

**OECD THEMATIC REVIEW OF TERTIARY EDUCATION**  
**Background Report for the P.R of China**

National Center for Education Development Research of the Ministry of Education  
of the P.R. of China

February 2007

## FOREWORD

With the development of economic globalisation and knowledge economy, tertiary education<sup>1</sup> in underdeveloped countries is undergoing profound changes. The Education Committee of OECD started its Thematic Review of Tertiary Education under the title of “Rethinking Tertiary Education in a Global Economy” in 2004, which involves 24 participating countries along with China. This report is prepared to support Chinese participation in this Review, especially the review visit by the team of OECD experts to China.

As the largest developing country in the world, China is taking up education work at the largest scale. In 2005, the number of registered students in China was the largest in the world, and the gross rate of enrolments exceeded 21%. According to the national development policy, secondary education is expected to become universal before 2020 and as postsecondary education and training will become fundamental for all for gaining better employment, personal and social development, tertiary education will need to be developed on a sound and continuous basis. Active participation in this the OECD Review will benefit the development and reform of Chinese tertiary education, help to satisfy the people’s demands for development. and keep China’s tertiary education policy abreast of international developments. It will also help the Chinese education policy researchers to establish close relationship with their colleagues internationally. In recent years, China has maintained effective and fruitful relationship with OECD in education field. According to the arrangement by Chinese Ministry of Education and Education Committee of OECD, the National Center for Education Development Research (NCEDR) has worked together with the project team from Beijing Normal University to study and prepare the research report on Chinese tertiary education. To facilitate the research, the project team of Education Committee of OECD required certain standards including format and length specification, which were to be used by all participating countries. An OECD experts’ team would then conduct on-site visit and study for preparing its review report on China. The National Center for Education Development Research and Beijing Normal University have dedicated enormous amount of human resources and financial resources into this project. With the help from Chinese Ministry of Education and other related authorities, the information regarding the history, general information, achievements and problems of Chinese tertiary education has been collected and systematically studied, on which this report is based.

This report has benefited from the efforts of a large number of very dedicated researchers. The report has been revised several times to take account of comments from the OECD Secretariat and other

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<sup>1</sup> Here tertiary education represents all forms of postsecondary education, which includes regular higher education, advanced professional education, adults higher education, education for academic degrees, all forms of training activities, and all other learning activities that satisfies the individual demands on developments.

comments. As the national coordinator, Prof. Zhang Li, the Director General of National Center of Education Development Research, was in charge of the external liaison and coordination work. As the project team leader, Prof. Fan Wenyao, Deputy Director General of NCEDR was responsible for conducting the research. Director Ma, Luting and Deputy Director Liu, Chengbo from the Research Division of Higher Education of NCEDR were responsible for the draft of the research plan, amendment of the draft report and editing. Ms. Yang, Xiuwen, Associate Professor and Deputy Director of the Administrative Office of NCEDR liaised and communicated with the OECD Education Committee and finalised the report format. Professor Wang Yingjie and his academic team from International Education & Comparison Research Center of Beijing Normal University took main responsibilities for drafting all chapters and translation work. They have made very important contribution to this research. After completing the first draft, the project team consulted experts from different areas such as Director Wang Fengling from Social Development of National Development and Reform Commission, and other experts from Ministry of Education including Mr. Xu Xiaomin, Deputy Director General of Finance Department, Mr. Liu, Dawei, Deputy Director General of Department of Student Affairs, Mr. Zhang Zhaowen, Deputy Director of Department of Vocational Education and Adults Education, Mr. Xu Yongji, assistant of Director General of Department of International Cooperation and Exchanges, Mr. Song Yi, branch director from Department of Higher Education, Mr. Qin, Changwei, branch director from Department of Development and Planning, Mr. Zhang Jianhua, branch director from Science & Technology Department, and Mr. Hu Wei, Branch Director from Department of Human Resources. The report was carefully amended with their opinions and suggestions, which made the report more accurate and reliable. In October 2006, experts from Education Committee of OECD visited China and held discussions with the project team. The report was further revised after these discussions and finalised.

The drafting responsibilities for various chapters of the report were as follows : Chapter 1, 2 and 11 by Chen Hefang; Chapter 3 by Geng Yiqun; Chapter 4 by Hao Haixia; Chapter 5 by Wang Baoping ; Chapter 6 by Zhang Yanmin; Chapter 7 by Sun Guicong; Chapter 8 by Zhang Chi; Chapter 9 by Xiong Geng; Chapter 10 by Li Qiaozhen. Ma Hui translated the whole report and Professor Wang Yingjie edited the initial draft of the whole report and the translation. It must be highlighted that Mr. Fan Wenyao played critical role in the successful completion of the project. He guided the general direction of the research and suggested many amendments to various drafts. Professor Wang Yingjie played substantial role in guiding and providing intellectual support to the team during the drafting and translation period. During the one year long careful edition and amendment period, Dr. Liu Chengbo and Dr. Chen Hefang devoted enormous time and energy in data revision, report editing, and liaison and communication with the project team. Dr. Ma Hui efficiently and accurately completed the intensive translation job. The Department of International Cooperation and Exchanges and Department of Finance of MOE provided necessary human sources and

financial support to facilitate the process of the project.

We are very gratified that the report is now finalised and it has served the purposes of the OECD experts' team for the China review. We sincerely hope that our efforts will help the world to better understand the Chinese tertiary education and assist China to better understand the trend and policy of international tertiary education.

Work Team of China Background Report on Tertiary Education

November 2006

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## 1. THE NATIONAL CONTEXT OF TERTIARY EDUCATION

### 1.1 Economic, social and cultural background

1. As a subsystem of the whole social system, educational development is subject to the forces and constraints of economic, social, and cultural factors.

2. Economic development is one of the major factors. Since the end of the last century, when China initiated economic reforms and began to open itself to the outside world, the nation's economy has grown at an annual rate of nearly 10% in terms of Gross National Product (GNP). The 2004 Gross Domestic Product (GDP) topped US\$1931.7 billion, ranking the sixth worldwide. Economic growth has phased in an intensive mode to replace the extensive mode. At the same time, quite a few difficulties and limits have hindered the successful transformation of the mode of economic growth. Among them are the lack of strength in scientific and technological innovation, the insufficiency of China-owned intellectual property rights, and a pool of innovative and creative talents too small to meet the need. Economic development relies heavily upon the development of tertiary education, which should aim at enhancing its scale and better accumulating the human capital. That is to say the quality of higher education must be improved so as to beef up the scientific and technological innovativeness of universities and to better vocational training targeting at the training of more skilled workers able to contribute to the building of an economically stronger society. To achieve these goals, the central government has implemented a series of programs, such as the "985 Project"<sup>2</sup>, "211 Project"<sup>3</sup>, "the Program for High-level Innovative Talents", while stepping up efforts in its "Innovative Project of Vocational Education and Training" aiming at fostering high-quality skilled talents.

3. The second influential factor is the nation's political context. In recent years, China is rapidly being democratised politically, and the government, under the calling to "create a harmonious society," is endeavouring to provide equal opportunities for citizens and encourage their involvement in the democratic process. However, the long-existing urban-rural dual economic structure is still in place. The Gini Coefficient has risen to as high as 0.45. The social problems dogging the disadvantaged groups such as the poor, the destitute, and the rural population remain salient. Therefore in ten years' time, when mapping out policies, the priorities of the government are to reduce the gap and strive for a fairer distribution of social wealth brought by the nation's development. Among the measures taken to achieve these ends, education is fundamental. Education is the most important means to relieve poverty, and for social wealth to evenly trickle down to different strata of society. The government needs to better guide the human resource development at the national level, provide public education for every citizen, and gradually strengthen educational support for the disadvantaged group.

4. Historically, Chinese people have always emphasised the importance of learning and education. This attitude has been part of a distilled cultural tradition which exerts a huge influence on the educational mentality of the Chinese. It is common that Chinese families would choose to support their children to receive further and better education at the expense of a lower living standard on the part of other family members. However, such tradition does have its negative side, as far as tertiary education is concerned.

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<sup>2</sup> A state project announced in May 1998 to build world-class universities in China.

<sup>3</sup> A state project to build top 100 universities in 21 century started in 1995 in China.



First, non-formal education is not valued, compared with formal education, so is general education preferred over vocational education. This leads to limited growth of non-formal and vocational education. Second, vocational institutions themselves also lay stress on general education rather than the vocational and non-formal part of the education. Most of these institutions overly imitate institutions offering general education, while failing to create their unique features and strength. In recent years, as the idea of life-long education and Education for All has spread widely, enthusiasm in informal and non-formal education for adults is in effervescence. Continuing education has also gained ground. The government is taking an active role in popularising senior secondary education. The goals are to improve the overall education level of the population and build a learning society.

## **1.2 Demographic Characteristics**

5. China is a country with a population more than 1.3 billion, despite the implementation of the one-child policy since 1979, which has curbed effectively the further increase of the population.

6. Saddled with such huge population, China sees the overall education level of its people in need of being enhanced. In 2004 the percentage of cohorts receiving short-cycle college education and above in Chinese labour force in age group of 25-64 years is only 4.66%, compared with 24% in OECD countries, and over 30% in Japan, USA, and Canada. In the same year, the years of schooling completed by cohorts aged 15 and above are 8.3, one year longer than the worldwide average level, but China still lags behind developed countries. In education, there is a noticeable disparity between urban and rural areas, like in other aspects of society. In 2000, the years of schooling completed by rural cohorts of age 15 and above are only 6.85, three years shorter than that of urban cohorts (9.8 years). The percentage of the rural population who have received short-cycle college education and above is only 0.74%, 12 percent points lower than that of urban population.

7. The demography of future tertiary education receivers (aged 18-22) has the following tendency: the group will be increasing steadily, from 99.53 million in 2001 to 124.84 million in 2008, when the figure peaks. And from there, it is estimated to drop down to 96.5 million in 2013, and 87.97 million in 2020, 40.00 million fewer than the peak number.

8. The population tendency has a direct effect on educational development. As a populous developing country, the overall quality of the citizens is of vital importance to social and economic development. The huge population is a heavy burden if education quality is poor. Inversely, good education can turn such burden to huge source of richness. From a burden to a resource, education plays a key role in the transformation.

## **1.3 The Labour Market**

9. Another characteristic of China's population is the large proportion of rural residents. The dual economy is under restructuring and the system is moving from a planned economy to a market one. In this context, unemployment will remain to be a major social issue for a long period.

10. China has been promoting urbanisation in recent years. Such national policy is an important way to redress the urban-rural dual structure, solve the so-called "three *nong* problem," (namely social problems associated with "countryside, agriculture, farmer," all beginning with the character of "nong" in Chinese), help the movement of spare rural labour force stuck in the native land, and consequently contribute to the harmonisation of society. In 1995 the percentage of urban population was 29.0%; 36.2% in 2000, 40.5% in 2003, and 41.8% in 2004. It is estimated that the percentage will reach 60% in 2020. The tertiary education of China has to adapt to these changes.

11. According to the statistics of International Labour Organisation (ILO), the labour cohorts aged

15-64 are 940 million in 2005, accounting for 72% of China's total population. This translates into both a promising potential in human resources and a huge employment pressure. In 2004, the employed population was 752 million, an increase of 7.68 million than previous year. Among them, 264.76 million lived in urban area, an increase of 8.37 than previous year. There were as many as 24 million job-seekers in need of employment. Since the 1990s, the unemployment rate has increased year by year. It was 2.9% in 1995, 3.2% in 1999, 3.6% in 2001, 4% in 2002, 4.3% in 2003, and 4.2% in 2004. In addition, it has recently becomes less easy for college graduates to find jobs, as their numbers have continued to climb and employment pressure keeps mounting accordingly.

12. Contributing factors to the ever-greater employment pressure come from three sources: firstly, the continued increases of labour supply; secondly, the speedier transfer of rural labour to non-agricultural sectors; thirdly, structural unemployment in consequence to a decrease in labour demand and a higher demand on qualifications thanks to a higher concentration of industry and skills. This has caused the difficulty in re-employment and the overall falling of the employment rate. To reverse this situation, China needs to make a big stride in tertiary education in terms of largely expanding education and training and optimising the levels and types of education so as to accommodate the changes in the economic restructure. Also, connection between educational institutions and labour market must be closer.

13. In recapitulation, the largest developing country is running education at a magnitude dwarfing that of any other country in the world despite its fledging economy. With an unbalanced economic development pattern, China is facing the challenges of industrialisation and knowledge economy. China has a rooted cultural tradition of venerating education. The One-child policy has made parents even more willing than before to have their child educated as well as possible. All these economical, cultural, social, and demographic factors loom largely on the development path of tertiary education. Various demands as well as conflicts will have direct reflection in the education policy.

## **2. OVERALL DESCRIPTION OF THE TERTIARY EDUCATION SYSTEM**

### **2.1. Goals and objectives of tertiary education**

14. The goals of China's tertiary education are preparing students for various professions and trades, promoting their well-rounded development, and contributing to the social, cultural, political, economic, and scientific-technological development of the society. At the national level, tertiary education shall implement the state strategy of reinvigorating the country through science and education and enhance workers' quality, so as to meet the need of socialist modernisation. Specifically, the goals can be explained as promoting the spiritual, moral, and intellectual development of the Chinese people; cultivating high-level talents with innovative spirit and hands-on capability; and providing sufficient human capital and intellectual support for the modernisation process and the construction of national innovative knowledge system. In *Higher Education Law*, the goals are stated as "Higher education must implement the educational policy of the state, serve socialist modernisation, integrate itself with social production, and cultivate the educated to be morally, intellectually, and physically sound builders and successors of the socialist cause." Accordingly, the task of higher education is to "train professionals and specialists with innovative spirit and hands-on capability, advance science, technology and culture, and promote socialist modernisation." *Vocational Education Law* has set the objectives as "implementing the strategy of strengthening China through science and education, developing vocational education, and enhancing the quality of workers and facilitating the socialist modernisation process."

15. When setting the goals and objectives of tertiary education, what have been taken into account are social, economic, political, cultural factors as well as various elements in labour market. A diversified pool of talents is in need to meet the requirements of national economic development, scientific and technological progress, and social advancement. In order to answer this need, the government shall devise diversified tracks for tertiary education and boost tertiary education in various forms.

16. At the same time, there exists difference in specific goals and objectives guiding different components of the tertiary education system, namely various types of institutions at various levels, performing various functions. Differentiating goals and objectives is conducive to the achievement of overall balance among them. For example, "Research and innovation" shall be the objectives of research universities. "Teaching and serving regional economic development" shall be the objectives of teaching-focused tertiary institutions and those colleges offering vocational and technical programs. "Offering skill training and community service" shall be aimed by yet other tertiary institutions. In short, the general objective, as well as the guideline of the tertiary education system, is to "promote cultural, scientific and technological development, and strive for social justice and national economic growth." Though various tertiary institutions have different emphases, they share in common the objectives of fostering talents with innovative spirit and hands-on capability; promoting cultural, scientific and technological development of the society; and serving the socialist modernisation, to name a few. No matter it is formal or non-formal education, the primary goal of tertiary education is to enhance workers' quality so as to meet the needs of socialist modernisation and widen employment opportunity for social and economic development.

