

China's College Revolution

Students are flocking to China's campuses, but educating them and finding them jobs are bigger challenges than the government reckoned. As China's leaders rush to change an old, ungainly system, they are learning that shaking up is hard to do.

BY SHEILA MELVIN

WHEN A GROUP OF NEPALESE TEACHERS VISITED Beijing in 1964 to learn from the Chinese education model, Chairman Mao Zedong offered them this blunt warning: "The school years are too long, courses too many, and the method of teaching is by injection instead of through the imagination. The method of examination is to treat candidates as enemies and ambush them. Therefore, I advise you not to entertain any blind faith in the Chinese educational system. Do not regard it as a good system. Any drastic change is difficult, as many people would oppose it."

More than 40 years later, many outsiders are viewing China's education system—at least at the tertiary level—with the same apparent credulity as did that long-ago Nepalese delegation. The number of university students in China has doubled since 2000, to 23 million—more matriculants than in any other nation in the world. This dramatic growth, coupled with the

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nation's rapid economic development, has made China an educational frontier, what one American university president called "the Klondike of higher education," and universities the world over are scrambling to form partnerships with their Chinese counterparts. Last year's report by the U.S. National Academies that China graduates eight times as many engineers a year as the United States caused widespread hand-wringing—though the figure was later revised downward to two and a half times. American pundits seized on the figure as proof that the United States was losing its lead in yet another field. From afar, this transformation looks like more evidence that China is an economic juggernaut. But while the vast expansion and raft of reforms the Chinese government is undertaking will undoubtedly prove beneficial in the long run, drastic change is, as Mao said, difficult.

"The story is both frustrating and exciting," explains Fu Jun, executive dean of the School of Government at Peking University. "At the macro level the picture is very rosy, but at the micro level there are

many problems. This is true of all Chinese society.”

In a widely publicized survey released by *China Youth Daily* (the newspaper of the Communist Youth League) in August, 35 percent of the young respondents said they regretted their university experience and did not consider it worth the time and money invested; more than half said that they had learned nothing of use. In mid-June, students with grievances against Shengda University staged the largest demonstration on a Chinese campus since 1989, one of several recent protests at the nation’s universities. Seemingly every week, the government announces yet another policy adjustment intended to quiet public opinion and stave off further unrest.

Changes to the educational system are particularly difficult to digest in China because education has for so long been the primary path to social and economic advancement. Under the dynastic system, government officials were recruited and promoted through a rigorous series of examinations that tested their knowledge of the Confucian classics. In theory, even the poor and disenfranchised could sit for this imperial exam and rise to the top ranks of officialdom. The odds of such success were long—there was no formal system of public education, so students studied with private tutors or in private academies to which few had access. But the perception of opportunity did much to ensure political stability; the abolition of the exam in 1905 had massive repercussions, and contributed to the collapse of the dynastic system a few years later.

China’s first universities were founded at the turn of the 20th century, and patterned on the Western model. Most were built with the involvement of missionaries or other Westerners. Tsinghua University, for example, was established in Beijing in 1911 to prepare Chinese students for advanced studies in the United States. When the Communist Party came to power in 1949, it nationalized private universities and took control of the entire education system, putting it under the dominion, for the most part, of the Ministry of Education. Mao’s policy of “leaning to one side”—that side being the Soviet Union’s—led education officials to remodel





The throng at a Beijing job fair includes many college graduates who are finding that their meager education doesn't qualify them for good jobs.

the system along Soviet lines. Comprehensive universities were broken apart and reorganized to focus on single disciplines, and liberal education was forsaken in favor of ideological indoctrination and narrow specialization. Tsinghua, for example, was recategorized as a polytechnic university for engineers; Chinese president Hu Jintao, a 1965 graduate of its Water Conservancy Engineering Department, majored in hub hydropower stations. Bureaucracies such as the ministries of railways, health, and agriculture established separate university systems for training their future employees. While a university education was free and theoretically open to all, so few spaces were available that the system created, in effect, an elite of politically correct cadres to serve the socialist state.

