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Policy Insight

China and India Different Educational Paths Toward Prosperity



Ying Liu, M.Phil.
Doctoral Fellow,
Pardee RAND
Graduate School



Krishna B. Kumar, Ph.D.
Senior Economist,
RAND Corporation;
Professor, Pardee RAND
Graduate School; Lead,
Rosenfeld Program on
Asian Development

Education influences economic development and is also influenced by it. China and India, both of which have achieved phenomenal economic advancement in recent decades, have followed different educational routes. In *Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity*, Baumol, Litan, and Schramm (2007) characterize India as a country that has pursued a “deep” education approach and China as a country that has opted for a “wide” education model. India focused for the most part on higher education for a few, while China largely focused on basic education for the masses.

Both approaches appear to have been in their own ways successful in stimulating aggregate economic growth. Lately, the education strategies pursued by these two countries have started to converge. How has the education–economy link played out over time in each country? What lessons can they learn from each other? And given that developing countries often have to choose between the “deep” and “wide” education models in the face of resource constraints, what lessons do China and India offer for the rest of the developing world? We pursue these questions briefly in this Policy Insight. We review the education histories of these countries, discuss their consequences, and outline the lessons they can learn from each other as well as offer the world.

“Wide” Versus “Deep”: Educational Attainment and Patterns of Development

China, like many other East Asian countries, largely falls into the “wide” model of educational attainment. Since the end of the Chinese Civil War in 1949, China has made great strides in educating the masses: The gross primary school enrollment reached 100 percent in 1985; the secondary enrollment rate was above 70 percent in 2003, representing a huge increase from 40 percent in 1960; and, most impressively, the adult literacy rate increased

from about 20 percent in the late 1940s to about 91 percent in 2004 (see Figure 1 on page 2).¹

India, on the other hand, offers the best example of the “deep” education approach. For many decades, India devoted a large proportion of its education resources to higher education, particularly in science and technology. This has resulted in a percentage of college-educated population higher than that of China (Figure 1). It has also left India with some of the finest institutes of higher education, most notably the Indian Institutes of Technology and the Indian Institutes of Management. Nevertheless, the Indian population at large remains uneducated. In 2004, India, with an adult literacy rate of 61 percent, lagged significantly behind China (91 percent) and was barely even with sub-Saharan Africa. India’s female adult literacy rate (48 percent) was actually lower than that of sub-Saharan Africa (53 percent).

The different patterns of economic development in these two countries appear to mirror their differing education models. A larger labor pool with basic education has allowed China to attract large-scale manufacturing plants. Education has equipped workers with the basic skills for modern manufacturing, and allowed them to travel from the rural areas to urban areas where the jobs are located. On the other hand, a larger stock of college-educated, technically savvy, and English-speaking labor has made India a choice destination for international software and services outsourcing.

Historical Paths

Both China and India embarked on building their national education systems around the late 1940s. The newly born, mostly poor, and agricultural countries aspired to industrialize quickly. The then-popular Soviet model of central planning to control the critical industries of the economy convinced

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¹ Statistics cited in this paper are drawn from “Education Statistics,” United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (available at <http://www.uis.unesco.org>), unless otherwise noted.

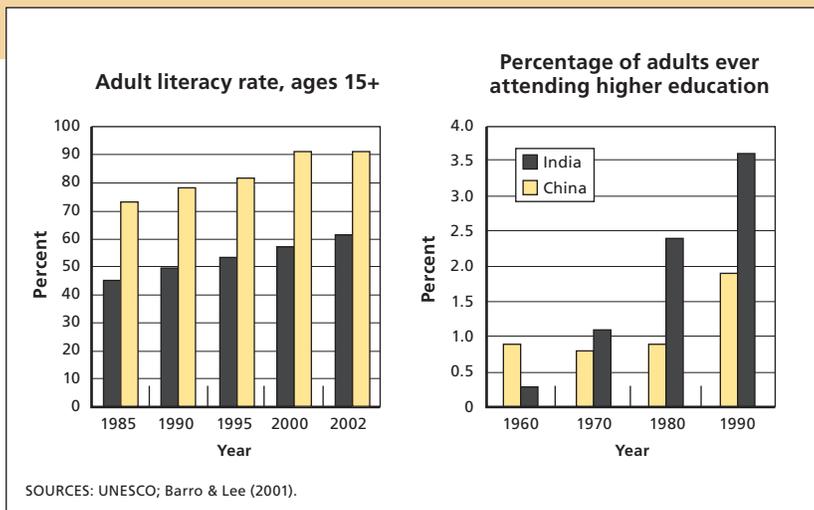


Figure 1. “Wide” vs. “Deep”

national leaders in both countries that a large pool of college-educated labor specializing in science and technology was required. Consequently, they directed much of their education resources to higher education, particularly to building a large number of engineering institutes.