17. However, there is a conflict within the system on how to balance these sundry objectives. For example, within the system, colleges and universities place more emphasis on research than teaching, more attention on general education than vocational education, and more importance on formal education than non-formal education. When discussing the relationships between tertiary education and external systems, there is also a conflict. In general, the tertiary education system highlights "scholarly education" and objectives are based on academic achievements, while the external systems favour "market-driven education" and the objectives are to meet the demands of the whole society. Yet some changes have taken place in the past ten years. One of the most significant changes is a further emphasis on social and economic objectives, which requires tertiary education to do more and better for the advancement of society and economic development of the nation.

## **2.2. The operation of the tertiary education system**

18. China's tertiary education is governed, regulated and financed by the Ministry of Education (MoE), which is a central government agency under the State Council. The MoE is responsible for implementing relevant laws, regulations, principles and policies made by the state; setting specific educational policies and regulations; planning national educational development, coordinating the undertakings of various government agencies pertaining to education; mapping out and guiding the systematic reform of education. Although the policies related to tertiary education institutions (TEIs) are mostly stipulated by the MoE, the State Council and local governments are also responsible for governing and administrating tertiary education as per administrative hierarchy and a division of labour among them.

19. With regard to financing the tertiary education, a system capable of pooling resources from diverse channels with the main responsibilities resting on governments has been gradually established and refined. Currently, the TEIs directly supervised by the central government are funded through a central allocation system; the TEIs under the administration of local governments are financed locally; and the privately-run TEIs are funded primarily by sponsors (including student tuition and fees, endowments, for instance). In addition, tertiary education receivers contribute to the budget by paying tuitions and fees, since tertiary education belongs to non-compulsory phase of education. Enterprises, associations, other social organisations and individuals are encouraged to support tertiary education financially. Tertiary

institutions are encouraged to gain additional revenue by offering services to the society in order to improve their financial conditions.

20. In terms of quality assurance, according to *Higher Education Law*, the government shall evaluate and assess the educational activities of tertiary institutions. The quality assurance system has been established jointly by the educational authority, non-governmental organisations and institutions, in which the governmental authority plays a principal role. The MoE leads the assessment of undergraduate and postgraduate education performance, and authorises two centres to undertake the task. They are the Higher Education Evaluation Centre of the Ministry of Education and the China Academic Degrees & Postgraduate Education Development Centre. Short-cycle college education assessment is led and organised by the Education Commissions of provinces, autonomous regions or municipalities directly under the central government, but the MoE conducts random reviews through teams of experts it sends directly.

### **2.3. Governance and administration of regular institutions**

21. The administration over tertiary institutions is shared by the central and provincial governments, with the latter shouldering more work. In such administrative structure, the framework of basic administration and its adjustment has two levels (the central and provincial government); three chains (institutions overseen by provinces, by the MoE, and by ministries of the central government other than the MoE respectively), and the administrative system of the MoE.

22. Two levels: The first level is the state administration. The State Council and its affiliated ministry—the MoE—provide macro-guidance to provincial governments and other ministries in terms of educational principles, policies, education budget allocations, and developing plans, etc. The second level is the provincial administration. The provincial governments and ministries (including the MoE) are accountable for direct administration and management of TEIs.

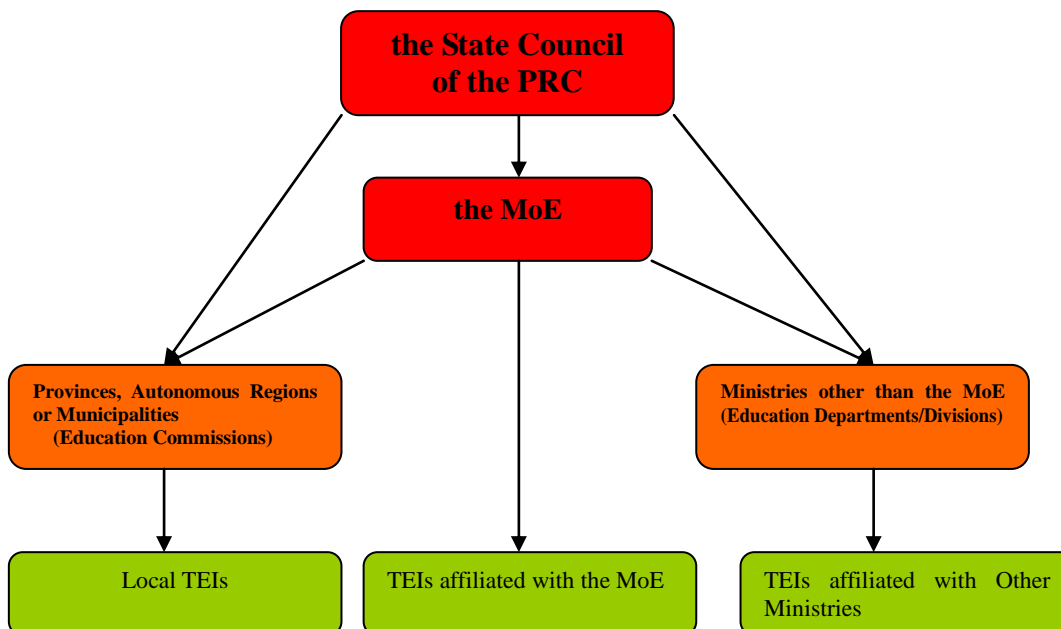
23. Three chains: The first administrative chain is the State Council---the provincial government---local institutions either affiliated with provincial/city governments or privately-run institutions; the second is the State Council---the MoE---the institutions affiliated with the MoE; the third is the State Council---the ministries other than the MoE---the institutions affiliated with those ministries.

24. One functional administration system: As the major functional ministry accountable for educational undertakings, the MoE is in charge of developing plans for tertiary institutions all over the country, approval of new institutions, stipulating specific policies and regulations, evaluating education quality, and managing teacher and student affairs, etc. The Education Commission at provincial level, plus the education divisions in other central ministries, is responsible for the co-ordination and management of their TEIs. The Figure 2.1 below is the overall administrative framework.

25. A legislative system of educational laws and regulations, in accordance with *the Constitution of People's Republic of China*, has been formulated with Chinese characteristics. Laws made by the National People's Congress and its standing committee and directly related to tertiary education are as follows: *Education Law*, *Higher Education Law*, *Teachers' Law*, *Law on Promotion of Privately-run Education*, *Vocational Education Law*, etc. The State Council has enacted more than ten regulations to complement these laws: *the Regulations on Academic Degrees*, *the Regulations on Teacher's qualification*, *the Regulations on Chinese-Foreign Cooperation in Running Schools*, *the Educational Regulations on the Disabled*, etc. The local legislative authorities also have formulated many local laws and regulations. Among all the laws and regulations, the earliest on tertiary education is *the Regulations on Academic Degree* which was enacted in 1981, and *Education Law* is the fundamental law. *The 1988 Higher Education Law* is marked as a watershed in the history of tertiary education in China because it completed

the legislative system of tertiary education.

Figure 2.1: the Governing and Administrative Structure of the Tertiary Education



#### 2.4. Diversified tertiary institutions

26. China tertiary education consists of formal and non-formal education. The formal education can be divided into short-cycle, undergraduate, and postgraduate phases, which are run by colleges and universities. The research institutes can also offer postgraduate education with the approval of the MoE. Other tertiary institutions carry out non-formal tertiary education as well as continuing education in line with social demands and their own conditions. In terms of forms, Chinese tertiary education includes regular tertiary education (higher vocational education included), adult tertiary education, self-taught examination, distance education, education by internet, etc. They include both full-time and part-time students. Teaching and learning are delivered through face-to-face lecturing, radio, television, correspondence and other means of distance communication.

27. The table 2.1 illustrates the affiliation of regular TEIs. The table also shows the change in the number of tertiary institutions in recent years, and the growth of privately-run tertiary institutions.

**Table 2.1: Changes in Affiliations of Nationwide Regular TEIs in 1997-2004**

Year	Number of TEIs	Number of TEIs affiliated with ministries		Number of Local TEIs	Number of privately-run TEIs
		the MoE	Other ministries		
1997	1020	35	310	655	20
1998	1022	45	218	734	25
1999	1071	46	202	786	37
2000	1041	72	44	888	37
2001	1225	72	39	1025	89
2002	1396	72	39	1154	131
2003	1552	73	38	1268	173
2004	1731	73	38	1394	226

28. Table 2.2 shows basic statistics of nationwide tertiary institutions in 2004, from which we are able to draw our analysis on the types and numbers of tertiary institutions.

**Table 2.2: Numbers of National TEIs, Staff, and Faculty<sup>4</sup>**

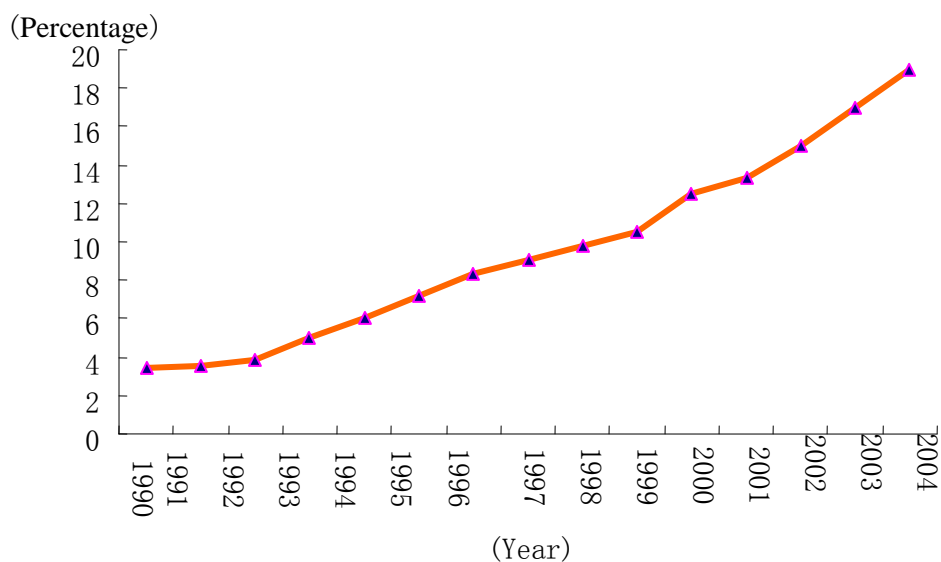
	Number of Institutions	Staff	Faculty
1. Institutions offering Postgraduate Programs	769		
Regular TEIs	454		
Research Institutes	315		
2. Regular TEIs	1731	161065	8583
TEIs Offering Bachelor-degree Programs	684	113700	5753
TEIs Offering Short-cycle Programs	1047	403616	2376
Of Which: Tertiary Vocational-Technical Colleges	872	327536	1934
Independent Branches of Universities & Short-cycle Courses	364	70037	4540
3. Adult TEIs	505	154986	8606
4. Privately-run TEIs	1187	54941	2604

<sup>4</sup> <http://www.moe.edu.cn/edoas/website18/info14370.htm>

## 2.5. Development scale of the tertiary education

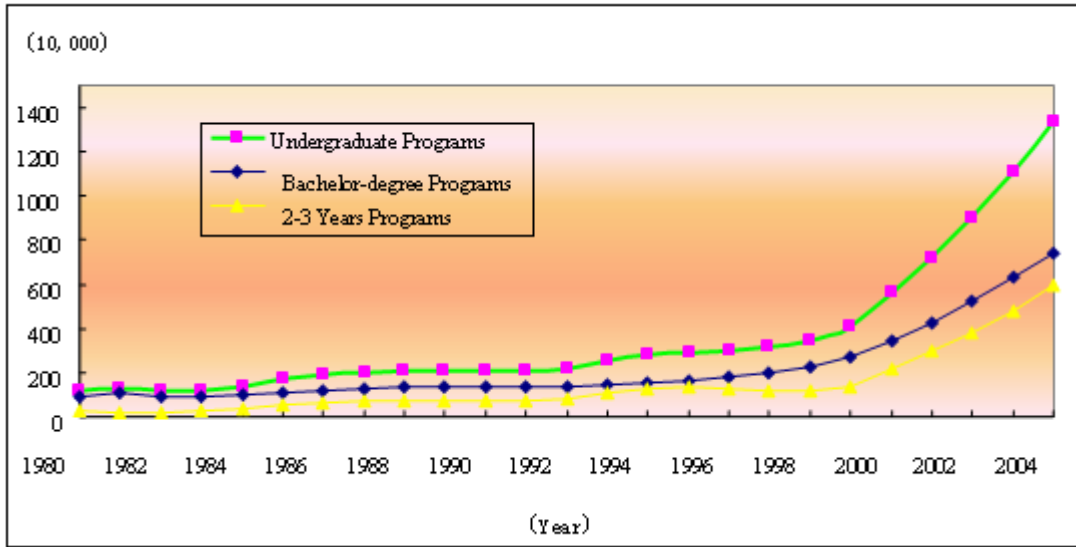
29. In recent years, China's tertiary education has gained rapid growth. Figure 2.2 shows the growth of gross enrolment ratio. The growth of the tertiary education system as a whole derives largely from the growth in regular tertiary education (see Figure 2.3). Regular higher education and adult education have increased faster than that of short-cycle programs (see Figure 2.4). The growing ratio of master-degree enrolment is higher than that of doctoral enrolment (see Figure 2.5). Tertiary vocational institutions not affiliated to four year institutions and their enrolment has grown fastest (see Figure 2.6). Privately-run tertiary institutions and their enrolment figures have leaped and soared (see Figure 2.7). Self-taught learners who sit State-administrated college-level examinations increased exponentially, only to drop from 2000 onwards, when it peaked (see Figure 2.8).

**Figure 2.2 The Gross Enrolment Ratio of Tertiary Education of Cohorts Aged 18-22 in 1990-2004**



Note: The data is the gross enrolment ratio of all-spectrum tertiary education receivers including postgraduate students, students in undergraduate and short-cycle programs offered by regular institutions, students of adult education tracks in undergraduate and short-cycle programs, students in undergraduate and short-cycle programs in military institutions, students preparing for exams awarding formal degrees and certificates, registered students in Television Universities (in full-time equivalent), students who have passed the self-taught study examination (in full-time equivalent), etc.

