

The Competition that Really Matters

Comparing U.S., Chinese, and Indian
Investments in the Next-Generation Workforce



Introduction and summary

The U.S. economy is weakening relative to our global competitors. Recent economic growth is 40 percent below any other growth period since World War II as other economies around the globe draw in more investment, both foreign and domestic. In contrast, despite still being the world's leading recipient of direct foreign investment, business investment overall in the United States between 2001 and 2007 was the slowest in U.S. history.

Meanwhile, competition is on the rise. From 1980 to 2011 China increased its share of world economic output from 2 percent to 14 percent. And India more than doubled its output during that period, from 2.5 percent of global production to 5.7 percent. The U.S. share of the world economy fell to 19 percent from 25 percent.

While increasing global competition is inevitable, lackluster U.S. performance need not be. Indeed, rising growth and incomes in other countries present potential new opportunities and markets for American workers and companies. But if the United States means to continue to lead the world and to share our prosperity with it, U.S. policymakers must deploy an American strategy that is responsive to modern economic challenges—a strategy that makes it possible for every American family to ensure

that children entering adulthood are prepared to find a successful place in the global economy.

What should the strategy be? Economists of all stripes point to a robust pipeline of skilled workers as the essential ingredient of a strong and growing economy. Indeed, the two countries most rapidly gaining on the United States in terms of economic competitiveness—China and India—have ambitious national strategies of investing and promoting improved educational outcomes for children to strengthen their positions as contenders in the global economy.

The good news is that the successful history of the American middle class since World War II offers crucial insights for how to grow the world's best-skilled, most innovative, and most dynamic workforce. Those insights, combined with best practices being employed in other developed economies, offer the parameters for a winning American economic strategy.

That's what this report attempts to do. It takes stock of our own nation's human capital challenges, explores the competitive strategies underway in India and China, then uses a comprehensive review of the economic literature to create a broad set of principles for U.S. lawmakers and policy experts to tackle the

greatest economic challenge in a generation: How to ensure that all American children have the opportunity to become high-skilled workers prepared to compete in a global economy.

This is obviously a sweeping and complex topic, which we document in detail in the main pages of this report. But here is a brief summary of the report's findings and recommendations.

The U.S. competitiveness problem and the case for investing in children

Competition from rapidly growing countries such as China and India are changing business norms and the links between national economies. We are quite familiar with what economists call “global labor arbitrage,” the substitution of high-wage workers in advanced economy countries with low-wage workers in developing economies. That’s led to a global re-ordering of production, jobs, and growth.

More recently, technological advances in telecommunications and transportation, as well as skills development in the developing world, are dragging more U.S. industries—including computer programming, high-tech manufacturing, and service sectors—into international competition. This development is feeding a mounting demand for high-skilled labor around the world.

To position the United States for the future, substantial investments are needed in research, infrastructure, and education. The most important of these areas to address is education. Why? Because as this report shows, the overwhelming economic evidence points to

education—and human capital investments, generally—as the key drivers of economic competitiveness in the long term.

Harvard University economist Gregory Mankiw, for example, has shown that in advanced countries such as the United States, human capital investment had three times the positive effect on economic growth as did physical investment. And educational investment is particularly important in early childhood development and learning, according to growth economists. The return on investment from interventions such as prenatal care and early childhood programs is higher than for virtually any class of financial assets over time, according to Nobel Prize winning economist James Heckman.

The academic literature also shows that failing to provide broad opportunities for nurturing, learning, and productive development harms economic growth and national competitiveness.

Having established the primacy in human capital investments as the key to U.S. long-

term economic competitiveness, it's important for policymakers and the public to understand how American children are faring today, and where they need to catch up.

The state of U.S. children from a global competitiveness perspective

It may seem counterintuitive to hold up Chinese and Indian children as a challenge to U.S. competitiveness, as this report does. After all, the United States is the world's wealthiest nation, one that invests more in education, provides more access to quality health care, and enjoys far less inequality than either of the Asian giants.

Indeed, the state of America's children has improved dramatically in the last century. We have fewer kids living in abject poverty, more children have access to health care, and more are graduating from high school and college. Our national determination to promote the American Dream—a society that promotes equal opportunity and chances for success—has led to unparalleled investment in public health, safety, and educational infrastructure for children. These investments for generations have fueled the engine of U.S. economic growth.

