkina Faso, and Côte d'Ivoire, ten percent of children born today will never see their fifth birthday. In South Asia, as a result of chronic malnutrition, more than one-third of children under the age of five have a low height for their age, which harms their brain development and severely limits their ability to learn.

The state of education is equally concerning. To better understand whether schooling translates into learning, the World Bank Group, in partnership with the UNESCO Institute for Statistics, has developed a comprehensive new database of student achievement test scores. We harmonized results from several major testing programs covering more than 150 countries, so that they are comparable to PISA scores. The database reveals huge gaps in

learning: less than half of students in developing countries meet what PISA calls "minimum proficiency"—a score of roughly 400—compared with 86 percent in advanced economies. In Singapore, 98 percent of students reached the international benchmark for basic proficiency in secondary school; in South Africa, 26 percent of students did. In other words, nearly all of Singapore's secondary school students have sufficient skills for the world of work, while almost three-quarters of South Africa's youth are functionally illiterate. That is a staggering waste of human potential.

When children leave school, they face very different futures in terms of health, depending on which country they live in. One stark indicator is adult survival rates: in the richest countries, less than five percent of 15-year-olds will not live to see their 60th birthday. But in the poorest countries, 40 percent of 15-year-olds will die before they turn 60.

These individual data points provide snapshots of the vast differences in health and education across countries. To bring these different dimensions of human capital together into a salient whole, we at the World Bank Group are combining them into a single index that measures the consequences of the failure to invest in human capital in terms of lost productivity of the next generation of workers. In countries with the lowest human capital investments today, our analysis suggests that the work force of the future will be only between one-third and one-half as productive as it could be if people enjoyed full health and received a complete high-quality education.

Measuring the economic benefits of investments in human capital in this way does not diminish the social and intrinsic value of better health and education. Rather, it calls attention to the economic costs of failing to provide them. Ministries of finance typically spend more time worrying about their country's stock of debt than its stock of human capital. By demonstrating the beneficial effects that investing in human capital has on worker productivity, the World Bank Group can get policymakers to worry as much about what is happening in their schools and hospitals as what is happening in their current account.

Moreover, the index will be accompanied by a ranking, which should serve as a call to action in countries where investments are falling short. We learned with the *Doing Business* report

that even with the most comprehensive measurements, reforms do not necessarily follow. A ranking puts the issue squarely in front of heads of state and finance ministers, and it makes the evidence hard to ignore.

Benchmarking countries against one another is only the first step. If governments are to identify which investments in human capital will yield results, they need to be able to measure the various factors that contribute to human capital. Better measurement is a public good, and like most public goods, it is chronically underfunded. The World Bank Group can add real value here: it can help harmonize the various measurement efforts across development partners, collect more and better information, advise policymakers how to use it, provide technical support, and help design effective interventions.

Human capital matters—for people, economies, societies, and global stability.

HUMAN CAPITAL IN THE TWENTY-FIRST CENTURY

Human capital matters—for people, economies, societies, and global stability. And it matters over generations. When countries fail to invest productively in human capital, the costs are enormous, especially for the poorest. These costs put new generations at a severe disadvantage. With technological progress placing a premium on higher-order skills, the failure of countries to lay the groundwork for their citizens to lead productive lives will not only carry high costs; it will also likely generate more inequality. It will put security at risk, too, as unmet aspirations can lead to unrest.

Better information is part of the answer, but only part. For one thing, it is hard for a government to deliver quality services if there is not enough money. So countries that chronically underinvest in human capital will have to close tax loopholes and exceptions, improve revenue collection, and reorient spending away from poorly targeted subsidies.

Egypt and Indonesia, for example, have both drastically reduced their energy subsidies in recent years and reallocated these resources toward social safety nets and health care. Greater revenue can go hand in hand with better health outcomes. Between 2012 and 2016, tobacco tax revenues allowed the Philippines to triple the budget for the Department of Health and triple the share of its population with health insurance. In the United States, cities such as Philadelphia aim to use resources from soda taxes to fund early childhood education.

Paul Lenaour

Increased funding is not enough, however. Some countries will have to work to improve the efficiency of their social services while still maintaining their quality. In Brazil, for example, a recent World Bank Group study found that efficiency improvements in the health sector at the local level could generate savings equivalent to approximately 0.3 percent of GDP. In other countries, reconciling the competing interests of stakeholders will be critical. Chile's decades-long experience with educational reform showed the importance of building political coalitions to focus on one key goal: learning for all. In 2004, the country was able to introduce performance-related pay for teachers by balancing that reform with concessions to teachers' unions.

But no matter the starting point, better measurement is crucial. After all, you can only improve what you measure. More and more accurate measurement should lead to shared expectations about what reforms are needed. It should also bring clarity to questions about priorities, generate useful debate about various policies, and foster transparency.

In 1949, the World Bank's president, John McCloy, wrote in these pages, "Development is not something which can be sketched on a drawing-board and then be brought to life through the magic wand of dollar aid." There was often a gap, McCloy argued, between concepts for development and their implementation in practice. That is precisely the gap that the World Bank Group's human capital index is designed to close. The new measurements will encourage countries to invest in human capital with a fierce sense of urgency. That will help prepare everyone to compete and thrive in the economy of the future—whatever that may turn out to be. And it will help make the global system work for everyone. Failing to make those investments would simply be too costly to human progress and human solidarity.

Health Without Wealth

The Worrying Paradox of Modern Medical Miracles

Thomas J. Bollyky

The Real Cost of Ebola

Letter From Monrovia