**Figure 2.3 The Growth of Enrolment in Undergraduate and Short-cycle Programs at Regular TEIs in 1980-2004**



**Figure 2.4 The Structure Change of Enrolment of Undergraduate and Short-cycle Education in Regular and Adult TEIs (in combined data)**

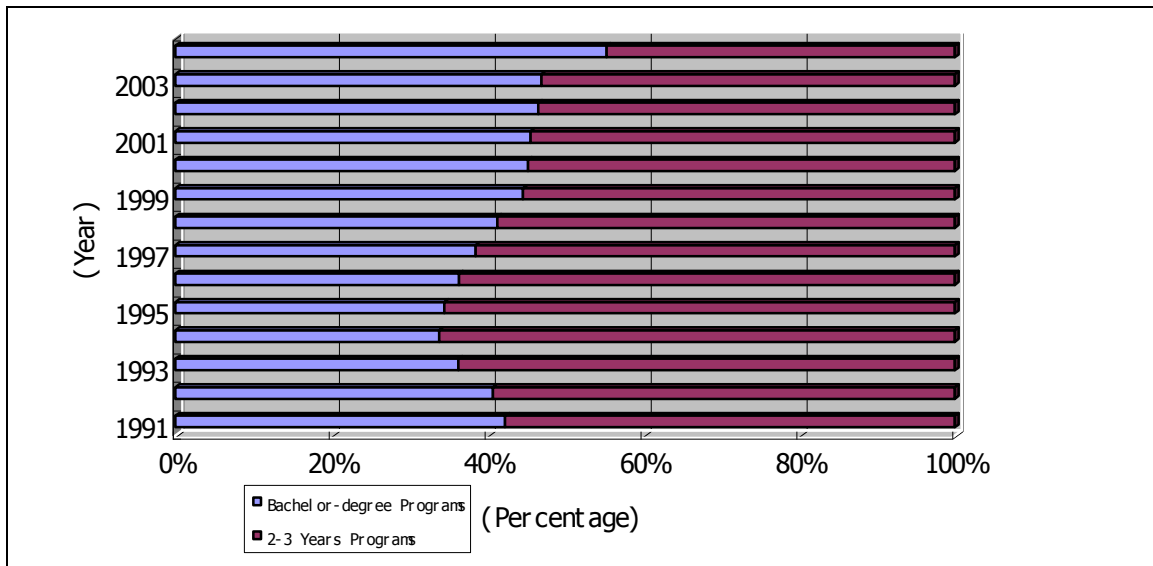




Figure 2.5 The Enrolment Growth of Postgraduate Students in 1981-2004

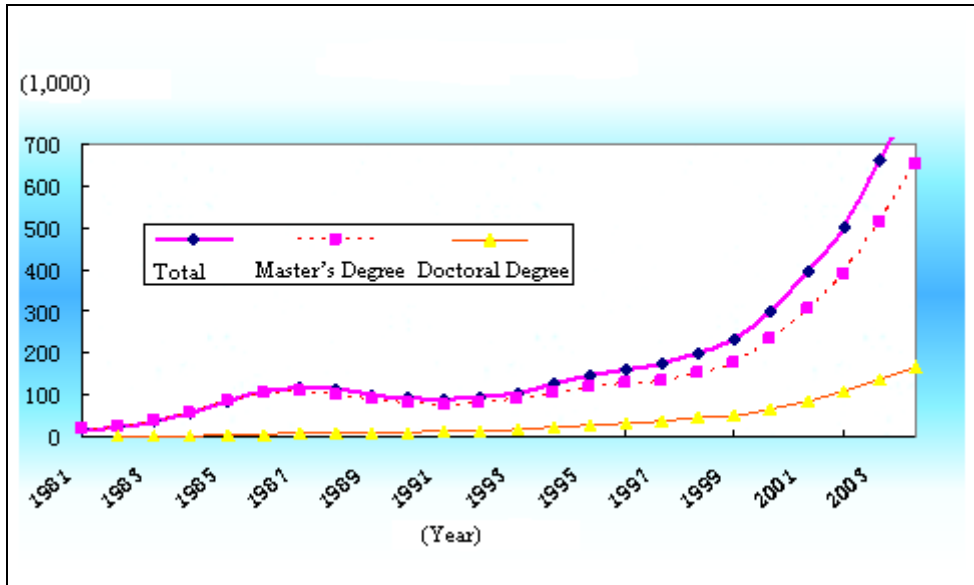


Figure 2.6 The Growth of Enrolment and Number of Tertiary Vocational Institutions Not Affiliated to Four Year Institutions in 1998-2004

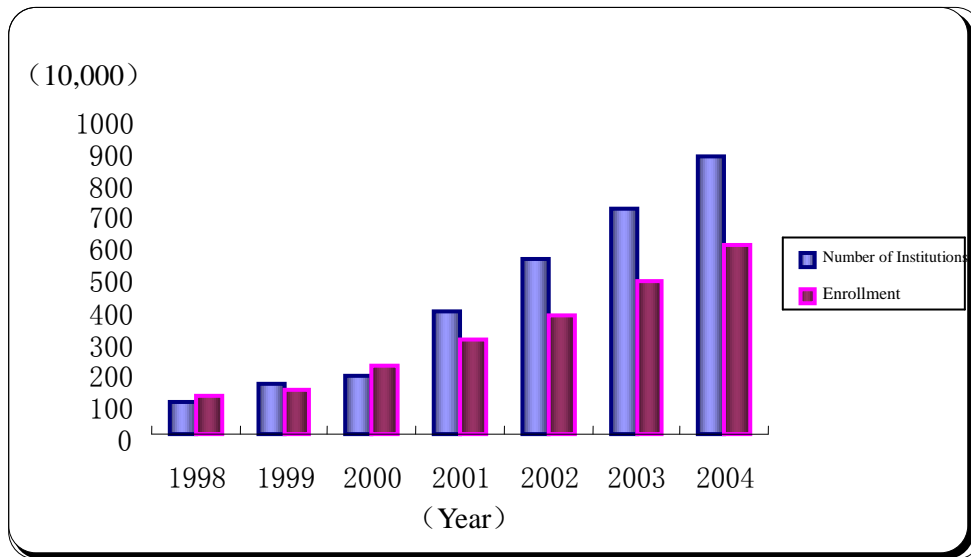


Figure 2.7: The Changes of Enrolment and Number of National Privately-run TEIs in 1996-2004

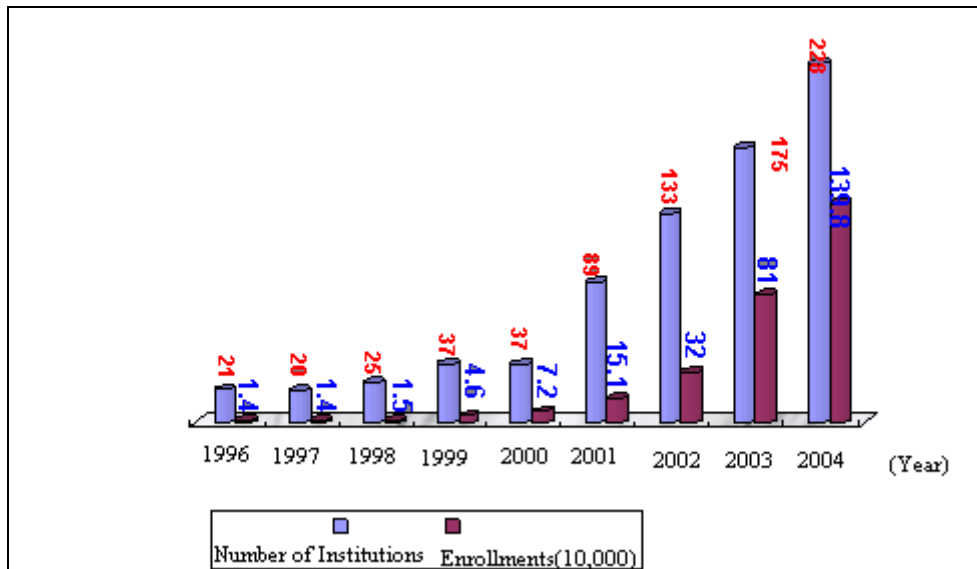
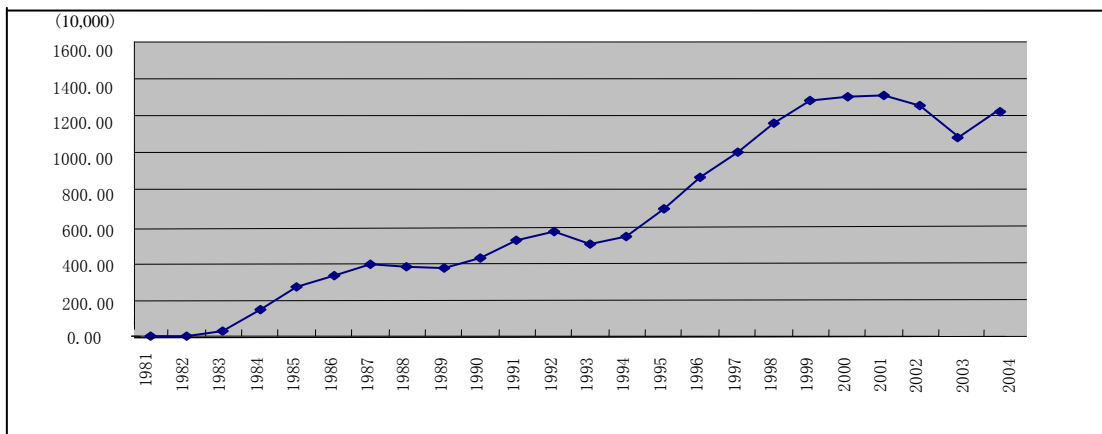


Figure 2.8 The Changes of Self-taught Learners for State-administrated College level Examination 1981-2004



30. By 2004, the total enrolment of tertiary education has reached more than 20 million, and the gross enrolment ratio is 19%. For undergraduate and short-cycle programs at regular TEIs, the number of new entrants was 4 473 400, the enrolment was 13 335 000 and the number of graduates 2391 200; for adult tertiary education, the number of new entrants and graduates were 2 211 600 and 1 896 200 respectively, and the enrolment was 4 198 000; the institutions which offers postgraduate programs had 326 300 new entrants, 819 900 students, and 150 800 graduates. The table 2.3 shows the above data. Furthermore, the non-formal education has gained rapid growth as the table 2.4 indicates.

**Table 2.3: Data on Formal Education at Tertiary Level in 2004<sup>5</sup>**

	Number of Graduates	Number of Entrants	Number of Enrolment
1. Postgraduate	150777	326286	819896
Doctoral Degree	23446	53284	165610
Master's Degree	127331	273002	654286
2. Regular Undergraduate and Short-cycle Programs	2391152	4473422	13334969
Bachelor's Degree	1196290	2099151	7378436
short-cycle Programs	1194862	2374271	5956533
3. Adult Undergraduate and short-cycle Programs	1896152	2211580	4197956
Bachelor's Degree	540356	759434	1415954
Short-cycle Programs	1355796	1452146	2782002
4. Other Types of Tertiary Education			
Part-time Master and Doctoral Programs		78171	201448
Web-based Undergraduate and short-cycle programs	393715	839325	2365908
Bachelor's Degree	211728	427811	1270458
Short-cycle Programs	181987	411514	1095450
Classes Preparing for Exams Awarding Formal Degrees or Certificates	110559	129805	353532
Others	43738		61937

**Table 2.4: 2004 Student Data on Non-formal Tertiary Education<sup>6</sup>**

	Participants Completing Courses	Enrolment
1. Tertiary Education	3184011	2427394
Postgraduate Courses	83868	100708
Classes Preparing for State-administered College-level Examinations for Self-taught Learners	218623	739247
College-preparatory Classes		29954
In-service Training	2881520	1557485
Of Which: For Certificates of Professional/Vocational Qualifications	598737	246775
For Certificates of Job-related Qualifications	638334	343068
2. Secondary Vocational Education	69573448	61983457
Of Which: For Certificates of Vocational Qualifications	5410587	4258794
For Certificates of Job-related Qualifications	7010397	4663836
2.1. Secondary Vocational Schools	7803545	4502075
Of Which: For Certificates of Vocational	1748718	1116670

<sup>5</sup> <http://www.moe.edu.cn/edoas/website18/info14371.htm><sup>6</sup> <http://www.moe.edu.cn/edoas/website18/info14372.htm>

Qualifications		
For Certificates of Job-related Qualifications	1564132	729416
2.2. Vocational / Technical Training Institutions	61769903	57481382
Of Which: For Certificates of Vocational Qualifications	3661869	3142124
For Certificates of Job-related Qualifications	5446265	3934420

31. Vocational education and training remain an important part of tertiary education. The continuous expansion of tertiary education has provided more people with educational opportunity, meeting both the needs of the society and the goal of the government to develop tertiary education. Particularly, the policy of successive “enrolment expansion” since 1999, a crucial decision made by the government at the turn of the century, is of profound significance in enhancing the quality of the Chinese people and in implementing the national strategy of strengthening China through scientific and educational advancement.

### 3. THE TERTIARY EDUCATION SYSTEM AND THE LABOUR MARKET

#### 3.1 The employment situation of the graduates

32. As China is being transformed from a planned economy to a socialist market economy, commodity market and factor market including labour are being established and head to maturity gradually, so is the evolution of the employment market of tertiary education graduates. Before 1988, the tertiary education system was featured for a unified job-assignment mechanism. In other words, the government was accountable for student-recruiting and job-assigning under a unified system. However, after 1989, this policy was shifted to “two-way choice” which was put into full implementation in 1997.

33. Currently, the employment system of tertiary education graduates adopts the practice according to which graduates freely seek their own employment and the government no longer assigns jobs. Moreover, a refined mechanism has emerged in which the two-way choice between graduates and employers is oriented by the market, supervised and adjusted by the government, and recommended by tertiary education institutions (TEIs).” The job market for tertiary education graduates becomes ever larger. Each year, local governments and employment agencies often organise large-scale job fairs participated by a multiplicity of employers and TEIs.

34. There is increasing pressure for tertiary education graduates to find employment in recent years, due to the expansion of tertiary education. For example, by September 1st 2005, the national employment rate for tertiary graduates was 72.6%. In such situation, TEIs laid more stress on providing guidance in job-seeking, helping graduates to adopt a proper attitude toward job-seeking and enhancing students’ entrepreneurship. In the past, state agencies, state-owned institutions and enterprises, foreign companies and joint ventures were the top choices of graduates. Concerning job location, they preferred large cities and metropolitan areas. Now graduates become more practical and do not mind considering median-and-small-sized enterprises, township companies and non top-notch state-owned institutions as desirable choices. Median-sized and small cities mostly located in mid-China and western regions are also welcomed by graduates. Alternatively, graduates can further their education either at home and abroad, which is none other than an ideal way of alleviating the employment pressure and creating better job opportunities in the

long term.