But U.S. gains have begun to stagnate in recent years, even before the Great Recession of 2007-2009, and educational attainment and achievement gaps that track income and race groups have become more entrenched—and more worrisome. These gaps do not

portend well for future U.S. competitiveness because groups with disproportionately lower education achievement and poorer health—including African Americans and Hispanics—will soon comprise a majority of American children. The family structure that was once the foundation of a child's education is crumbling, with more children raised in single-family homes. Meanwhile, our workplace policies are ossified and inflexible, making it difficult for modern parents to be with their children when their children need them most.

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This report describes in detail the progress and lack of progress in U.S. child development across the areas economists and experts believe are the best indicators of human capital development: education, health, family income and childhood poverty, and pro-family workplace policies. Here is a small sampling of the data to underscore the challenge:

- Half of U.S. children get no early childhood education, and we have no national strategy to increase enrollment.

- More than a quarter of U.S. children have a chronic health condition, such as obesity or asthma, threatening their capacity to learn.
- More than 22 percent of U.S. children lived in poverty in 2010, up from about 17 percent in 2007.
- More than half of U.S. post-secondary students drop out without receiving a degree.
- Only 11 percent of workers have paid family leave, making it increasingly difficult for dual-earner and single-family households to properly care for children.

American children coming of age today will work in a global, technologically advanced economy, competing with peers in India,

China, and other countries around the world. Their ability to compete for high-skill and high-paid jobs is a direct function of our willingness to adopt policies that will boost child education and health, reduce child poverty, and increase parental support and care for their children. That's what policymakers in China and India are doing, as this report's two main case studies show. Both countries are rapidly increasing their share of children enrolled at all levels of the education system—from early learning programs to high schools to universities. These investments have propelled the countries to the top two in the world by number of children educated.

The rise of China's skilled labor force

In the late 1970s, leaders of post-Cultural Revolution China made a renewed commitment to education as the core of its economic revitalization strategy. China's economic boom since 1978 and its increasing human capital investment developed hand-in-hand. Consider: In 1978 China spent less than \$2 billion on education, health, and other social investments. By 2006 that number was \$117 billion, a 58-fold increase.

Today, public commitment to early childhood, educational, and technological development in China is accepted as an integral part of a national economic strategy, unlike in the United States.

In 2007 China surpassed the United States in the numbers of college graduates focusing on science, math, engineering, and technology fields. Three years later, it became the world's largest provider of higher education.

By 2030, China will have 200 million college graduates—more than the entire U.S. workforce. Chinese national goals are ambitious and inspiring. By 2020 China plans to:

- Enroll 40 million children in preschool, a 50 percent increase from today
- Provide 70 percent of children in China with three years of preschool

- Graduate 95 percent of Chinese youths through nine years of compulsory education (that's 165 million students, more than the U.S. labor force)
- Ensure that no child drops out of school for financial reasons
- More than double enrollment in higher education
- Double the share of the working-age population that completes higher education to 195 million workers.

To achieve these goals, China is deploying a coordinated set of strategies that directly track the policy levers economists and experts have identified as critical to boosting human capital and economic competitiveness. Specifically:

- **Families and early childhood education.** The 1988 “Act of Protecting Female Staff and Workers” gave women, employed by public enterprises, a minimum of 90 days paid maternity leave, and covered related medical costs, which was increased to 98 days in 2011. The 2010 “National Plan for Medium and Long Term Education Reform and Development” established a target of near universal coverage for one year of kindergarten over the following decade.
- **Kindergarten-through-12th grade education.** Chinese children compete in a global economy. Foreign language classes, often English, are often begun in the third grade

and studied through middle school. The government's goal is for 90 percent of eligible students to be enrolled in high school by 2020, up from 80 percent today.

- **Higher education.** In 2010 China became the world's largest provider of higher education—and will grant degrees to more than 200 million people over the next two decades. It's improving its state-run universities accordingly. Today, China ranks sixth in the world among countries with the most universities ranked in the world's top 500 universities.
- **Teacher quality.** China is improving the quality of its teachers, even as their numbers explode. The number of teachers with bachelor's degree has increased 66 percent in just eight years, with almost two-thirds of primary school teachers with a higher degree. There are nearly 6 million secondary school teachers in China, up from about 3 million in 1980. And the number of university-level teachers has grown to nearly 1 million from 250,000.

