

listed, together with those whose annual output of scientific and technological production exceeded 100 and 50 million yuan.

Naturally, proponents of international ranking try to legitimate the system by using internationally practiced quantitative indicators and methods. As social and cultural institutions, however, contemporary universities are deeply embedded in their societies. This dilemma means that the ranking scheme is simply not powerful enough to measure the weaknesses and strengths of Chinese universities; moreover, the indicators employed are confined to only certain aspects of institutions of higher learning.

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***As part of its reentry into the world community, China now conducts regular university ranking.***

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#### *Synthetic Ranking*

Another form of ranking is more synthetic, based on evaluations of the academic research achievements of institutions of higher learning, and conducted using several different measures. One impressive effort of this sort was an assessment of the leading 100 institutions (among all the 614 four-year institutions), based on the national statistics of natural and social science research achievement from the then State Education Commission, as well as on interviews with 203 experts, whose comments on the aforementioned data were sought.

The most recent surveys focus on achievements in research and development in Chinese universities. According to this ranking, the top 10 institutions are Tsinghua University, Peking University, Nanjing University, Zhejiang University, Xi'an Jiaotong University, Harbin Institute of Technology, Fudan University, Central China University of Science and Technology, Southeast University, and Northeast Polytechnic University.

#### *Conclusion*

Synthetic ranking is characterized by its use of comprehensive benchmarks. Its methodology is commendable to some degree. Yet, within the whole assessment and ranking process, many artificial factors tend to complicate the environment and make the operation hard to control. It is also hard to reach agreement on what indicators to use and how to weight them. Finally, what is worthy of special attention in the Chinese case is that, since the data used in this ranking are based on the reports of individual institutions to the State Education Commission, some universities resort to deception in order to improve their ratings. ■

## Features, Issues, and Future Expansion of Chinese Graduate Education

### **Guo Yugui**

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Since the resumption of graduate education in China in 1978, the system has experienced a remarkable development. Within the short period of 17 years between 1978 and 1994, 460,000 graduate students were admitted—19.7 times as many as the 23,400 students admitted between 1949 and 1965, before the Cultural Revolution. Between 1978 and 1994, 313,000 graduate students graduated (280,000 with master's degrees and 17,000 with doctoral degrees)—15 times as many as before the Cultural Revolution.

This development merits attention because it is not only unprecedented in China in speed and scale, but because it is also rare in the history of graduate education worldwide. According to available statistics over 17 years (1978–94), China increased its graduate enrollments from 10,900 to 128,000, while the United States, Britain, Japan, and the Soviet Union spent 20, 29, 34, and 31 years reaching the same or similar levels of development respectively. While stressing the achievements in Chinese graduate education, we should also pay attention to its features, issues, and future trends.

#### *Structural Features*

From a historical perspective, the evolution of Chinese graduate education has been influenced by many foreign models. The five generations of returning foreign-educated students have had a special role in the process. In the past half century, Chinese graduate education has successively been under the influence of the Soviet Union and the United States due to the impact of Soviet-educated students (“fourth generation”) and of American-educated students (“fifth generation”). Thus the current system of Chinese graduate education is somewhat of a hybrid of the Soviet and American systems, combined with some elements indigenous to China itself. Its administrative structure is more like the Soviet model, while its degree structure bears a resemblance to American counterparts.

There are two main features of the Soviet-inspired pattern: first, the government still has a prominent role in graduate education nationwide, though

a rigid state-control model has given way to a state-supervision model in accordance with the transformation from a planned to a market economy in recent years. Authority for administering the overall affairs of graduate education is shared by two parallel state administrative organs—the State Education Commission and the Academic Degrees Committee under the State Council, each with its own vertical administrative structure and responsibilities and functions. Generally speaking, the former is in charge of graduate admissions, training, management, and job allocation while the latter takes care of the formulation of degree standards, review and approval of institutions, programs and dissertations, and degree conferment. Moreover, in China both institutions of higher learning and research institutes undertake graduate education and have to pass strict and complicated application procedures to obtain authorization from the government. This is mainly attributed to the Soviet-inspired system introduced in the 1950s, which de-emphasized the role of research in universities and stressed the centralizing of research in research institutes.

With regard to the degree structure, patterning after the American model is apparent. Three official levels—bachelor's degree, master's degree, and doctor's degree—plus an unofficial level of postdoctoral work constitute the current Chinese degree structure. However, a nondegree special graduate program exists that is similar to the probationer-researcher and probationer-teacher in the Soviet system. The other American influence is in the development of a research orientation since the early 1980s.

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***The evolution of Chinese graduate education has been influenced by many foreign models.***

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#### *Major Issues*

Alongside the achievements in graduate education, there are also deficiencies in its developmental course due to many societal factors.

Of the 390,000 full-time faculty in regular institutions of higher education in 1994, only 2 percent held a doctoral degree, 20 percent a master's degree, 49 percent a bachelor's degree, and 30 percent had attended short-cycle courses and had undergone some

undergraduate training. In contrast to the United States, Chinese graduate education is characterized by a high degree of overspecialization and narrowness, both of which have implications for quality.

An imbalance exists in almost all aspects of graduate education. For example, the portion of master's degrees is too large (94 percent) while that of doctoral degrees is too small (6 percent). The proportion of students in traditional and basic disciplines such as history, literature, the natural sciences, engineering, and medicine is too large (82 percent), while the percentage in newly emerging and applied disciplines such as economics, business, and law is too small (18 percent). A majority of graduate programs and degrees awarded are concentrated in the thriving southeast coastal and northeast areas (over 70 percent). Conversely, remote and economically backward provinces are severely underrepresented. Female students account for less than one-fourth of enrollments at the master's level and one-tenth at the doctoral level.

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***Alongside the achievements in graduate education, there are also deficiencies in its developmental course due to many societal factors.***

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#### *Expansion in the System, 1995–2020*

Projected growth in graduate education depends on the growth rate of the economy and of the relevant age group. If graduate enrollments follow the historical average annual undergraduate enrollment growth rate of 7.6 percent, China would reach an enrollment ratio of 0.15 percent by 2000, 0.43 percent by 2010, and 0.81 percent by 2020. If, however, economic and demographic trends produce a more rapid expansion in graduate education (9.8 percent), the enrollment ratio would reach 0.19 percent by 2000, 0.64 percent in 2010, and 1.47 percent in 2020. By 2020 total enrollments would be 1,455,000, although the enrollment ratio would still be only 1.47 percent. However, this enrollment could be considered enormous given that if 25 to 30 percent of them graduate annually, the graduate degrees awarded would number around 400,000. This is similar in scale to the United States—the largest graduate system in the world—which annually awards about 300,000 master's degrees, 35,000 doctoral degrees, and 70,000 professional degrees. ■