35. The survey and data analysis on tertiary graduate employment has shown the following characters:

1. There is a difference among the full-time employment rates of recent graduates by type of programs. By September 1<sup>st</sup> 2004, the graduate employment rate of vocational programs (including short-cycle programs) was 61%, graduates with bachelor's degrees 84%, and graduates with master's degree and above 93%. The graduates with diploma in short-cycle programs faced greatest difficulty in job-hunting. The difference in the graduate employment rates between the four-year undergraduate and short-cycle programs remained statistically significant. The graduate employment rate of vocational programs was higher than the previous year.
2. There remains to be an imbalance in job locations. Among the graduates who have found jobs, 55.6%, 24.6% and 19.8% were employed in eastern, middle and western China respectively. The percentage of graduates who chose to work in old industrial bases located in north-eastern region was 10%, and the number of graduates employed in old industrial bases in north-eastern and western regions was on the increase.
3. There is a remarkable difference among employers. Graduates who are employed by privately-run enterprises and joint ventures have grown in number. In 2004, as measured by the survey conducted in September, 2.03% graduates found jobs in state agencies, 15.73% in state-owned institutions, 8.65% in state-owned companies, 23.41% in privately-run enterprises and joint ventures, and 11.01% would further their education. There was a noticeable increase in the number of graduates who were employed by privately-run enterprises and joint ventures.
4. The attitude toward job-seeking has changed dramatically. A number of graduates have started their own small businesses or have taken flexible employment. The idea of self-employment and flexible employment upon graduation has been widely accepted. In 2004, there were 8 700 recent graduates who started their own businesses, which accounted for 0.31% of all graduates who successfully found employment. The graduates who chose flexible employment numbered 336 000, representing 12% of the total.

36. The Department of Students Affairs, MoE has conducted a research project, entitled "Analysis and Forecast on the Employment Situation of College Graduates", based on the graduate employment data in 2001 and 2002. According to their employment parameter table, an employment rate reaching 90% or above indicates that supply can not meet need of the job market; a rate between 70% and 90% means that supply and demand are in balance; while that from 50% to 70% suggests that tertiary graduates face pressure in getting employed.

37. Yet the demand on tertiary education is varied. Since the conditions of tertiary institutions, such as the quality of education, reputation, overall quality of students, are different among different institutions, and their positions in the labour market are also varied.

38. Significant difference in employment rate exists among different disciplines. According to the statistics on 2004 graduate employment data in colleges and universities affiliated to the MoE and other central ministries, engineering graduates enjoyed the highest employment rate while in 2003 the highest rate went to medical science, which reflected the impact of SARS (severe acute respiratory syndrome) epidemic. However, employment rate in engineering programs ranked 2nd that year. This suggests the

consistent acceptance and popularity of engineering discipline in the labour market. In 2004, the law discipline had the lowest employment rate and the education major was the most stable one, with a fluctuation rate of less than 1%. The biggest growth was experienced by the literature and history majors, implying an increasing demand on humanities and management majors than previous year.

**Table 3.1 A comparison of employment rates in 11 disciplines in 2003 and 2004**

Discipline Year	Phil.	Econ.	Law	Educ.	Lit.	History	Natural Science	Eng.	Agric.	Medical Science	Mgmt.
2004	85.59	85.74	79.10	81.40	87.37	89.60	88.68	91.55	91.08	86.92	86.66
2003	79.20	81.14	75.20	81.13	79.16	82.42	85.78	88.05	83.81	91.11	81.30

Source: "Analysis and Forecast on the Employment Situation of College Graduates" by the Department of Student Affairs, MoE

Note: The abbreviations of disciplines are as follows: Philosophy (Phil), Economics (Econ.), Law, Education (Educ.), Literature (Lit.), History, Natural Science, Engineering (Eng.), Agriculture (Agric.), Medical Science, Management (Mgmt.)

39. In 2004, highly-specialised and engineering disciplines saw their graduates atop the list of employment rate. Among them, the top ten were oil engineering, resource exploration engineering, exploration technology & engineering, aircraft design & engineering, criminal science & technology, port route and coast engineering, oil & gas pipeline engineering, primary school education (English subject), navigation technology, and optic information science and technology. For tertiary vocational program (including short-cycle programs), the top ten were ocean and ship, textile engineering, printing technology, automobile workmanship and maintenance, ship technology, civil construction technology and management, mechanical engineering and automation, road and bridge construction, water conservancy and water & electricity architectural engineering, and machine tool DCT (digital control technology). The employment rate of graduates from these programs was above 90%.

### **3.2 The relationship between the supply of tertiary education graduates and that of graduates from other sectors**

40. The market segmentation theory divides the labour market into major labour market and minor labour market. Major labour market is characterised by remuneration, better benefits, good working and in-service training conditions, seniority-based promotion, and more job security; on the contrary, minor labour market is known for low salary and compensation, poor benefits, few promotion and training opportunities, unsatisfying working conditions, and vulnerability to layoffs. Since the beginning of sustained enrolment expansion in 1999, the large-scale development of tertiary education has directly alleviated the employment pressure for secondary school graduates in minor labour market. Since the expected earning disparity keeps widening in the two markets, receiving tertiary education becomes the necessary condition for entering into major labour market. More and more workers of the minor labour market move to the major market. As enrolment expansion necessarily depends on the expansion of regular senior secondary schools, consequently, there emerges a shortage of students in secondary vocational schools. The time for graduate at lower educational level to enter into minor labour market was delayed.

41. While at the same time, vocational secondary schools begin to launch informal post-secondary training courses, namely, short-term vocational and technical training after regular senior secondary education. The course content is career oriented and covers basic theories and skills in various subjects. Under the principle of combining learning with working, a curriculum model has been developed, which values a comprehensive knowledge base and flexible course modules. In some cities of East China, secondary education has been widely popularised and its popularisation paves the way for post-secondary education and training, which in its turn will help answer the increasing demands on basic knowledge due to the shifting of production processes and positions, increase the education level of workers, improve the quality of vocational education, and alleviate employment pressure in the labour market. Such type of

education and training can flexibly cope with the change of supply-demand in the labour market, and optimise the match between the labour training and employment.

### **3.3 Influence of the government on the relationship between tertiary education system and labour market**

42. The Chinese government has paid considerable attention to the employment of tertiary education graduates. In earlier days, graduates were assigned jobs by the government; in 1985, the pertinent policy was adopted according to which, government provided guidance, students made choices according to their will, TEIs made the recommendations, and employers made the hiring decision. In 1989, the “two-way choice” system, which brought the competition mechanism into tertiary education, was on pilot stage. Since 1997, this policy has been on hold throughout China.

43. In 1999, the central government issued “A Circular on Achieving Better Employment for the Graduates of Regular Colleges and Universities in 1999”. In 2002, the government generated a policy which made it possible for Residency Registration files (Hukou in pinyin) and personal files of graduates who failed to find a job to be kept at the career service centres either attached to TEIs or at the provincial level. On May 28th 2003, a meeting of Standing Committee of State Council has as its theme the tackling and deployment of college employment. On June 30th, a television/telephone meeting was organised by the State Council on the same topic. At this meeting, the central government clarified governmental role, responsibilities and working directions in how to help graduates in job-seeking. A governing and operative mechanism has been launched to ensure the attention of governmental officials at various levels, the cooperation of related ministries, and specified responsibilities of provincial governments regarding the employment of TEIs graduates. Thus a policy framework of graduate employment has been set up and elaborated over the years.

44. The MoE brought forward 18 tangible measures to link the graduate employment with the development scale of tertiary education, program setup, educational assessment, and the like. With the purpose to improve the low employment rate of tertiary vocational graduates, the MoE and Ministry of Labour and Social Security jointly launched the “2003 Career Qualification Training Project for Tertiary Vocational Graduates”. In general, the consulting and service system catering to the graduates has had further improvement, and so has the consulting skills and quality. The graduate employment centres have made satisfying progress in aspects of institutional establishment, personnel recruitment, and fund allocation. The progress has also been seen in the employment service information networking. On June 13th 2003, the website of “China College Graduates Employment Service Information” was established. Tertiary institutions and local governments are taking efforts on the establishment of other similar websites. Web-based recruiting is emerging. By December of 2003, the employment rate of college graduates all over the country was 83%, 3% higher than that of 2002.

45. As early as in February 1994, the Ministry of Labour and Social Security and the Ministry of Personnel have issued a circular entitled “Regulations on the Vocational Qualification.” The aim of this regulation was to strengthen the scientific personnel management, protect public interests, and ensure the ordered functioning of the personnel system. In 1995, the Ministry of Personnel issues another circular “On the Vocational Certification,” which reiterated that certificates should be issued based on the principles of economic feasibility, social recognition, international standards, and public interest. When concerning the highly-specialised technical professions dealing with state and citizen’s life & property security, a professional qualification system has been established. According to the 1994 Labour Law and 1996 Vocation Education Law, the Ministry of Labour and Social Security set the vocational entry-level qualification requirement. In March 2000, the Ministry issued “Regulation on Recruiting Technical Workers.” From July 1st 2000, entry-level certificates are required in 90 professions. According to the regulation, would-be workers have to receive 1 to 3 years of training and obtain corresponding certificates

before starting work. The purpose is to improve workers' quality and enhance the re-employment skills of laid-off workers. Such regulation has imposed higher demands on tertiary education and training, contributed to their development, enhanced the marketability of trainees, and regulated the labour market of tertiary education. In November 2002, the Ministry of Labour and Social Security, the Ministry of Personnel, and the MoE jointly issued "A Note on the Further Promotion of Vocational Schools Certification," which encouraged college graduates to participate the qualification examination so as to further widen their employment opportunities.

46. Currently Chinese government pays more prioritised attention to expanding employment opportunities in the course of social and economic development. It continues with an active employment policy, allows the market to plan a full guidance function, adapts to the new changes in the demand and supply structure of the working force, steps up the government's social imperative to promote employment, improves the employment service system, and sets up an effective mechanism to enlarge employment opportunities. All these measures, to large extent, have facilitated a benign interaction between the tertiary education system and the labour market and in the end contributed to the healthy development of tertiary education.

### **3.4 Influence of international labour market on the tertiary education**

47. In the recent twenty years, the international labour market has expanded rapidly, accompanied by higher education levels of workers in the context of new economic system. In addition, the international labour market has been in the trend of diversification. All these changes present China with both new challenges and opportunities. The richness of human resources is the biggest advantage of China in the global economic system and such advantage has become more apparent since China's entry into the WTO. Though the WTO advocates the free flow of commodity and production factors in the global economic system and it strived to break down tariff and non-tariff barriers that hinder the free flow, but labour, one of the production factors, has never been included in free-trade framework. Thus China's advantage in the labour resources will be amplified and sustained for a long period in the globalisation of commodity and production factors. On the other hand, however, if society fails to create sufficient jobs for 10 million new workers entering the market annually, such advantage will backfire, leading to an enormous waste of labour resources.

48. The emergence of the international labour market requires countries to form and develop a labour market, increase its flexibility and resilience, ripen a career certification system, and set up the entry-level qualification system. Although China can create more job opportunities to a certain degree through labour export, such measure cannot possibly be the solution for employment difficulties. The overriding theme in the development of the international labour market is the cultivation and development of highly-skilled talents. Since China joined WTO, the internationalisation of employment and global competition in filling positions have risen to the surface. The competence building of human resource will play an important role in employment strategy. This translates into the fact that the transformation of China's social system, the training model of workers' skills, employment model, and tertiary education model have to cope with social changes. This makes it necessary for China to expand the scale of its tertiary education, adapt to modern scientific and technological advancement, and improve the quality of tertiary education graduates. The increasing demand of highly qualified workers in the international labour market builds a tangible connection between the employment of tertiary graduates and the reform of tertiary education. It will have a far-reaching impact on the development of tertiary education.



## 4. REGIONAL ROLE OF TERTIARY EDUCATION

49. Education plays a prominent role in fuelling regional development in aspects of culture, politics and economy. Therefore, the central government has formally imposed the task of facilitating regional role of tertiary education as an official requisite. While at the same time, the development of tertiary education and regional development need to be balanced, as sometimes there are dilemma and tension.

### 4.1. Regional consideration in national policies on tertiary education

#### 4.1.1 Regional factors affecting tertiary education

50. The main regional factors affecting tertiary education include economy, community and culture, among which economy is the most important.

51. Since the past 20 years when China initiated economic reforms and began to open itself to the outside world, a growing tendency towards regionalisation of economy and community has appeared. Some regions have grown into well-developed areas with strong regional characteristics, for instance, “the Yangtze River Delta Area”, “the Zhejiang River (Pearl River) Delta Area”, and “the Area of Beijing, Tianjin and Hebei.” The developmental level of regional economy, which exerts direct influence on tertiary education in aspects of developmental scale and speed, educational standards, financial input, and faculty quality, etc, is the first consideration when planning tertiary education. In accordance with economic and social demands, particularly with regional needs, the central government sets overall plans, approves establishment of tertiary education institutions (TEIs), and formulates program regulation. As stated in *the 9th Five-year Plan for China's Educational Development and the Development Outline by 2010*, according to the level of economic development and the bases of educational development, the whole nation is divided into three zones, i.e. the eastern coastal zones, central zones and western poverty zones, each under different development guidance.

52. Furthermore, social and cultural factors are closely linked with the economy factor. A region's economic development level is a determinant factor in residents' purchasing power and consumption structure. As a result, this will bear upon the level of socialisation and culture. Well-off regions enjoy a sound social institutions and cultural infrastructure. Thus the provision of tertiary education in those regions is better guaranteed; local communities and the public channel more into tertiary education. For example, in Jiangsu Province, which is located in East China, the 2004 survey sampling 4,600 households found that the per capital dispensable income had reached RMB10,481.90 and the per capita expenditure was RMB7 332.30.<sup>7</sup> A developed economy and relatively higher per capital dispensable income have endowed local residents with rather strong financial capacity, need, and desire to invest in tertiary education. As the result of social, cultural and economic advancement of Chinese people as a whole, the capability of the nation and the whole society in funding tertiary education has gradually strengthened and citizens have had an even stronger hope than before in receiving tertiary education. However, disparity is still in existence among different regions.