To be sure, China faces massive challenges, including rising inequality and inferior educational quality and access to schools in rural and migrant populations. But despite these obstacles, China's momentum and its education-focused economic strategy will make the country increasingly competitive in sophisticated industries—precisely those where U.S. workers now lead the competition.

The rise of India's skilled labor force

In 1947 more than 80 percent of Indians were illiterate. Today, only a quarter are. Poverty in the country plummeted by 30 percent from 1981 to 2005. By 2017 India will graduate 20 million people from high school—or five times as many as in the United States.

As in China, this dramatic turnaround has been shaped by a national economic strategy focused on education. India's public investment in education grew from \$11 billion a year in the late 1980s to \$44 billion in 2008. And as in China, India's national policies to increase the skills of its young workforce are reaping dividends. The country is already producing more students with bachelor's degrees than is the United States. Over the last seven years, India has tripled its output of four-year degrees in engineering, computer science, and information technology.

To be sure, life for most children in India remains hard, with the World Bank estimating that 40 percent of Indian families live on \$1.25 a day or less. But their lot is improving as India executes its national education strategy, which includes:

- **Family and early education.** India's Integrated Child Development System is boosting the life chances of India's 160 million children under six years old. This educational system proposes to boost the number of children who enter school ready to learn from 26 percent to 60 percent by 2018. The pre-school education system, while in need of much more structure and upgrades, reaches an estimated 38 million children under six. By comparison, in the United States publicly supported pre-school education reaches about 3.5 million children ages 3 to 5 years old.
- **Grades 1 through 5.** India's effort to ensure universal primary school enrollment is the world's most ambitious elementary school enrollment effort. The federal government has paid for the construction of more than 400,000 elementary school buildings; trained and hired 1.5 million teachers; and in an effort to get children to school, established a school lunch program that can feed over 100 million children a day. As a result seven times more children attend primary school in India than in the United States.
- **Grades 6 through 12.** Only a third of India's students today enroll in high school, compared with slightly more than 90 percent in the United States. But investments in lower grades are boosting high school attendance. The percent of Indian students finishing high school will rise from 33 percent today to approximately 47 percent by 2017, according to World Bank estimates.
- **Higher education.** The government's goal of enrolling 40 million Indians in college by 2020

will require spots for 26 million more college-bound students. India already confers more bachelor's degrees than the United States, and by 2020 will be conferring 8 million a year, compared with around 2 million here.

Even if India only applies a modestly more intensive effort to increase educational access,

it will produce twice the number of college graduates than the United States is able to produce annually. That's a trend that will deliver great benefits to this rising economic powerhouse, as its labor force grows by a third over the next two decades (compared with just 1 percent expected growth on the U.S. labor force by 2030).

Insights and best practices for the United States

So what are U.S. policymakers to do with this information, other than worry? The first step is to identify the ingredients for America's strategic investment in our next generation workforce, mined with insights from America's successful middle-class and high-income families. We should also look at the "best practices" of systematic next-generation investments in European countries more similar to ours.

Lessons from the U.S. middle class

It's no surprise that U.S. children from high-income and middle-class families are outperforming those from low-income families across a range of outcomes. Socioeconomic class is the best indicator of future success because of the advantages wealthier parents can provide. High-income and middle-class youth graduate from high school and college at higher rates, and are more likely to be gainfully employed at age 25. They have higher earnings on average,

and a higher probability of having jobs with employer-sponsored health care benefits.

The evidence also points to a series of behaviors and actions taken by parents and youths associated with these successes—actions that are more prevalent as one moves up the income scale. The 1997 National Longitudinal Survey of Youth, a U.S. government survey of men and women born from 1980 to 1984, can help us understand what "inputs" are associated with successful education and development of these American children, who were ages 12 to 17 when first interviewed:

- **Early childhood learning and education.** Children receiving child care were more likely to graduate from college and obtain better jobs when entering the workforce, the survey showed. Children who attended pre-kindergarten child care also were more likely to be employed at age 25.