The entire higher education system was rent asunder when Mao launched the Cultural Revolution in 1966. He ignited the movement in part by encouraging students to rebel, and universities soon became battlegrounds in which Red Guard factions fought each other in Mao's name. Professors were publicly humiliated, tortured, even killed, and all formal higher education came to a standstill. Mao finally brought an end to the unrest he had created by sending millions of students to the countryside, ostensibly to learn from the peasants.

The system began to function again in a limited way in 1973, when schools were reopened to the dutiful offspring of workers, peasants, and soldiers. But it was only after Mao's death in 1976 and the subsequent overthrow of the "Gang of Four" that real rebuilding began, marked by the revival of the National College Entrance Examination at the end of 1977. Of the nearly six million who sat for the exam, only 278,000 could be accepted.

After Deng Xiaoping came to power in 1979, he stressed that the education system required reform to meet the needs of "socialist modernization." The first private university was founded in 1982, and in 1985 the government enacted a comprehensive education reform law, which was followed by another in 1993. Thus decentralization began, as Beijing ceded more authority to universities, and students were allowed—then required—to find their own jobs. Yet another reform program came in 1998, grandly titled "Plan for Revitalizing Education

in the 21st Century." Then-president Jiang Zemin called for the creation of 100 world-class universities for the 21st century.

The impact of the reforms has, in some areas, been tremendous. But each reform seems to have created a new set of problems—and provoked the opposition Mao predicted. The most discussed issue at the moment is the drastic expansion of university enrollment, which is transforming China's social landscape.

"In 1992, about three percent of college-age students were in college. Now it is 20 percent," explains Anne Stevenson-Yang, the president of 6xue.com, an Internet company that provides Chinese students with information about studying overseas. In the United States, roughly 40 percent of college-age students are enrolled.

In major cities such as Shanghai and Beijing, the proportion of senior high school graduates who go on to college is now more than half. Soon, almost anyone in these cities who wants a university degree will be able to get one. The capacity to absorb so many new students developed in a remarkably short time. Some universities built entire new suburban campuses in six months. Big-name schools have created satellite campuses—Tsinghua has established science parks in five provinces—and a number have gone into business, setting up private, for-profit universities. Cities and other localities, hoping to foster innovative research, have gotten into the game by building "university cities" to house new campuses and branches. These facilities have vastly improved the living conditions of many students, who until a decade ago generally lived eight to a room in slumlike conditions, ate cafeteria food fit for a slop pail, and lost electric power at 11 P.M. Enhanced conditions have encouraged a much richer campus life, in which students participate in clubs, sports, and extracurricular activities at venues provided by their universities.

But if all this sounds a little too good to be true, it is. The biggest apparently unanticipated result of the expansion is the skyrocketing unemployment rate among new college graduates. Over the past few years, universities have churned out many more graduates—4.13 million this year, as com-

pared with 1.15 million in 2001—than the job market can absorb. It's not just that there aren't enough jobs for university graduates, but that many graduates are too poorly educated or too inexperienced to qualify for high-skills jobs. That a 22-year-old college graduate with no work experience might have trouble finding a decent job would surprise few in America. But in China, where graduates were assigned positions until the 1990s, and afterward had their pick of plum jobs as elite members of a fast-growing economy, such difficulty is considered a serious breach of the social contract. Indeed, the situation has caused an uproar. The news media are filled with accounts of college graduates working as security guards, maids, and nannies because they can find no other work. A recent wire report by the state-run news agency, Xinhua, revealed that more than 500 new graduates had applied for six traditionally taboo positions working with the dead at a Beijing funeral home—and a quarter of them had master's degrees.

The rapid growth of the higher education system is also breeding profiteering. The riots in June, for instance, came about because students who had not scored high enough on the national exam to get into Zhengzhou University in Henan Province were accepted into its private subsidiary, Shengda University. In China, a private university is considerably less prestigious than a public one, but students at Shengda had paid tuition fees five times those of Zhengzhou University because they were promised diplomas that bore only the parent university's name, a practice quietly made illegal in 2003. When students received their diplomas and saw that they had been issued by Shengda—and were thus virtually worthless in the tight job market—they demanded either new diplomas or refunds. The university did not respond, so angry students trashed the campus and then staged protests that took police several days to quell.