#### 4.1.2 Regional consideration in the national financial appropriation system

53. In recent years, since the government has laid particular emphasis on tertiary education and with the collective support from various sectors, the tertiary education system has received sizable funding

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<sup>7</sup> National Bureau of Statistics of China: *2004 Economy and Social Development Statistics of Jiangsu Province*, [http://www.stats.gov.cn/tjgb/ndtjgb/dfndtjgb/t20050208\\_402229511.htm](http://www.stats.gov.cn/tjgb/ndtjgb/dfndtjgb/t20050208_402229511.htm), (accessed 2006-01-28)

increase. From 1998 to 2002, the central financial system had appropriated additional money, mainly for tertiary education, at an annual rate of 1% increment, which had accumulated to an increase of RMB48.9 billion compared with that of 1997. In terms of regional distribution of tertiary education funds, it is shifting gradually from an unbalanced distribution to a balanced one. Looking back at 1990s, it was found that the tertiary education expenditure in eastern zones was much higher than that of central zones and western zones. And the investment in tertiary education showed a ladder distribution, going from the lowest in the west to the highest in the east. To this issue in the twenty-first century, the government has made appropriate adjustments and showed preferential funding policy towards underdeveloped western regions.

54. During the period of the 10<sup>th</sup> Five-year Plan, the government has implemented the “Education Development Project for the Western Zone” in accordance with the national strategy of invigorating the western regions. The government strengthened the guidance and planning, and adopted a series of preferential policies and appropriations to western regions. The 2004 public current expenditure per student of national regular higher education institutions (HEIs) was RMB5,552.50, 3.81% lower than previous year (RMB5,772.58); the 2004 public operational expenditure per student was RMB2,298.41, 2.29% lower than previous year. But the above two figures showed substantial increase in some western provinces, especially Shanxi, Ningxia Autonomous Region, and Qinghai. Ningxia has gained the fastest growth in terms of public current expenditure per student, which was 22.07%; and as highest as 245.49% increase in terms of public operational expenditure per student occurred in Shaanxi Province.<sup>8</sup>

55. In addition, the central government has launched an exclusive funding programme to help western provinces (autonomous regions and the city directly under the jurisdiction of central government) build a group of key universities. “A Supportive Plan Geared to Higher Education Institutions of Western Regions” has been put into implementation. A “Development Fund of Higher Education Institutions in Central and Western Regions” has been launched as well, targeting particularly at rural students and offering sizable subsidies and interest-free loans to TEIs which have contributed largely to the transfer of rural population.

#### ***4.1.3 Demands of the government and tertiary education***

56. Under the policy principle of “Co-building”, “Adjustment”, “Cooperation” and “Annexation”, the government has readjusted the geographical structure of TEIs so as to streamline tertiary education in the following aspects: service orientation, types and levels, and layout of disciplines. Educational policies and measures have been made and implemented to rejuvenate the old industrial areas in northern-eastern regions, facilitate the sustained development of central zones, push for the realisation of educational modernisation in well-developed eastern zones, and strive for the coordinated development of all those regions. In addition to build a batch of comprehensive and multi-discipline universities, the government has taken effort in boosting the development of vocational and technical colleges and multi-functional community colleges. The government also encourages regions and cities in a better condition to establish a tertiary education system, of which the vocational & technical colleges constitute the major part. In metropolitan areas, where there are few TEIs, especially institutions offering bachelor-degree programs, the local government has lent extensive support to develop bachelor-degree institutions which cover a wide range of programs accommodating local economic and social development.

57. To ensure a balanced development among eastern and western regions, the government has adopted preferential fund allocation and policies to western regions. Among these policies are 2-year pilot programs in practical higher vocational and technical education in western regions, training workers who are willing to stay in western regions and whose knowledge and skills can be put to full use, intensifying

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<sup>8</sup> Ministry of Education: <http://www.moe.edu.cn/edoas/website18/info17959.htm> (accessed 2006-01-10).

the support to the training of the most-needed workers, and supporting the construction of high-level universities and teacher-education institutions in western provinces.

#### ***4.1.4 National policies on cooperation between tertiary education and regions***

58. In order to set up the co-operation between TEIs and industries, and between government and civil society, both the central and local governments provide TEIs with effective support to collaborate with enterprises, especially hi-tech companies and to set up engineering-technical centres located either on campus or in a company venue. Governments organise experts from various disciplines to tackle key problems of a common nature facing enterprises and to actively accelerate the application and dissemination of scientific and technical research achievements. While at the same time, local governments have been given more authority in the governance of TEIs and local communities are motivated to join in decision-making for tertiary education. The tangible measures taken by central government are as follows:

59. First measure is to establish university science/technology parks (STPs), whose open science-tech incubator bases encourage teachers, researchers and postgraduates to co-operate with enterprises in the application of scientific and technical findings. The second measure is increasing the participation of local governments, who are encouraged to exert influence on TEIs through “co-building.” The provincial governments have been authorised to approve the establishment of TEIs offering 2-3 years programmes and vocational-technical TEIs. Third, TEIs and local governments work together to train high-level talents of a practical type, for instance, joint masters and doctoral programmes, high-level certificate programmes for employees from local institutions and enterprises, and enterprise-based post-doctoral programmes. Fourth, greater efforts will be put into the development of higher vocational-technical education and the enhancement in development of hands-on ability and vocational skills in vocational colleges. The State Council has decided to continue building vocational training centres, wherein the government invests in key professional disciplines to set up 2000 vocational training centres with well-equipped and shared resources. During the period of the 11<sup>th</sup> Five-year Plan, the total investment of central government budget to vocational education will reach RMB10 billion, focusing on the establishment of those centres, upgrading instruction facilities, and supporting students from financially-challenged families to receive vocational education. At the same time, the “Project of Career Qualification Training for Tertiary Vocational Students” has been carried out in order to create healthy conditions for graduates to find employment or start small business on their own. The fifth measure is to promote the role of the community, and accelerate the construction of life-long education so as to form a learning society. Community education is delivered in the main both through community colleges and through various forms of “learning organisations” to provide non-degree, vocational education and training in formal, informal, non-formal approaches.

#### **4.2 Impact of national tertiary education policy on tertiary Education institutions**

60. The national tertiary education policy, as a whole, has improved the tertiary institutions with regard to their service orientation, types and levels, and demographic distribution, etc, resulting in more interactions between eastern and western zones and a coordinated development of central zones driven by these interactions. In recent years, the economically-advanced eastern zones have set up a new batch of higher vocational-technical colleges and independent colleges affiliated to four-year institutions, and which intend to cater for the needs of local economic development. As result, a number of specialised technical workers are trained to meet regional needs. Furthermore, the eastern zones have launched cooperation with central zones, taking Beijing and Tianjin as core cities, implementing the collaborative education project of Bohai Sea circle. The Bosa circle refers to the economic area which covers the massive costal areas surrounding the whole Bohai Sea and part of Huanghai Sea. It includes Beijing, Tianjin, Liaoning, Hebei, Shanxi, Shangdong and central Inner Mongolia, totalling five provincial areas (including one autonomous region) and two municipalities. The collaborative project of Bahai Sea circle will enable this economic area

to compete with “the Yangtze River Delta Area” and “the Zhejiang River (Pearl River) Delta Area”. To address the relative shortage of tertiary education resources in central and western zones, the government has made strenuous effort to help these regions build and develop TEIs and consequently many medium and small sized cities located in less developed regions have at least one TEI. These cities are encouraged to develop tertiary vocational-technical colleges, community colleges, specialised colleges and distance education institutions in various forms, link the local economic development with tertiary education, take full use of regional advantages and characteristics, cope with the adjustment and upgrading of industries, and answer the needs of local new business. The national strategy of the massive development in western regions has created a favourable policy and funding environment for the development of tertiary education in those regions. There have emerged a number of tertiary education centres represented by cities such as Xi’an, Chengdu, and Chongqing cities as well as many TEIs with nationwide influences. The TEIs’ capacity of developing high-level talents and scientific/technical innovation and services has been enhanced at the same time. According to the statistics of June 2004 from the Ministry of Education, the demographic distribution of TEIs is as follows: 76 TEIs in Beijing Municipality, 40 in Tianjin Municipality, 87 in Hebei Province, 55 in Shanxi Province, 31 in Inner Mongolia Autonomous Region, 71 in Liaoning Province, 41 in Jilin Province, 60 in Heilongjiang Province, 57 in Shanghai Municipality, 103 in Jiangsu Province, 66 in Zhejiang Province, 74 in Anhui Province, 53 in Fujian Province, 57 in Jiangxi Province, 87 in Shandong Province, 82 in Henan Province, 84 in Hubei Province, 81 in Hunan Province, 93 in Guangdong Province, 49 in Guangxi Zhuang Autonomous Region, 12 in Hainan Province, 35 in Chongqing Municipality, 67 in Sichuan Province, 35 in Guizhou Province, 37 in Yunnan Province, 4 in Tibetan Autonomous Region, 62 in Shaanxi Province, 31 in Gansu Province, 12 in Qinghai Province, 13 in Ningxia Hui Autonomous Region, and 28 in Xinjiang-Uigur Autonomous Region.

61. The national tertiary education policy has promoted the cooperation between TEIs and local communities. Community education has gained progress in well-developed eastern regions. Taking Beijing as an example, it currently has community colleges (or equivalents) and educational centres located in street community all over the 18 districts and counties, eight of which has set up a three-level community education institutions, namely, community colleges, community education centres, and residents’ school. According to the statistics of 2003, the number of students receiving tertiary education at community colleges was 20,230 and the number of students receiving non-formal education and training totalled 78,068 (person-time).<sup>9</sup> Experimental community education has been started in central and western regions.

### **4.3 Regional development and the tertiary education**

62. For tertiary education to better serve the community, the government has created a favourable policy environment for talent development. However, there exist certain conflicts between tertiary education and regional development as evidenced by the dilemma between serving regional development and tertiary education development per se.

#### ***4.3.1 Tensions between regions and tertiary education***

63. In recent years, China’s tertiary education has made valuable contribution to regional economic development and has fostered a number of qualified workers. 90% graduates from local TEIs are employed locally and a number of graduates from national TEIs find employment in cities where their colleges and universities are located in the vicinity. In short, all types of TEIs have close connections with the cities where they are located and these TEIs have benefited local economy.

64. However, since TEIs of all types and levels have different objectives, ideas and service

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<sup>9</sup> Guangming Daily, *Community Education acting as Midwifery for Learning Community*, [http://www.superschool.net/Info\\_Print.asp?InfoID=20/2006-05-06](http://www.superschool.net/Info_Print.asp?InfoID=20/2006-05-06) (accessed 2006-5-6)

orientation, the education services they provide are not always in accordance with the needs of local development. A conflict is inevitable. In term of types, there are part-time education such as correspondence education, adult education, and continuing education, and full-time education offered by specialised college, comprehensive universities, and key universities. While in terms of levels, there are non-formal education and training in various forms and formal education including short-cycle, undergraduate and graduate programs. Diversified ideas, objectives, and service orientation are found among these TEIs and they may fail to accommodate the local demands. For instance, there is a structural mismatch in qualifications and types of talents. A conflict between the scientific/technical innovation and the local technical needs has also been observed. Especially in educational quality and international competitiveness, the conflict is more marked. The trend of a homogeneous educational model, especially the shared emphases on comprehensiveness and high quality, has driven TEIs of all types and levels to improve educational quality along international standard so as to boost their edge internationally. The current phenomena, such as the wave of building world-class TEIs, and upgrading and renaming TEIs, have demonstrated the institutions' efforts to improve quality and aim at high-level institutions. On the other hand, local regions need and prefer workers of a more practical type and more applicable scientific/technical findings. Therefore, conflicts are inevitable.

65. It is beyond question that TEIs shall serve regional development, which is a demand as well as a condition of obtaining funds and resources. Taking tertiary education governed by Beijing municipal government as an example, the total capital construction investment to TEIs of all types and levels reached RMB 1,746.79 million in 2004. The government budgetary investment was RMB 473.83 million, of which RMB 29.50 million came from the central government and RMB 444.33 million from Beijing Municipality.<sup>10</sup> The above figures show that the Beijing Municipality's investment accounts for 93.77% of the total funds. Colleges and universities, especially those affiliated to the Beijing Municipality, have launched many applied programs to meet local needs, such as computer science and software, international business and specialised English, modern logistics management, business administration, etc. When concerning national TEIs, their development depends much on local economic support as well. TEIs, one after another, link their programs with local economic development, industrial structure and science/technology needs, and also adjust their education objectives, programs and major structure and curriculum. A batch of programs answering the urgent demands of regional development and local market has been prioritised. For instance, colleges and universities in western regions have developed programs like ecological engineering, technical engineering, transportation, agriculture and forestry whereas in eastern regions, English, computer, and business administration are in the vogue.

#### ***4.3.2 Geographic structure of tertiary education***

66. The geographic distribution of TEIs remains unbalanced due to the varied regional development level. In 1949 when the People's Republic of China was founded, most TEIs were located in major cities like Shanghai, Beijing, Tianjin, Guangzhou, and Wuhan, while tertiary education in western regions lagged behind. In 1952, the government started a nationwide restructuring of colleges and universities based on the principle of balancing regional development. Between 1949 and 1970, consequently, many colleges and universities had been set up in the hinterland, somewhat alleviating the unbalanced development of tertiary education. Since the policy of reform and widening-up by the end of 1970s, with the autonomy of the local governments being enlarged in administering education, the gap among provinces and regions has been widening since then. Since the 1990s, the regional role of tertiary education has received the shared attention of the academia and educational authorities. Under the macro-policy guidance of the central government and overall planning and coordination of provincial governments, the tertiary education distribution has experienced another significant restructuring. The current structure and distribution of

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<sup>10</sup> China Education Statistics Year Book (2005), *2004 Provincial Investment on Basic Construction for Local School at all levels*, Beijing.

tertiary education is based on this restructuring.

67. During the restructuring, the government has taken two approaches: the first was to optimise the trans-provincial distribution. According to the outline of the massive development of the western regions, the developmental priority was given to central and western regions so as to achieve a faster development in these regions; the second was to optimise the distribution of TEIs in large, medium and small cities. In large cities where there is a concentration of TEIs with bare differences from others, merging and takeover were adopted so as to improve quality and efficiency. In medium-sized cities, the focus was placed on tertiary vocational-technical colleges closely connected with local social and economic development.

68. The restructured regional distribution of tertiary education ensures its balanced development. This is of great significance in promoting regional economic development, reducing the gap between the advanced and less advanced regions and the gap between the eastern and western regions, enhancing the integration of educational resources, tapping human resources, and helping with the accumulation of highly qualified human capital of China. However, when talking about the demographic distribution of TEIs, the fact is still that the eastern coastal regions and central China have more TEIs than western regions. This unbalanced situation is caused by regional economy level, geographic conditions and historical factors on one hand, and varied regional demands on the other hand. On the current stage, objective situations determine the varied geographic distribution.

#### **4.4 Related policies of tertiary education on the promotion of regional development**

69. Since the 1980s when China initiated the efficiency-oriented development policy, the eastern and costal regions have gained significant economic progress. In the strategy of massively developing western regions initiated at the end of the twentieth century, the development of human resources is on the top agenda. The government proposes the policy of “retaining talents and put them into full play”. A mechanism conducive to the western science-tech and educational development of western China has been formed.