However, their paths started to diverge in the late 1960s. In China, the outbreak of the Great Cultural Revolution (1966–1976)—a populist movement initiated by Mao Zedong to revive the revolutionary spirit of the youth—resulted in a near complete cessation of higher education. The few colleges and universities that admitted new students selected them based substantially on political virtues rather than purely on academic performance. The ten-year Cultural Revolution destroyed much of the Chinese higher education infrastructure. Ironically, there was a gain: The egalitarian forces of the revolution, and Mao’s campaign to send millions of urban youth to rural areas to serve as teachers, farmers, and workers, greatly helped improve the quality of rural primary education. Overall, the balance shifted from higher education to primary education.

There was no such tumultuous change in India, where the focus on higher education as suggested by the Soviet model continued. There has been a 16-fold increase in the number of universities, and a 20-fold increase in the number of colleges, since India’s independence in 1947. In the 1980s, the World Bank took India to task for giving greater priority to higher education over primary and secondary education. Not until 1986, in its New National Policy on

Education, did India realize the need for expanding access to primary and secondary education.

Interestingly, enrollment trends in both countries have been moving toward each other in recent years (see Figure 2). China has devoted significant resources to rebuilding higher education since the opening up of its economy in the late 1970s. The gross tertiary enrollment rate caught up with India in 2000. India has seen a steady improvement in primary enrollment since the above-mentioned reforms of 1986 and under close scrutiny of the United Nations’ Education for All initiative. As a result, while the gap in literacy rates among adults (15 years or older) between the two countries has hovered around 30 percentage points since 1985, it has narrowed among the youth (ages 15 to 24) from 34 percentage points in 1985 to 23 in 2002.

Lessons for the Developing World

China and India have shown that both the “wide” and “deep” models of education can set a country on the path toward development. However, it might be too early to tell which model will eventually outperform the other. As seen above, there are signs of convergence in educational strategies and it may be difficult to apportion credit to either model. Nevertheless, it is useful to ask what lessons the rest of the developing world, especially countries in Africa and the rest of Asia, can draw from the contrasting experiences of China and India.

A few factors bear consideration. First, Baumol, Litan, and Schramm (2007) note that the two models are likely to produce very different distributional outcomes. Countries that have little disparity in education achievement tend to have smaller variation in income. Those with concentrated education attainment are more likely to see higher income disparity. Japan and the East Asian “Tigers” are good demonstrations of the former, while Latin America is often cited as an example of the latter. Measured income disparity is indeed higher in “deep” India than it is in “wide” China.² One concern is that

² The Gini coefficient in rural and urban China in 1999 was 0.34 and 0.29, respectively, while it was 0.40 and 0.42 in India in 1997–98 (Bardhan, 2003). The Gini coefficient is a measure of inequality; it captures the deviation from perfect equality in income distribution. It has a value between 0 and 1; the higher the number, the greater the inequality.

persistent inequality can derail economic reforms by removing the political support for them.

While the takeoff of India's information industry was built upon a large number of technically educated workers both at home and abroad, they nevertheless accounted only for a very small percentage of the Indian population. The sheer size of its population ensured that even this small percentage amounted to enough of a critical mass. India's success in attracting global services outsourcing also benefited from a broad base of English-speaking workers. Other developing countries might not have the luxury of a large-enough population—let alone an English-speaking population—to pursue a similar approach. Moreover, India faces the challenge of how to spread the economic fruits of its high tech–driven growth to the general economy. These observations lead us to believe that the Indian experience is the more unusual of the two and the conventional strategy of broad and universal education that China followed might be a safer option for others to emulate.

What China and India Can Learn from Each Other

Even though both China and India have made great strides using their own approaches, they can learn from each other as they move forward.