The structural, managerial, and financial reforms under way can be seen as part and parcel of an accelerated effort to decentralize. This includes the biggest

restructuring of the higher education system since the early 1950s, in what is essentially an abandonment of the Soviet-style system and a return to the Western model of multidisciplinary universities. Between 1996 and 2000, the number of major colleges and universities was reduced from 387 to 212, a consolidation that authorities hope will increase efficiency and boost competitiveness. All public universities operated by other ministries were merged into ones overseen by the Ministry of Education, and that ministry itself delegated considerable authority to the provinces, retaining direct supervision of just 70 first-tier universities.

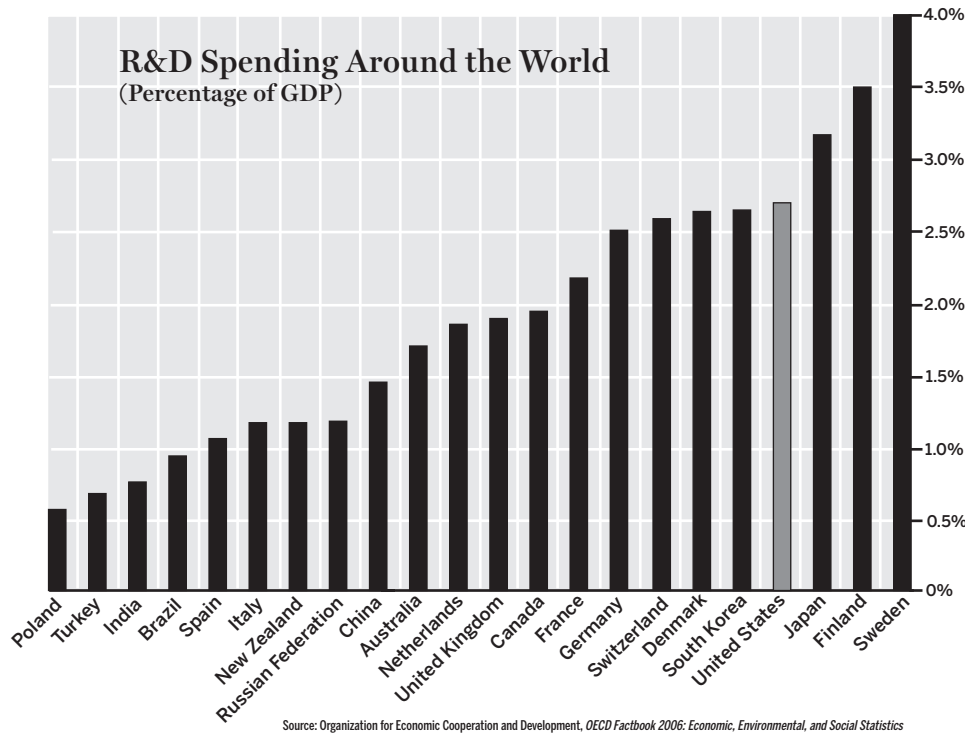
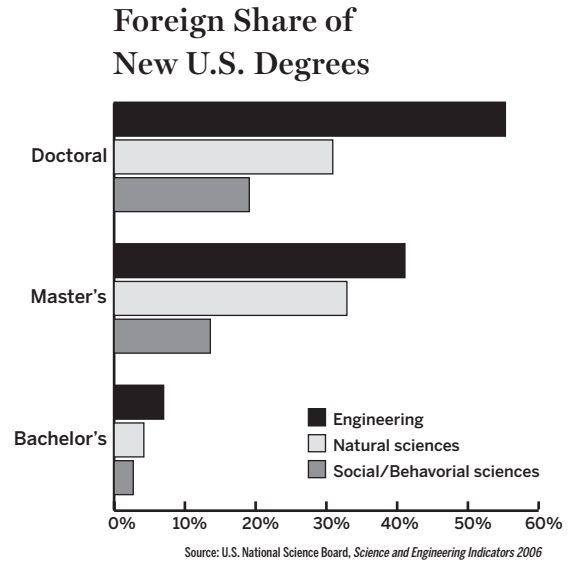
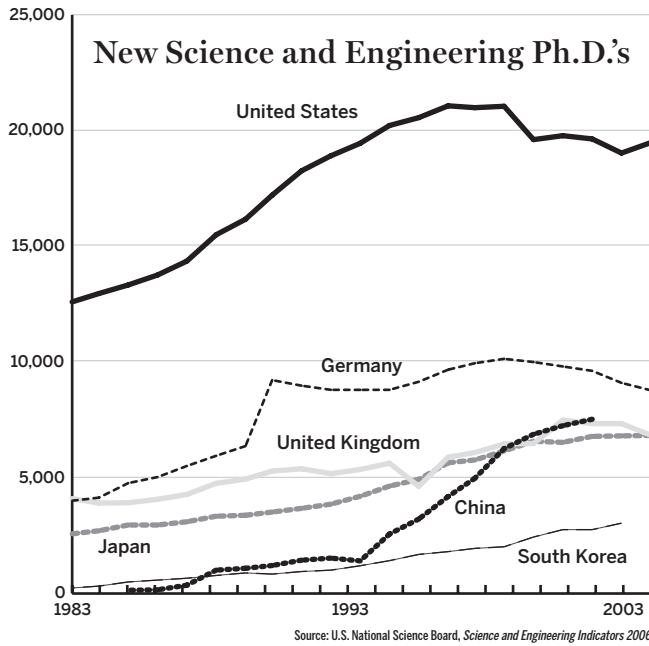
Naturally, as the provinces have gained more control