70. The important role of tertiary education in regional economy development can be demonstrated by the cultivation of high-quality talents, promotion of science and technology, creation of sound cultural environment, and influence upon regional economic operation through factors such as the personnel, science and technology, market, economic policy and organisation. The overall aim is to meet the needs and demands of regional economy and labour market. Specific aims of tertiary education development are: emphasise the application and promotion of technologies and the training and consulting service of the personnel; develop the interconnection among the region, industries, and research institutes so as to establish cooperation of education, research, and production in various forms; set up independent or joint scien-tech enterprises so as to turn research results into products in due course; organise quality research team doing basic and applied researches, undertake state key scien-tech research projects and the task of developing high technology; build a batch of key disciplines, national key laboratories and engineering research centres in TEIs with desirable conditions under the overall planning and support of the government.

## 5 THE ROLE OF TERTIARY EDUCATION IN RESEARCH AND INNOVATION

71. Tertiary education institutions (TEIs) of all types and levels place particular emphasis either on teaching or on research due to their remarkable differences in aspects of internal conditions, targeted students, and research capabilities. On the whole, however, science & technology (S&T) research and development in TEIs have become an important part of the national innovation system.

### 5.1 Teaching and research in tertiary education

72. There is a wide spectrum in terms of the proportions devoted to research and teaching respectively among more than 2 000 TEIs in China, all serving the function of education, from research universities, which mainly aims to develop academic researchers, to vocational-technical colleges, which produce technical professionals with hands-on abilities. Faculty of both types of TEIs generally has to take the responsibilities of both researching (including S&T services) and teaching at the same time.

73. Each TEI has its own teaching plans, rigorous procedure of teaching activities and quality control regulations. Accordingly each TEI implements scientific administration and management of teaching. As stated in *Higher Education Law*, teaching plans are supposed to be made by TEIs. Under the guidelines of general purposes and standards of education formulated by the state, TEIs determine their own philosophy, principles, objectives, schooling years, schedule of teaching activities, programmes and curriculum and their implementation details, as well as rules of specific teaching plans. At the micro-level, colleges and departments organise their faculty to develop collegial or departmental teaching plans in line with the rules of TEIs. Generally speaking, teaching plans will come into effect after being approved by the internal academic committee of TEIs.

### *Research in tertiary education*

74. Research, education and service are the basic three functions of TEIs. TEIs fulfil the task of education, while at the same time actively conducting research in diverse forms as well as serving socio-economic development. Some TEIs have laid equal emphasis on teaching and research, others have gradually transformed into research universities, focusing on training researchers. In 2004, 64%, 60%, and 55% of the National Nature Science Awards, the National Technology Innovation Awards, and National Science and Technology Progress Awards respectively were won by TEIs.

75. TEIs of various types and levels are the backbone of Chinese scientific research. The research institutes established inside TEIs are known for their long-term presence of research capabilities and unique features, some of which are domestically or internationally renowned national key research bases. TEIs co-operate with other research institutions, industry, local governments, and administrative organisations through establishing research units, S&T parks, and turnkey combo which integrate scientific research production and business operations.

76. Building strength and distinctive features in scientific research is the strategic focus of TEIs, which pinpoints the direction of their future development as well. It is also the working emphasis in launching research programs, talents education, construction of key disciplines, development of key R&D bases and serving socio-economic development in general. Each TEI make studious efforts in developing their own advantages and featured research fields and thus becoming important bases of China's research and talent education.

### ***The balance between teaching and research***

77. Teaching and research are interdependent and complementary. Teaching leads to productive research and research promotes quality teaching. The improvement of research level will result in the improvement of teaching quality. The high-level, high quality and comprehensive talents will be an impetus to S&T progress. The enhancement of teaching quality is contingent upon the upgraded research level.

## **5.2 Research funds in tertiary education**

78. The research funds in tertiary education come largely from the government, governmental research foundations, enterprises social endowment. A system capable of pooling resources from diverse channels at varied levels has been gradually established.

### ***5.2.1 Sources of funds***

79. The research fund from the central government is allocated to TEIs mainly through the research foundations at ministerial level and R&D organisations directly under the control of the State Council, including National Natural Science Foundation of China (NSFC), the Ministry of Education, the Ministry of Science and Technology, the Ministry of Agriculture, the Commission of Science Technology and Industry for National Defence, the Ministry of Health, Chinese Academy of Science, and Chinese Academy of Social Science, etc.

80. In 1982, the State Council provided additional research funds to the key TEIs affiliated with central ministries and organisations. In 1985, the additional funds began to be earmarked for doctoral programmes of TEIs. In order to accelerate S&T system reform and revamp the modes of funding research, the State Council approved the establishment of National Science Foundation of China in February 1986. Grants of various foundation channel into research programmes of different levels and categories. For instance, NSFC's research programmes are divided into general programmes, key programmes and major research programmes, etc. General Program is the main part of the National Natural Science Fund, exceeding 60% of NSFC's total budget. It includes three sub-categories, namely, Free Application Projects, Projects of Young Scientists Fund and Projects of Fund for Less Developed Regions. Meanwhile, the supporting targets and requirement of applicants' qualifications are varied according to different categories and levels. In 1986, the State Council and the Communist Party of China approved the *Outlines of National High-tech R&D Program* (863 Program) which defined the roles of government and enterprises. Specifically, the government takes leading responsibilities whilst enterprises are encouraged to participate in the Program. In 1991, the National Planning Office of Philosophy and Social Sciences was founded and one of its division—Foundation Department—was responsible for managing and allocating national funds for social sciences and supervising the use of them. The National Social Science Foundation concentrated on supporting young researchers and research programs targeting at remote and minority areas. It has three types of granting programs, namely, key program, general program, and youth program, all of which are under annual and assessments. In 1997, the Ministry of Science & Technology decided to formulate the “*National Plan on Key Basic Research and Development*” and organise the implementation of the “*National Program on Key Basic Research Program* (973 Program)”. With a view of meeting the demands of national social, economic, and S&T development, the 973 Program follows a year-based management pattern in which the duration of research programs are 5 years as a rule.

81. In addition to government-allocated funds, TEIs collect non-governmental funds through S&T services, technology transfer and consulting contracts with enterprises.



### 5.2.2 Governmental and non-governmental funds

82. Current research funding of TEIs have shifted from the government budget appropriation taking the major part to the combination of governmental and non-governmental sources. The non-governmental research funds exceed government appropriation in some TEIs of natural science and engineering. In 2003, most of the research funds came from NSFC, 973 Program, 863 Program, and Key Technologies R&D Program, plus local governments, organisations and enterprises through outsourced or contracted research programs (ORPs). With the deepening reform and ever-intensifying competition, the number of outsourced research programs by organisations and enterprises has been on the increase and ORPs have finally become an important source of research funds for TEIs. Details are indicated in Table 5.1:

**Table 5.1 2003 National TEIs R&D Funds In RMB 10,000 yuan**

	<b>Total</b>	<b>Gov. appro.</b>	<b>Funds through ORPs</b>	<b>Others</b>
<b>Total</b>	<b>25333773</b>	<b>11710024</b>	<b>10857066</b>	<b>2766683</b>
<b>In terms of levels</b>				
Key TEIs	17398333	8365818	7385361	1647154
General TEIs	7779150	3286183	3407320	1085647
Speciality TEIs	156290	58023	64385	33882
<b>In terms of affiliation</b>				
TEIs affiliated with Ministries	3824207	2567736	1005332	251139
TEIs affiliated with MoE	13404965	5711871	6313630	1379464
Local TEIs	8104601	3430417	3538104	1136080
<b>In terms of types</b>				
Comprehensive TEIs	6364390	2995471	2808236	560683
Engineering TEIs	15443667	6400411	7475233	1568023
TEIs of Agri. and forestry	1358004	1025840	170156	162008
TEIs of medical science	1021512	656795	150292	214425
TEIs of Teacher Educ.	985252	552926	201055	231271
Other TEIs	160948	78581	52094	30273

Source: "China Education Statistics Year Book," 2004, page 114.

### 5.2.3 Funds appropriation policy and methods

83. In March 1985, the central committee of the Communist Party of China (CPC) pointed it out, in "*Decision on Science & Technology System Reform*," that basic research and some applied research programs should be financed mainly through R&D foundations on a gradual and experimental basis. Research institutions conducting basic research and basic applied research shall strive to rely chiefly on funding they have successfully applied for within a few years. This document has clarified the reform direction for foundation-funded research, bid-based research, and contracted research. From 1985 to 1992, China S&T had experienced a system reform which mainly focused on two aspects, namely transforming the R&D funding system and tapping technology market. The purposes of this reform are to improve the operating mechanism and strengthen the close links between economy and S&T.

84. Since the implementation of the 9<sup>th</sup> Five-year plan, the Chinese government has increased its input in TEIs with a view of bettering tertiary education. Two examples of the massive inputs were the "211 Program" launched in the beginning period of the 9<sup>th</sup> Five-year plan and the "985 Program" started in 1998. The governmental funds for TEIs' R&D soared respectively between 1997 and 2000. In 1997 there was an increase of RMB 1.06 billion Yuan compared with 1996; and in 2000 the increase reached RMB 4.83 billion Yuan compared with 1999, 98% higher than the previous year. Since 2000, more than

50% of research funds of TEIs have come from the government. The 2003 governmental research funds totalled RMB 16.48 billion Yuan.

85. In recent years, TEIs' research funds have undergone a rapid growth. The real growth rate was 13.2% per year between 1991 and 1999 while the amount of funds doubled between 1999 and 2003 at an annual growth rate of 25.2%. When comparing three major bodies of institutions conducting R&D activities, during the five years between 1999 and 2003, TEIs had gained fast growth and its real growth rate was a bit lower than that of enterprises (28.7%) and much higher than that of other independent research institutions (10.2%). The fast growth of TEIs' research funds added impetus to the overall increase of national R&D funds.

86. The governmental R&D fund was RMB 29.2 billion Yuan in 2000 and climbed to RMB 46.06 billion Yuan in 2003, accounting for 29.9% of national R&D funds. 89% of governmental funds went to TEIs and other independent institutions, 4% higher than 2000. 10% of governmental funds supported researches conducted by enterprises, 2% lower than 2000. 80% of research funds for research institutions were allocated by the government, while for TEIs the figure was 54%. There is a tendency that TEIs and independent research institutions are preferred of governmental funds.

#### **5.2.4 Prioritised research**

87. The research in Chinese TEIs has paid equal attentions to the following relationships: scientific research and technical development, basic research and applied research, theoretical research and technology transfer, and natural science research and philosophical and social science research. Their S&T development and social services are featured for being in the frontline of economic development, integration with practice, integration of research, education and production, and their extensive connections with social forces.

88. Looking back on the historical development of major industrial countries, the investment for R&D fits in within a certain range of statistical figures in a certain stage of industrialisation. For instance, the first stage is characterised by the government-dominant model, in which the R&D investment is around 1.5% of GDP; in the second stage, R&D phases into government-enterprises dominant model and finally into enterprises-dominant model. In terms of total investment scale, R&D investment is around 2.0% of GDP. In recent years, the Ministry of Education has gradually set up policies and strategies in favour of basic research so as to carry out original, perspective and pioneering basic research closely connected with the nation's needs, starting with basic disciplinary build-up, talent training, and platform support.

89. For many years, TEIs have undertaken a great deal of national-level basic research programmes and their basic research funds as proportion of national research funds has been hiked up gradually. In 1996 the proportion was 36.8% and increased by 2% point in 2000. From 1998 to 2003, the 973 Program established 157 research programs among which TEIs had 81 programmes, accounting for 51.6% of the total. In 2000, TEIs undertook 27 732 general programs of NSFC, representing 75.23% of the total number of NSFC programmes, and the programs funds reached RMB 460 million Yuan, 73.69% of the total. Also in the same year, TEIs undertook 34 key programs, accounting for 62.96% of the total, and key programs totalled RMB 37 million Yuan, i.e. 61.19% of the total. Among the 25 research programs under the "973 Program" launched in 2003, 15 of them were undertaken by TEIs.

90. Furthermore, TEIs actively take part in applied research of philosophy and social science, with the purpose to serve the government on scientific decision-making; to serve the reform, opening-up and modernisation. The development of relevant disciplines *per se* is yet another result of such involvement. Researchers in TEIs participate in researches targeting the reform of economic system. They provide important theoretical support and policy recommendations during the process of building market economy

system with Chinese characteristics; take part in state legislation and propose valuable suggestions on judiciary reform.

### **5.3 Mechanism for research and innovation**

91. In recent years, TEIs have formed a new system and mechanism conducive to research and innovation. The evaluation and assessment of research have been improved and refined, shifting the emphasis of assessing criteria from quantity to quality, from research papers to a combination of research papers and patents, from research achievements to both achievements and their transfer.

92. Chinese TEIs actively collaborate with their international counterparts, such as foreign universities, research institutions, and the R&D departments of multi-national companies. They are involved in research programs of international importance and become an international player. TEIs work hard to standardise disciplinary construction and enhance research capabilities under the direction of synergising disciplinary orientations, integrating research teams, and building disciplinary bases.

93. Through optimising S&T resources and restructuring unbalanced distribution, TEIs have set up a number of layered and open key research bases to support basic scientific research. Currently, half of the six national laboratories and 113 of 183 national key laboratories are located in TEIs. In addition, TEIs own 82 national engineering research (technology) centres and 50 national university parks. These key research bases act as a platform and safeguard the intensification of modern S&T organisational structure and the integration and growth of interdisciplinary research.

94. TEIs actively participate in the construction of national innovative system; devote themselves to the overall planning and structural adjustment; vigorously take part in the education of innovative talents and teams; carry out basic research and strategic hi-tech research closely attached to national objectives; launch explorational basic research programs; provide the society with public S&T products and services; establish regional R&D centres so as to lift regional innovative ability.

95. Since 2003, the MoE launched the “Plans for the Prosperity of Philosophy and Social Sciences of Higher Education Institutions” which consisted of six programs and ten measures. The six programs are: planning of major projects, planning of building key research base, talent education and awarding programs, quality scholarship awards program, education reform of social sciences, and infrastructure and information technology construction programs.

