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## Overlapping Crises

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There is a sense of crisis in both the U.S. and India about higher education, although the reasons are different.

The American crisis has three sources. The first -- concern about new competition -- is reminiscent of the space race with the Soviets during the cold war. In the 50s and 60s, America was concerned that the Soviet Union might win the space race. Today, America is concerned that India and China might win the battle for technical dominance in the global economy. There is widespread concern that the U.S. is not producing enough scientists and engineers to compete with India and China on the global stage.

The second reason for the American crisis is that higher education in the U.S. has become too expensive, and the price trajectory is simply not sustainable. Everyone knows this, but there are built-in forces that keep driving up the prices, and very few institutions have any long-term solutions.

Third, public schools at the pre-college level are uneven in quality. Absurdly, the funding for public schools in many parts of the U.S. comes from taxes based on local property values. So people who live in rich communities have rich schools, and people who live in poor communities have poor schools. The poor schools have a hard time preparing their students for college. There is simply no national consensus to make the investments necessary to recruit high quality teachers for all schools. A related concern is that American and Indian societies do not respect teaching at the pre-college level as much as they do other professions. So the best and brightest do not tend to go into K-12 teaching.

There are also at least three reasons for the Indian crisis in higher education. The first is the low level of student enrollment in higher education, driven largely by the shortage of university seats. A nation cannot succeed in the world of tomorrow with only 12 percent of its college-age population attending college.

The second reason is that faculty salaries and infrastructure are not competitive enough to attract the best and brightest to the profession of university-level teaching and advanced research, or to persuade Indian professors in the U.S. to return in large numbers for jobs that would pay less than \$10,000 a year.

Third, the levels of basic literacy in India are still alarmingly low; so a huge chunk of the population is not being prepared for college -- even if the colleges existed to recruit them and even if the students had the potential.

India is most fortunate to have Manmohan Singh -- a learned man and a teacher -- as prime minister, and to have Kapil Sibal in the cabinet as minister of human resource development and of science and technology. They are trying to make up for lost time by accelerating the development of education at all levels. Better late than never. The benefits of bold action are incalculable, and the costs of inaction are catastrophic.

### **Comparative Advantages/Disadvantages**

What are the comparative advantages and disadvantages of the Indian and American systems that can form the basis for finding synergistic collaborations?

**Access.** The principal difference is that the supply and demand equation is mirror reversed for the two countries. India has an acute shortage of seats, particularly at the high end of the quality spectrum. Too many worthy students get turned away from good institutions. The U.S., in contrast, has a suitable place for almost anyone who wants to go to college; and at the top end of the quality spectrum the institutions compete for students as much as the students compete for admission. And because of the high cost and the high demand for financial aid, institutions compete most aggressively for the qualified candidates who are able to pay full tuition.

**Preparation in Math/Science.** Another much-cited difference is that Indian high school students have stronger preparation in mathematics and science than do their American counterparts, on average. Teachers in comparable Indian schools typically have more advanced credentials in their fields. Science teachers in American schools tend not to have degrees in science. On the other hand, American students are much better prepared in the humanities, arts and social sciences. They also get more experience in written and oral communication, and encouragement to take intellectual risks, question assumptions, and demonstrate leadership -- qualities that are highly valued in an entrepreneurial global environment.

**Faculty.** The supply and demand equation is also different for faculty. In the U.S., there are large numbers of well qualified Ph.D.s chasing a small number of tenure-track faculty jobs at colleges and universities. In contrast, there is an acute shortage of faculty at most Indian institutions. A report of India's National Assessment and Accreditation Council found that 68 percent of institutions had unfilled vacancies on their faculties.

**Graduate Programs.** Americans enroll in master's and Ph.D. programs in the science, technology, engineering, and math (STEM) fields in very low numbers. Over the past few decades, the allure of an M.B.A. and Wall Street has siphoned off large numbers of students who are talented in mathematics and science. This vacuum is being filled by students from India and China. Walk down the hallways of science and engineering departments of American research universities and you will see Indians and Chinese in disproportionate numbers. If for some reason American universities are no longer able to recruit Indian and Chinese students into their postgraduate programs, many of these programs -- and the research these students help the faculty to conduct -- would collapse. Indians and Chinese are also found in large numbers on the faculties of these American departments, for the same reasons. Thus there is an inherent interdependency between east and west in building excellence in graduate education and research.

**Infrastructure.** The infrastructure for higher education and research in American universities is unparalleled in the world. An outstanding infrastructure that is continuously upgraded enables institutions to attract and retain the best faculty and students and to deliver the best education and research. But this is a double-edged sword. Massive spending on infrastructure by American universities makes them extremely expensive, and the constant upgrading of infrastructure at historic rates is not sustainable. The infrastructure isn't always tightly focused on the academic mission – which would be necessary to keep costs down. And the size of the administrative staff grows rapidly to service the increasing complexity of regulations, the fear of lawsuits, and the beauty contest resulting from campus tours.

The infrastructure for Indian higher education is -- in the words of the National Assessment and Accreditation Council -- "dismal." Poor infrastructure makes it difficult to attract top faculty and students, and to provide the best education and conduct advanced research. However, this, too, is a double-edged sword. Minimal infrastructure means low overhead costs (keeping higher education in India much more affordable than it is in the U.S.) and less of a tendency to be distracted from the pure academic mission.

### **The Scaling Problem**

India now has the right goals in education. Unprecedented numbers of new colleges and universities are being planned on a short time scale. The challenge is: how do you scale up? The critical choke point will be recruitment of faculty. An urgent plan needs to be drawn up to address this. Otherwise, a crisp vision will be dulled.

The U.S. too needs to scale up, but in specific areas. For example, there is and will be a dire need for physicians -- indeed, all healthcare workers -- in the U.S. (medicine, dentistry, nursing, public health, hospital management). The choke points are clinical training opportunities and the staggering loans students accumulate (forcing them to serve only insured patients and to avoid general practice).

There are positives and negatives of each system, which is why collaboration is critical. Collaboration across nations -- the globalization of higher education -- can result in win-win solutions. In medical education, for example, India has the patients and the diversity of diseases. So there is considerable value in American medical students spending some time training in India. In contrast, the U.S. has a more robust research program; this in turn translates into more up-to-date curriculums and clearer metrics based on medical outcomes. So India can benefit from faculty exchanges that result in a transfer of knowledge

The most important benefit of cross-national collaboration in higher education is that students learn to live and work with each other. When our current students assume leadership positions in their fields, they will have to work across national boundaries. Higher education has a responsibility to prepare our students for these global challenges and opportunities.

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