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over higher education, they also have been required to assume more financial responsibility—much of which has been passed on to the universities and to the students themselves. Between 1994 and 2006, college tuition increased from a token amount to an average of \$600 to \$1,000 a year. This is a significant investment for average families and a huge burden for poor ones, especially in rural areas, where cash income is low. The student loan system is still nascent, so tuition bills are footed by parents and extended families, with repayment expected once the student begins working. The release of National College Entrance Examination scores each July is now followed by a spate of suicides among farmers who are ashamed that they cannot afford to pay tuition fees for children who are admitted to college.

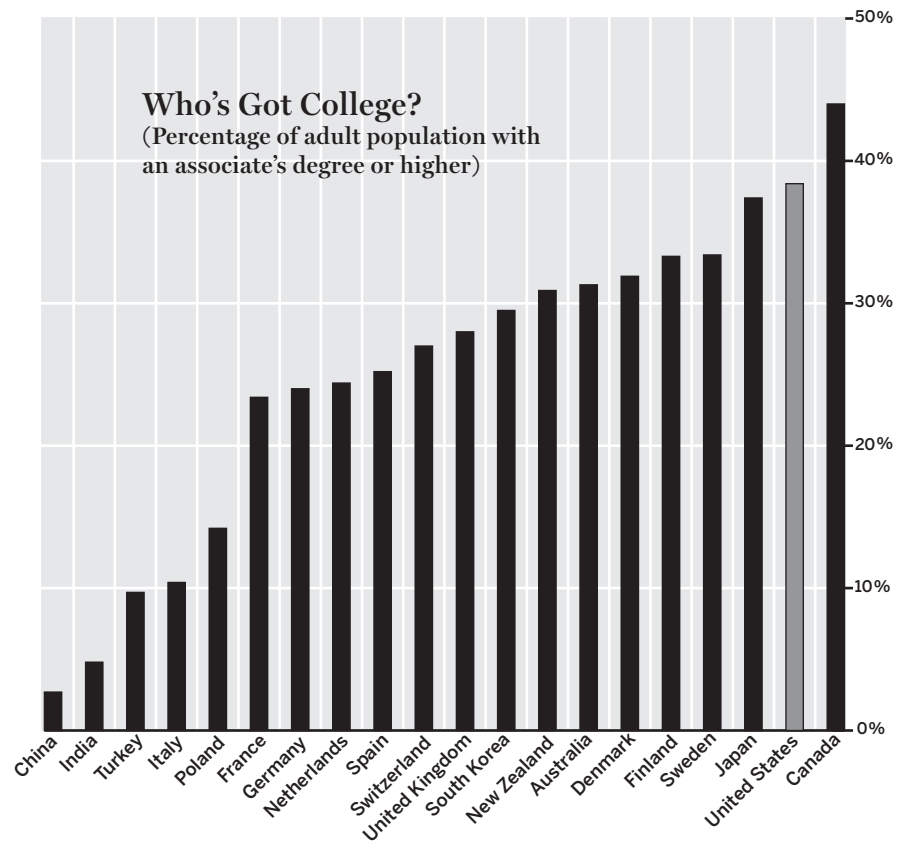
But even with increased tuition income, many universities have a hard time meeting expenses. This past summer it was revealed that one university forced its students to sell tour packages for a travel agency it had established in order to earn course credits. The university president defended the policy by arguing that any student who couldn't sell five tour packages wasn't ready for a market economy. While such cases are the excep-