- **Parental involvement in educational development.** Children whose parents were classroom volunteers and created enriching home environments were more likely to score well on aptitude tests, get a college degree, find work, and earn more money.
- **Teenage work experience.** Programs such as job-shadowing, apprenticeships, and internships are strongly associated with better educational and work outcomes, even when accounting for differences in parental household income.

These data point to a set of middle-class norms that are highly associated with ensuring that stronger percentages of these children entered adulthood with a college degree and were able to command a stronger wage than their lower-income counterparts. The educational and work related-norms of middle-class parenthood, and the quality of the schools educating these children, account for much of their success.

Having mined the American middle class for particular “inputs” of success, a clearer picture emerges of what a coherent U.S. next-generation workforce strategy might look like. But policymakers seeking to turn goals into specific policy interventions can learn useful lessons from what our counterparts in the developed world are doing to remain competitive with emerging economies such as China and India.

Best practices in European countries

As in China and India, major European countries are making significant investments in children and families while simultaneously reforming their education systems. Many of these successful strategies offer readymade “best practices” that can be replicated or modified to address our own challenges.

In general, large European countries have lower poverty rates than those of the United States, thanks to more generous social and pro-family policies including paid maternity and paternity leave, paid child care and other government-directed cash payments, and tax breaks for families with children. European students on average score higher on math, science, and reading tests than their American peers.

While India and China are in a rapid “catch-up” period of growth, the developed economies of the United States and Europe must grow through innovation or related strategies that tap existing resources more effectively. Among the specific European best practices explored in this report:

- **Teacher quality.** Finland has a remarkable teacher-quality strategy designed to get its top students to become teachers and to transform teaching into a highly selective, prestigious, and rewarding profession. A few

decades after the reforms began, Finland's high school and college graduation rates have shot up, boosting the country's leading growth rate and helping it diversify its economy into information technology and research sectors.

- **National education standards and strong workforce apprenticeships.** Germany's federalization of education standards came in response to poor international test scores in 2000. Germany has since become the most improved country in math achievement, and the average student improved by 10 percent. By 2009, 17 percent of German students were competent at advanced math, compared with just 10 percent of U.S. students. We also profile Germany's "dual education" system,

which places a priority on links to workplace experience, and funnels 2 million students into three years of apprenticeship training in 400 occupations.

- **Investments in early childhood education and family supports.** The United Kingdom's universal free preschool, combined with one of the most innovative family support models in the world, have led to integrated family services and early intervention in community-based "children's centers." Begun in the late 1990s, studies show these investments in early childhood and pro-family services have improved child social behavior, boosted learning skills, and promoted home settings more conducive to learning.

Recommendations

Despite the varied nature of their efforts to prepare more young people for success in an increasingly competitive global marketplace, China, India, and several European countries are dramatically improving educational outcomes of their students. What they have in common is a new aggressive determination to:

- Set realistic, yet ambitious national education goals to prepare students for college and for the careers of tomorrow
- Improve teacher quality
- Invest in early learning and increase parental involvement

The problems in the United States, however, are not due to a lack of understanding of how to improve and focus our school system. The problems are related to the political will to do it. The times of excitement and commitment to change have waned since the first National Education Summit in 1989 hosted by President George H.W. Bush and attended by all the nation's governors. This groundbreaking presidential summit with governors set in motion a more active federal role in education and numerous joint efforts by governors to boost student outcomes.

While the governors have continued to push for reforms and some have increased investments, the state-by-state approach to progress means it is uneven.

Even though, the Obama administration has put in place bold strategies to stimulate more state-level action, we still lack a coherent national policy for boosting student outcomes. Yet there are very promising signs in the United States, among them:

- The commitment to Common Core national education standards by nearly all of the nation's governors
- A bipartisan coming together on improving teacher quality
- A recognition by the states of the critical importance of early childhood learning

But these efforts must be integrated to truly have an impact. Furthermore, they must not be abandoned due to the strain on the national and state budgets.

Accordingly, our report calls upon the president of the United States in 2013 to convene the governors for a National Education Summit to make a renewed effort at improving educational outcomes in the United States—this time through a laser-like focus on improving teacher effectiveness, ensuring that states can move forward with a national early education system, and integrating these efforts into the goals set with the Common Core standards. Only with renewed leadership on education as a national priority and real investments at all levels of government will the United States hope to be able to remain economically competitive.

Center for American Progress



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