India can learn from China how to improve the efficiency of its public education system. Public education expenditure as a fraction of GDP in India has consistently outpaced China. China, however, outperforms India in a variety of education quality indicators, including dropout rates, repetition rates, and teacher absenteeism. For instance, Kremer et al. (2004) looked at teacher absenteeism in eight developing countries. India, with 25 percent of teachers absent in government primary schools on a given day, ranked the second highest (lower only than Uganda).³ Rigid salary schedules and inadequate monitoring are often cited as two main reasons for high teacher absenteeism in India (Kingdon, 2007).

In this regard, China offers an excellent example of how school choice and merit-based teachers'

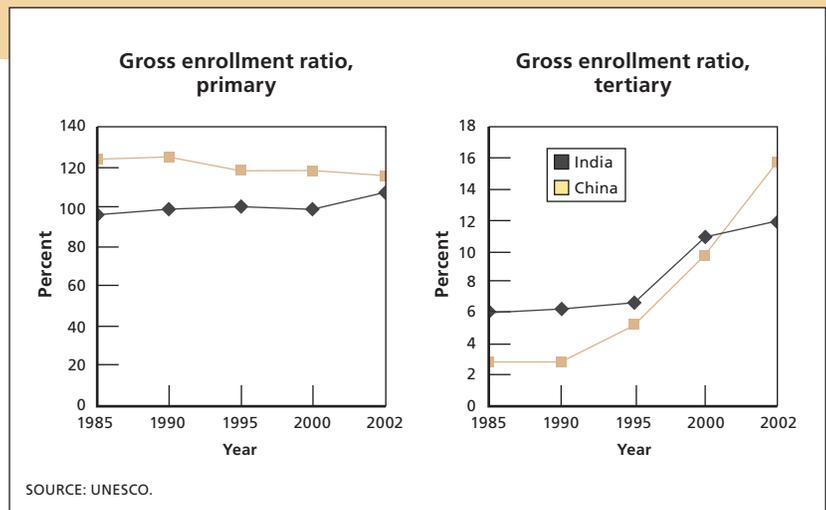


Figure 2. Converging Trends in Primary and Higher Education

salaries provide incentives to schools and teachers to achieve higher performance (see Tsang [2003] for further information). In Chinese public schools, teachers' salaries usually include a fixed component and a bonus component that depends on student scores. Students are allowed to attend schools outside their neighborhood provided they pay "choice fees" to the chosen schools. Better performance allows a school to charge higher fees in the local education market. Evidently, this market-based approach appears to have worked well in China, and India could explore adopting similar strategies.

China can learn from India how to expand private provision of higher education. The demand for higher education in China has increased rapidly since the late 1990s. Steady expansion of secondary education in previous decades has resulted in a larger number of high school graduates. The growing sophistication of the economy has also greatly improved parents' demand for college education for children. It is estimated that at least an additional \$68 billion and 800 colleges are needed to meet the surging demand during the next 15 years (Mooney, 2006). Finding alternative resources and channels for higher education is thus an urgent policy issue for China.

India's experience in private provision of higher education offers a possible future direction for China. In 2005–2006, private higher education enrollment accounted for 31 percent of total higher education enrollment in India, in contrast

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³ The eight countries included in the study are Peru, Ecuador, Papua New Guinea, Bangladesh, Zambia, Indonesia, India, and Uganda.



to a modest 9 percent in China.⁴ The figure is higher for job-oriented fields such as engineering and business. The proliferation of private institutes has greatly helped to expand the higher education capacity in India, at a time when enrollment and capacity of public institutions have increased only marginally. Private institutes, which are typically more sensitive to labor market conditions, also have the potential of improving the relevance of higher education, a concern for both India and China.

Future Directions

Literature comparing the Chinese and Indian education systems has been sparse, despite the fact China and India host the world's first- and second-largest education systems. Understanding their successes and challenges will be of benefit not only to these two countries but also for the rest of the developing world. In our research, we have identified a few issues that deserve further attention of researchers and policymakers (see Goldman, Kumar, and Liu [2008] for more details).

- Despite improvements in current enrollments, educating millions of illiterate adults and integrating them into the modern economy is a daunting task for both countries. What are the best ways of designing and implementing adult education in China and India?
- China has achieved impressive progress in reducing gender disparity in education while female education in India lags behind significantly. What lessons can India learn from China in this regard?
- Both countries appear determined to target science and technology in higher education as opposed to adopting a broader curriculum. What are the long-term costs and benefits of such a strategy of specialization?

- What can India and other countries, including the United States, learn from China's experience in flexible school choice and merit-based teachers' salaries?

Further Reading

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