### **5.4 Research in TEIs and other independent research institutions**

96. Scientific research in China is mainly undertaken by independent research institutions/institutes (governmental research agencies), higher educational institutions, enterprises and other non-governmental research institutions. In terms of funding sources, the input of the government has played a bigger role than that of enterprises over the long run. The central government has provided the lion’s share of government input in research. However, from 1995 to 1999, the proportion of central government’s funding in R&D had dropped down from 71.25% to 65.38% while the proportion of local government’s funding had increased from 28.75% to 34.62%. During the same period, the proportion of the central government S&T appropriation in its total expenditure had decreased from 10.78% to 8.6%. This implied that the growth rate of government S&T appropriation was lower than that of . The corresponding figure of local Government S&T appropriation increased from 1.8% to 2.1%. In 2002, the financial allocation on R&D kept the growing tendency which amounted to RB 81.62 billion Yuan, 16.1% higher than previous year. There was little difference of government S&T appropriation as proportion of national expenditure in 2001 and 2002, remaining at 3.7%. In recent 10 years, especially since the “9th Five-year plan”, the government has increased the financial input on R&D; the appropriation has showed great increase in these years except in



### 5.4.1 Research funds in TEIs

97. In the past ten years, as the implementation of a series of policies and measures like “211 Program” and “Action Plan for Invigorating Education”, the development of China’s tertiary education has made big strides (see Table 5.5). At the same time, TEIs’ R&D capability and competitiveness has achieved great enhancement and so has the research funds from various channels.

**Table 5.5<sup>14[4]</sup> Higher Education S&T Funding Data 100 million Yuan**

Sources of funding	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total amount	49.5	56.5	73.1	85	102.9	166.8	200	247.7	307.8	391.6
Government	22.1	25.8	36.5	41.1	49.2	97.5	109.8	137.3	164.8	210.6
Business				36.77	53.24	55.45	72.46	89.58	112.6	148.6
Financial loan	1.17	.83	.71		.45	1.38	.97	1.3	1.5	1.3
Others				7		12.5	16.7	19.5	28.9	31.1

Note: S&T funding refers to all funding used for S&T activities and collected through various sources. In China, S&T activities include R&D, application of research results, and S&T services.

### 5.4.2 Research funds in research institutions

98. Since 1985 when China began the reform of the S&T system, double review has been in place in dispensing the funds appropriation. First, government agencies collect research proposals and send to officials or experts for preliminary review; and next, suggestions generated by the preliminary review will be examined and reviewed by 5-7 authoritative experts. The final decision on granting or delayed granting will be based on peer review and assessment. Researchers have the freedom to decide on how to use the research funds along relevant guidelines after getting the approval.

99. In general, as indicated in Table 5.6 and 5.7, the total amount of research funds for state-owned research institutions was higher than that for higher education institutions.

**Table 5.6<sup>15[5]</sup> Data on National Research Institutions: S&T Funding Data by Source 100 million Yuan**

Sources	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
R&D Expenditure	146.4	172.9	206.4	234.3	260.5	258	288.5	351.3	398.99	431.7
Government								277.5	320.1	344.3
Business								17.3	20.81	22.4
Overseas								3.3	1.73	2.64
Others								53.2	56.12	62.38

<sup>14[4]</sup> <http://www.sts.org.cn/KJNEW>, China Science and Technology Statistics: Data Book

<sup>15[5]</sup> <http://www.sts.org.cn/KJNEW/maintitle/MainTitle.htm>, 中国科技统计/中国主要科技指标数据库。

**Table 5.7<sup>16[6]</sup> Data on National Research Institutions: S&T Funding Data by Government Affiliation 100 million Yuan**

By affiliation relation	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
R&D Expenditure	146.4	172.9	206.4	234.3	260.5	258	288.5	351.3	398.99	431.7
Affiliated with central ministries		161.6		204.9	225.6	231.3	265.4	325.3	371.1	399.1
Affiliated with local governments		113.4		29.4	34.9	26.7	23.1	26	27.88	32.64

Note: R&D refer to, in the field of S&T, systematic and original activities with the purpose of creating knowledge and applying new knowledge. R&D includes basic, applied and experimental researches. The expenditure on R&D is the internal spending of surveyed institutions on R&D activities (the above three types of activities) within the surveyed period. It includes the direct spending on R&D programs and indirect spending on administration, service, relevant basic infrastructure, and outsourced service. It excludes production cost, loan payoffs, and transferred spending to collaborative or entrusted institutions.

### 5.4.3 Sources and allocation of research funds

100. Due to the deepening of reform and intensified market competition, China's R&D structure has experienced significant changes in recent years. Enterprises are becoming the major investor in R&D, as the percentage of their expenditure on R&D among the national total has grown over the years.

**Table 5.8<sup>17[7]</sup> National R&D Expenditure and Personnel Indicator**

Indicator	unit	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
R&D expenditure	100 million Yuan	348.69	404.48	509.16	551.12	678.91	895.7	1042.5	1287.6	1539.6	1966.3
Real growth than previous year	%	.6	9.52	24.86	10.9	25.95	30.69	15.04	23.77	17.23	
R&D expenditure per capita	10,000 Yuan	4.64	5.03	6.13	7.3	8.26	9.71	10.9	12.44	14.06	17.1
R&D expenditure /GDP R&D	%	.57	.57	.64	.65	.76	.9	.95	1.07	1.13	1.23
R&D personnel	10,000 FTEs	75.17	80.4	83.12	75.52	82.17	92.21	95.65	103.5	109.48	115.26
Scientists and engineers (S/T)	10,000 FTEs	52.2	54.8	58.87	48.55	53.11	69.51	74.27	81.05	86.21	92.63
S/E engaged in R&D per 10,000 labour force	FTE	7.7	8	8.5	6.9	7.5	9.8	10.2	10.8	11.3	12

Note: The growth compared with previous year is calculated by the comparable price based on the revised GDP data. R&D personnel indicators are calculated based on the number of persons in terms of FTEs (full-time equivalent person year of scientific or technical work) who are engaged in research activities or the administration of R&D programs

### 5.4.4 Teaching, innovation and knowledge transfer and related policies

101. The co-operation among higher education institutions enterprises and research institutions is a

<sup>16[6]</sup> <http://www.sts.org.cn/KJNEW/maintitle/MainTitle.htm>, 中国科技统计/中国主要科技指标数据库。

<sup>17[7]</sup> <http://www.sts.org.cn/KJNEW/maintitle/MainTitle.htm>

worldwide trend. China is no exception.

102. In 1982, the Chinese government introduced the strategy whereby economic development shall be based on science and technology and science and technology shall be aimed at serving economic development. The *Decision on S&T System Reform* was issued in 1985. And in 1993, in the document *Outline of China's Educational Reform and Development*, a decision was reached to broaden the role of tertiary education, which meant that in addition to education of advanced talents, TEIs should fulfil the tasks of developing culture, science and technology and promoting the modernisation of China. The *Science and Technology Progress Law* formulated in 1993 has articulated the legislative principles: in order to advance the science and technology development, the prioritised development in socialist modernisation shall be given to science and technology; we shall utilise the role of science and technology as the first productivity, and facilitate science and technology to serve the economic progress. In 1995, the *Decision on Accelerating Science and Technology Progress* laid emphasis on the cooperation among higher education institutions, research institutions, and large or medium sized enterprises. A joint effort will be made to develop hi-tech products with a huge potential market. TEIs and research institutions are encouraged to establish hi-tech companies in various forms. The Chinese government issued the *Decision on Deepening the S&T System Reform during the 9<sup>th</sup> Five-year Plan* in 1996 and proposed that enterprises shall play a major role in the system of technology development, whereas research institutions and higher education institutions shall dominate the system and scientific research. Besides, the established system of scientific and technological service shall be society-oriented.

103. The working focuses of S&T in TEIs are also given to serving economic development, strengthening technological innovation, knowledge transfers and their industrial applications, and basic research. TEIs pay more attention on the cooperation with research institutions and enterprises through various forms including research, technology development and talent education. Such co-operation is encouraged by the government, which gives preferential support to national S&T research programs jointly applied. In the comprehensive assessment of TEIs, knowledge transfer and industrial applications of hi-tech products are regarded as important criteria. The government also supports TEIs to establish hi-tech companies and agencies, and allows undergraduate and graduate students to take leave to start up hi-tech business while keeping their student status.

104. The Chinese university parks have distinctive characteristics since they are one of the chief innovative fountains for regional economic development and technology advancement of various fields. They are also an important platform for TEIs to serve the society and realise the integration of research, education and production, which is one of the most distinguished characteristics of university parks. There are 50 parks at national level up till 2005.

#### ***5.4.5 Knowledge transfer and related policies***

105. Currently the forms of knowledge transfer are as follows: technology transfer, outsourced R&D programs by enterprises assistance in developing new technologies and products; turnkey combo with enterprises; establishment of institution-owned S&T business, participating in activities popularising research findings organised by governments of different levels.

106. In the recent twenty years, considering the needs of economic development and their own characteristics, TEIs have set up selective business incubators for fast updatable research achievements of a high technological content, established a batch of S&T enterprises, and joined hands with extramural capital as a shareholder to create S&T enterprises by contributing the reputation of the institutions. "Higher education S&T industry" with Chinese characteristics has been one of the most effective means in knowledge transfer.

107. As stated in article 20 of *Constitution of the People's Republic of China*: “The State promotes the development of the natural and social sciences, disseminates scientific and technological knowledge, rewards achievements in scientific research as well as technological innovations and inventions.” As the fundamental law of China, the Constitution encourages and supports the dissemination and development of S&T knowledge. In 1996, the *Law for Promoting Commercialisation of Science and Technology Achievements* was promulgated as a special law on the issues of further applying S&T achievements into industries. The law has set the basic principles, government functions, administration and implementation, safeguarding measures, technical rights relevant legal obligations, etc. Accordingly, regulations have been issued by relevant government authorities on the S&T commercialisation of TEIs.

## **6. ACHIEVING EQUITY IN AND THROUGH TERTIARY EDUCATION**

108. In addition to fostering socio-economic development, preserving and advancing human civilisation, tertiary education carries the values and missions of social equity. The Chinese government has taken proactive measures to better promote equity in tertiary education through means of restructuring tertiary education institutions (TEIs), providing financial loans to students from impoverished families, facilitating tertiary education development in less-developed regions, etc. On April 3<sup>rd</sup> 2001, the Ministry of Education (MoE) announced that the requirement for examinees to sit the national entrance examination for higher education would be broadened and the longstanding restrictions on marital status (the requirement to be single) and age (a maximum age of 25 years) would be lifted. The State Council has issued a series of policy documents to explore new ways to help employed adult with equivalent qualifications pursue graduate degrees, for instance, the *Provisional Measures Regarding Employed Adult with Equivalent Qualifications Applying and Obtaining Masters/Doctoral Degrees*. After many years of efforts, a comprehensive system of distance tertiary education has been established. Government statistics have shown that most TEIs have operated correspondent tertiary education or night universities, which aims to extend tertiary education to the grass roots and outlying, poverty-stricken areas. More opportunities for all members of society to receive tertiary education have been created through forms of informal adult education, vocational education, pre-service training for new workers, in-service training for current workers, and re-employment services for laid-off workers and others who change their jobs.

### **6.1 Restructuring tertiary education**

109. From the end of 20<sup>th</sup> century to the beginning of 21<sup>st</sup> century, Chinese government had taken the merging and restructuring of tertiary institutions as an important measure in reforming and developing Chinese education and made remarkable achievements. During the process of phasing into market economy system, the restructuring of tertiary education is mainly guided by macro policies at state level, implemented by overall planning and coordination at provincial government level. The principle of the reform is to rationally restructure TEIs so as to meet the need of economic development for new types of talents and the demand of various regions for building up human resources. This round of restructuring is of great practical significance in reducing the gap between developed and less-developed regions and the gap between eastern and western areas, enhancing the integration of educational resources, promoting the development and accumulation of China human resources, etc.

### **6.2 Equal access to tertiary education**

110. The access to tertiary education is mainly through the national entrance examination,



supplemented by other selection methods. The national entrance examination takes place nationally and synchronously on the same dates of the year every year. A special agency is appointed by the state educational authority to be responsible for mapping out the examination content in line with national examination guidelines. One of other selection methods is the pilot independent admission of new entrants. The MoE authorised 28 pilot TEIs in 2004 to allow them to independently admit students with outstanding talent in specific fields and the quota of independent admission is set within 5% of the total enrolment of each pilot TEIs. The existing practice of recommending outstanding upper secondary school graduates skipping national entrance examination for admission to TEIs continues to be refined. Separate admission is organised for some special disciplines or fields needed by the state. When conditions permit, higher vocational colleges (Short-cycle Colleges) have piloted independent open admission. The central government will continue to expand TEIs' autonomy in admission decision making and enhance entrant selection methods by using diversified and multiple assessment criteria in supplement to the academic examination.

111. Currently, the national entrance examination for regular short-cycle and bachelor programmes is held in the beginning of June every year. Meanwhile, some provinces and cities add an entrance examination in spring apart from the usual one in autumn. In recent years, one of the important changes about the entrance examination is to reform it on the basis of quality education concept. Through proactively reforming the entrance examination, government tries to improve the situation in which examination subjects are over-emphasised and pushed hard by primary and secondary schools. Regarding examination subjects, there exists "3+X" model in which "3" refers to the three must-be-examined subjects, namely Chinese, mathematics, and a foreign language, and "X" refers to one or several subjects selected from physics, chemistry, biology, politics, history, geography and/or "comprehensive subject" in accordance with the tertiary institution's requirements. Student examinees choose the "X" subjects after considering their study situation, advantages and type of TEIs to which they apply. The "comprehensive subject" refers to the comprehensive ability examination based on secondary academic knowledge and is divided into several types: humanity & social science comprehensive, natural science comprehensive, and general comprehensive, to name a few. It is an ability examination with a view to assess student's ability in understanding, mastering and applying knowledge. The changes in the examination content on the whole lay emphasis on student examinees' abilities and traits assessment. Meanwhile the reform tries to enhance the relevance of entrance examination as well as regional overall planning, after considering differences between regions and TEIs' characteristics. In 2004, eleven provinces and cities such as Beijing, Shanghai, and Jiangsu carried out separate entrance examinations of which the content was determined by local authorities. Besides, the national entrance examination for adults in short-cycle and bachelor programs has been held in October every year since 2004.

112. The tertiary education admission policy gives special treatments to the disabled, the disadvantaged and ethnic minority people in remote areas, etc. There are 13 minority TEIs admitting mainly minority people. However, all TEIs are open to minority people and they are required to admit minority students whose examination scores are lower than the cut-off score. For programs and majors such as agriculture, forestry, hydraulic engineering, geology, mineral, oil, navigation, military engineering, etc, in which graduates may have jobs in rural, remote and frontier areas, and for special programs and majors such as military, aviation, public security, state security, arts, sports, etc, special admission policies have been adopted aiming to promote social justice as well as admission equity, and to meet social demands for various types of workers. In recent years, policies for entrance examination and admission have been gradually refined and oriented to a more humanitarian approach towards student examinees. For instance, the 2001 entrance examination lifted the age and marital status restrictions on student examinees and in 2003 the examination days were changed from July to June when the weather was more comfortable.