Racing for Knowledge: International Comparisons



The United States remains the developed world's leader in science and engineering Ph.D.'s (above left). Although foreigners are awarded a high proportion of these doctorates (above), about 75 percent of new Ph.D. holders from overseas plan to stay in the United States. While there are many critics of American R&D—arguing that too much of it is defense related, for example—outlays are substantial relative to those in other nations (left). R&D outlays in the United States totaled some \$300 billion in 2004. Academic institutions performed \$42 billion in R&D; government and corporations accounted for most of the remainder.

An extensive system of affordable state universities is a key explanation for the relatively high level of postsecondary education in the United States. The chart (right) includes those who have a two-year associate's degree or its equivalent. In the United States, about a quarter of the adult population holds a bachelor's degree. In one recent ranking of the world's universities (below), U.S. institutions accounted for 20 of the top 50.



Sources: Organization for Economic Cooperation and Development, *OECD Factbook 2006: Economic, Environmental, and Social Statistics*; Chinese and Indian data from Center for International Development, Harvard University, Robert J. Barro and Jong-Wha Lee, CID Working Paper No. 42 (2000)

The World's Top 50 Universities

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|---|---|
| 1 Harvard University (U.S.) | 26 University of Texas, Austin (U.S.) |
| 2 Massachusetts Institute of Technology (U.S.) | 27 Johns Hopkins University (U.S.) |
| 3 Cambridge University (U.K.) | 28 University College London (U.K.) |
| 4 Oxford University (U.K.) | 29 University of Toronto (Can.) |
| 5 Stanford University (U.S.) | 30 Edinburgh University (U.K.) |
| 6 University of California, Berkeley (U.S.) | 31 Kyoto University (Japan) |
| 7 Yale University (U.S.) | 32 University of Pennsylvania (U.S.) |
| 8 California Institute of Technology (U.S.) | 33 Monash University (Aus.) |
| 9 Princeton University (U.S.) | 34 École Polytechnique Fédérale de Lausanne (Switz.) |
| 10 École Polytechnique (France) | 35 Manchester University and UMIST (U.K.) |
| 11 Duke University (U.S.) | 36 University of Michigan (U.S.) |
| 12 London School of Economics (U.K.) | 37 University of California, Los Angeles (U.S.) |
| 13 Imperial College London (U.K.) | 38 University of British Columbia (Can.) |
| 14 Cornell University (U.S.) | 39 Sydney University (Aus.) |
| 15 Beijing University (China) | 40 University of New South Wales (Aus.) |
| 16 Tokyo University (Japan) | 41 Hong Kong University (Hong Kong) |
| 17 University of California, San Francisco (U.S.) | 42 University of California, San Diego (U.S.) |
| 18 University of Chicago (U.S.) | 43 Hong Kong University of Science and Technology (Hong Kong) |
| 19 Melbourne University (Aus.) | 44 Carnegie Mellon University (U.S.) |
| 20 Columbia University (U.S.) | 45 Heidelberg University (Ger.) |
| 21 ETH Zurich (Switz.) | 46 Northwestern University (U.S.) |
| 22 National University of Singapore (Sing.) | 47 Queensland University (Aus.) |
| 23 Australian National University (Aus.) | 48 Nanyang University (Sing.) |
| 24 École Normale Supérieure, Paris (France) | 49 Bristol University (U.K.) |
| 25 McGill University (Can.) | 50 Indian Institute of Technology (India) |

Source: *The Times Higher Education Supplement* (Oct. 28, 2005)

tion, the growing gap between the top universities and all the others lays bare serious inequities in what is still, in theory, a socialist state.

Complaints about how students are accepted to college and how and what they are taught have grown considerably in recent years, and are receiving more government focus given the growing unemployment rate of college graduates. Critics of the National College Entrance Examination argue that the three-day knowledge-based test—toward which all elementary and high school education is directed—is a poor means of selecting students who will become the creative and innovative thinkers China needs for the 21st century.

China's universities are trying to adapt their curricula and teaching methods to meet the demands of a fast-changing society. They are encouraging a more integrated, cross-departmental approach to study that includes humanities and science courses, rather than the narrow specialization of years past. Study of a foreign language, usually English, is a requirement, and there is increasing emphasis on learning practical skills, in areas such as information technology. Many universities require students to complete working internships before they are granted a diploma. University teachers are being urged to move away from rote education that stifles student curiosity.

Of course, it is hard for faculty to adjust to new teaching styles, and many students complain that professors are more interested in using the university as a base from which to moonlight or launch private businesses. Professors grouse that students who have been trained to sit quietly in classrooms and prepare for tests do not adapt well to more interactive teaching. Employers have their complaints as well, noting that many students drop out of corporate internships after only a few weeks, have unrealistic salary expectations, are insufficiently fluent in English, and lack initiative.

"We aren't doing as well as the system in the U.S. in terms of making contributions to knowledge," Dean Fu acknowledged. "Unless we learn how to teach students how to think critically—this has much to do with innovation."

Innovation is one of the key goals of China's current five-year plan, and the country's universities have come under tremendous pressure to improve and apply their research. This has contributed to an

apparent epidemic of academic fraud, as professors falsify or plagiarize their research to gain promotion or simply to meet societal expectations and political goals. This past spring, China suffered embarrassment when it was revealed that a state-funded microchip research project at Shanghai's Jiaotong University had used stolen technology. Critics point out that such fraud is easy to perpetrate and hard to detect because China doesn't have a rigorous peer review system: Academic boards are often composed of nonexpert officials, and universities are frequently run by administrators whose primary qualification is Communist Party loyalty.

Meanwhile, the popularity of university education shows no signs of abating: Nearly nine million people sat for the college entrance exam this year, and more than 10 million are expected to do so in 2007. Graduate school enrollment is also increasing in response to the tight job market. As a popular saying goes, "If you go to university, you regret it for four years, but if you don't, you regret it for life."

Discontented university students certainly number among a Chinese leader's worst nightmares; the communist government has been forced to deal with significant student unrest in every decade of its rule except the first. In April, the State Council ordered that all further enrollment expansion be suspended immediately. The Ministry of Education has opened a 24-hour hotline to help students with financial problems.

It is important to view these growing pains in the context of the nation's overall transformation. Reform came late to higher education, and there will be many more bumps in the road. Political exigencies will undoubtedly prevent some necessary changes. Even so, China is likely to emerge with a stronger higher education system and a more broadly educated public.

"Universities are state-owned enterprises," says Dean Fu. "But they are behind the curve in . . . reform. If you are an industrial [state-owned enterprise], you produce a product—it can be tested and sold. But it is difficult to assess our products because we train human beings. For us to see our problems takes a very long time." ■