### **6.3 Financial assistance to tertiary education students**

113. Tertiary students' expense on study, living and social activities is usually covered by the parents due to the student's economic dependent status. Under the context of charging tuition fees, the government and TEIs have adopted many forceful measures to broaden financial assistance channels. Students with financial difficulty are eligible to apply for bank loans and students from extremely poor families can receive an exemption or deduction of tuitions fees.

#### **6.3.1 Student loans assistance**

114. In recent years, the state student loan assistance has expanded rapidly and become one of the most important measures in supporting tertiary students financially. The financial loan program, mainly referring to the state student loan assistance, is a credit loan program driven jointly by central and local governments with an aim to help students pay the tuition fees and living expenses. Commercial banks appointed by the government loan money to full-time students who are in short-cycle, first/second bachelor, and graduate programs and who have financial difficulties. The financial loan program was first initiated as a pilot project in 1999 in some regular TEIs and went to full implementation around the country in September next year. According to statistics, the accumulative contracted student loan had totalled RMB 6.5 billion by the end of 2003 and the total number of students with the financial loan assistance was 790 thousands.

115. Approved by the State Council, the Ministry of Finance, and the MoE, the amount of scholarship funded by the central budget for students from impoverished families has been raised from RMB 240 million in 2003 to RMB 1 billion each year since the autumn of 2004.

116. The government has further reformed and adjusted the current financial assistance system. The reform of the state scholarship system is focused on students who are from extremely poor families and who have outstanding academic and conduct records. The first measure is to change the "state scholarship" into "state grant". The second is to reform the scholarship issuing methods. The State Council has decided that from September 2004 onwards, a grant funded by central and local budgets would be issued to those students who are from extremely poor families and who work hard and observe the relevant code of conduct and the law. Each eligible student would receive a grant of RMB 150 per month for 10 months in a year. Students entitled to such grant comprise 5% of all students. Meanwhile, local TEIs are encouraged and supported to set up similar scholarships and grants. The Ministry of Finance and the MoE are taking measures to guarantee 10% of the tuition income will be used in fellowship for students from extremely poor families. Additionally, the two ministries have formulated a detailed regulation on how to use and issue the grant. For those students who volunteer to work or start small business upon their graduation in vocations with harsh conditions or in most-needed-and-harsh areas, the loan borrowed from banks through the financial loan program during their studying period can be paid by national finance in principle after their applications are approved.

117. In 2004, the government generated new policies on the financial loan program as follows: the interest of financial loan was covered by the government during students' studying period and by students themselves after their graduation; loan repayment length was extended to 6 years and the repayment began one or two years after graduation on a contingency basis----a contingency based on graduates' employment situation; changed the method in choosing loan banks, namely, from appointing to bidding; and the government and TEIs established a special purpose state risk fund which accounted for a certain percentage of the total loan actually issued each year. The current problem facing the government is the unsatisfying repayment rate due to the incomplete personal credit system and the nature of student loan which is borrowed without mortgage.

118. In the future, the government will broaden the coverage and depth of student loan assistance; largely increase the amount of financial loan; and maintain financial loan as the major assistance in supporting tertiary students by keeping its dominant percentage of all financial aids. These measures will benefit tertiary students, especially those with financial difficulties.

### **6.3.2 Scholarship**

119. There are three kinds of scholarships for tertiary students provided by central budgetary appropriation, namely, short-cycle and bachelor program scholarships, graduate fellowship, and state scholarships. TEIs have other kinds of scholarships either funded by TEIs themselves or set by social institutions and individuals after being approved by related authorities.

120. In 1986 some regular TEIs began to pilot scholarship programs. In July 1987, all regular TEIs launched scholarship programs catering to entering students in bachelor programs and whether the program should be extended to short-cycle programs in 1987 was decided by local governments or TEIs' supervising authorities at central government level. Now the short-cycle and bachelor programs offer three types of scholarships: merit scholarships, scholarships for students majoring in certain fields, and targeted-area scholarships.

121. In 1991, the graduate scholarship was initiated by TEIs, which included general fellowships and merit fellowships.

122. Since 2002, the state scholarship was put into practice in regular TEIs. It is mainly funded by central budgetary appropriation, targeting full-time students who come from impoverished families and study in short-cycle and/or bachelor programs with strong academic and conduct records.

### **6.3.3 Work-study**

123. TEIs have launched the work-study programme for students with financial difficulties. The work-study programme gives students a chance to get a part-time job so as to help with the cost of their education. The work-study program includes three types of assistantships (research, teaching, and administration) along with working opportunities in laboratories, campus-owned businesses, logistics services and public services. Students in work-study programs are not allowed to take high-risk work like aerial work, heavily polluted work, radiation work, etc, which likely result in injury or damage to health.

124. In order to ensure a reliable and stable income for work-study students, TEIs are required to regularise and standardise work-study program by establishing a work-study fund, which is used for the payment for student's work. The benchmark payment is based on a student's real living standard and with reference to the social standard of payment for similar work. The principle is that the payment shall not be lower than the local payment of similar work and can be higher than that in order to reflect the idea of financial assistance.

### **6.3.4 Special financial assistance to students from extremely poor families**

125. The special financial subsidy to students from extremely poor families is one of the supplementary measures under the financial assistance policy. Every year, the government granted a certain amount of money as subsidies to students from extremely poor families. Students eligible for such subsidies are those whose monthly incomes are lower than the local lowest living standard and who are studying in graduate, short-cycle, second-bachelor, and postgraduate programs.

### **6.3.5 Deduction and exemption of tuition fees**

126. During the reform of charging tuition fees, in order to enable students with financial difficulty to complete their education smoothly, the government issued the *Notice on the Deduction and Exemption of Tuition Fees for Students from Extremely Poor Families in Regular Higher Education Institutions* in 1995, in which regular TEIs were asked to waive or reduce the tuition fees for students from extremely poor families, especially those who are orphaned or disabled and/or who are from minority areas, families of martyrs, and families of veterans or service persons. The specific amount of deduction or exemption of tuition fees is determined by each TEI according to its situation and relevant policies. Such practice is an important measure in assisting student from extremely poor families to receive tertiary education. In recent years, the "Green Path" has been introduced to enable poor students to register first and pay tuition later with the help of subsidised loans and reduced fees.

### **6.4 To support the development of tertiary education in minority areas**

127. Due to historical and geographic reasons, the minority areas had much lower productive forces before the founding of People's Republic of China (PRC). Autarkic economy dominated these areas and the majority of the population was farmers and herdsmen. There was a noticeable gap between hinterland and minority areas concerning economic, cultural and educational development. In the last 50 years after the founding of PRC, the Chinese government has adopted a series of aggressive measures to promote the common prosperity of all ethnic nationalities and especially promote the education undertakings in minority areas.

#### **6.4.1 "Minority classes" and minority preparatory classes offered by hinterland regular TEIs**

128. The first measure was to set up "minority classes" in some national key TEIs through well-designed planning. For short-cycle and bachelor programs, minority students were included in regular classes, which meant that there were no separate special classes for them. All the minority students are supposed to return to the minority area where they come from to work after graduation.

129. In July 2002, the State Council issued the *Decision on Deepening the Reform of Minority Education and Speeding-up Its Development*, in which the government proposed to strengthen the support to minority education. With regard to the "minority classes" and minority preparatory classes, a series of policies and measures has been taken as follows: regarding admission as a state task that has to be carried out by TEIs and enrolling minority students under the condition that they will return to work in minority areas; admission is targeted at minority students who sit the national entrance examination and the admission score is lower than cut-off scores; incoming students in preparatory classes shall complete 1-2 years of preparatory study at appointed preparatory schools and then shall be transferred to regular TEIs upon graduation from preparatory classes.

130. The minority student education follows the principle of quality education and focuses on students' innovative spirits, hands-on skills and entrepreneurial spirits. The aim of minority education is to foster minority talents with profound human and scientific qualities.

131. By 2003, there were more than 100 regular TEIs, which are either locally governed by 17 provinces (autonomous regions) or governed by 6 central ministries, running minority classes and preparatory classes. The number of annual admission totalled 14 000. The preparatory classes have produced a great number of qualified minority students for tertiary education. Through these classes, more than 130 thousand minority graduates have qualified for working in minority areas.

#### ***6.4.2 Implementing the program for the development of high-level minority talents***

132. In order to speed up the education and training of high-level minority talents and improve the talent structure of minority groups, the government launched the “Program for Education and Training of High-level Minority Talents” under which a batch of national key TEIs would be selected to foster minority talents at master’s or doctoral degree levels through special approaches.

133. This programme was organised and implemented by the universities affiliated with central ministries. Under the principle that the program should be under a unified plan, implemented steadily, summarised experiences after conducting pilot trials, and popularised gradually, the program was piloted in a few selected universities in 2005. The goal of the program was to reach a total enrolment of 18 thousand with an annual admission of 6 000 students, of which 1 000 in doctoral programs and 5 000 in master’s programs.

134. The program targets 11 prioritised provinces, autonomous regions and municipality directly under the jurisdiction of central government, namely, Tibet, Xinjiang, Inner Mongolia, Ningxia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Gansu, and Qinghai. Students, either from autonomous areas of ethnic minority enjoying preferential policies of massive development of western China, areas of mixed ethnic minorities needing special support, or from hinterland Tibetan and Xinjiang classes, are entitled to special admission policy of “unified examination and relative lower cut-off scores” set at the principle of “targeted admission, targeted education, and targeted employment.” The majority of incoming students are ethnic minorities, and the rest are students of Han nationality who have long worked and lived in minority areas or students from hinterland Tibetan and Xinjiang classes. However, the number of Han students is limited under a proper percentage of the total admission. In the program, students have to sign contracts of targeted education and employment before being admitted. Thus it will ensure students working in the targeted areas and work units upon their graduation. The length of working service in those areas is 5 years for master-degree holders and 8 years for Ph.D. holders. As part of the annual national postgraduate admission plan, the program for development of high-level minority talents is executed and administrated separately.

#### ***6.4.3 Expanding the tertiary enrolment for minority groups***

135. When mapping out the college admission plan and setting the admission quota for different regions, the government gave more admission quota to provinces and autonomous regions in western areas that are heavily populated by ethnic minorities so as to ensure their growth rate is higher than the national average level. Such a policy reflects the preferential policy toward those areas and has resulted in the rapid growth of admission rate of minority students. By the end of 2004, the total number of minority students in schools of all levels and types was 21 351.3 thousand, 4.54% higher than the previous year. The number of minority students in regular TEIs was 807.3 thousands, accounting for 5.70% of the total, an increase of 15.73% than the previous year.

136. In the process of admission, preferential policies have been adopted as well, such as “admitting minority students under cut off scores,” “giving the priority to minority students when admitting candidates at same score level,” etc. Most provinces, autonomous regions and municipalities have prescribed that minority students shall be admitted at scores with 10-25 point lower than cut-off scores. Regarding postgraduate admission, similar measures have been taken, for instance, setting separate cut-off scores, unified admitting, and admitting at lower scores.

#### ***6.4.4 Preferential policies on TEIs in ethnic minority areas***

137. In order to strengthen the capabilities of TEIs in ethnic minority areas in discipline construction

and high-level talent development, the government has formulated, in line with relevant laws, preferential policies that minority groups shall enjoy a favourable policy environment on the prerequisite of ensuring educational quality. The Academic Degree Committee of the State Council has taken the characteristics of minority-oriented TEIs into full consideration when conducting the review of academic degree granting. Preferential policies have also been made towards minority TEIs and TEIs located in minority areas when approving disciplinary program and adding assessment criteria. For example, in the eighth review of degree granting programs, the Committee authorised the provincial Academic Degree Committees of Xinjiang, Inner Mongolia, Ningxia, Guangxi, Yunnan, Guizhou, Gansu, and Qinghai to approval some master's granting programs. In 2002, the above-mentioned provinces and autonomous regions have 59 doctoral granting programs and 640 masters granting programs. Totally there are 15 TEIs recognised to offer doctoral programs and 53 TEIs and research institutions for master's programs in those provinces and regions. In 2003, in the ninth review of institutions applying for master's and doctoral granting programs, Southwest University for Nationalities and Northwest University for Nationalities have been added to the list of universities housing doctoral programs; Northwest Second College for Nationalities has been recognised to create master's granting programs; meanwhile, three colleges, namely, Mid-South College for Nationalities, Northwest College for Nationalities, and Southwest College for Nationalities, changed their names into "university" with a view of achieving a better development. In key development projects, Inner Mongolia University, Guangxi University, Yunnan University, Xinjiang University, and Yanbian University have been included in the "211 Program." By creating special bond, provinces (autonomous regions and municipalities) in western minority areas are empowered to build up a batch of universities which play a key and model role in those areas, for instance, Xinjiang University, Guangxi University, Yunnan University, Inner Mongolia University, Qinghai University, etc. Besides, nationality medical sciences (including Tibetan and Mongolian Medicines) are added to the list of disciplinary programs with the purpose of sustaining development of traditional nationality medical science.

#### **6.4.5 Counterpart support for tertiary education in less-advanced areas**

138. To ensure a smooth, rapid and balanced development of China's modernisation and fulfil the task of living a wealthy life for all nationalities, the Chinese government has determined to strengthen the build-up of western areas inhabited heavily by minority groups by implementing the strategy of massive development of western regions. The key to success lies in the talent of people, therefore, education development in those areas has been prioritised. On June 13 of 2001, the MoE issued the *Notice on Implementing the Scheme of Counterpart Support to TEIs in Western Regions*, in which 14 well-known universities including Peking University, Tsinghua University and others are required to provide counterpart support to 14 universities in western regions including Xinjiang Shi He Zi University, Qinghai University, etc. In April 2002, the *Notice on Better Support Xinjiang Teacher Education Colleges* issued by the MoE added another three counterpart TEIs as support receivers.

139. The counterpart support is offered by ways of one-to-one and/or multiple-to-one approaches, and adopts target-oriented responsibility mechanism to ensure targets will be met on schedule. In accordance with the disciplinary characteristics and desires of Teacher Education College and other TEIs in western minority regions, key universities (as support provider) have initiated the support and all-inclusive co-operation, focusing on disciplinary constructions, faculty development, set-up of campus administration and operation mechanism, improvement of learning and teaching conditions and facilities, etc. Diversified forms of support and co-operation have been adopted to raise the teaching, researching, and administration levels of minority TEIs and therefore build a solid foundation for a long-term development. The majority of tangible measures are as follows: receiving domestic visiting scholars, faculty for professional development, and postgraduates under appointed education contracts from western universities (as support receivers) with favourable conditions; providing services on Chinese language instruction and Chinese teacher training; sending directors of provost's office, department chairpersons, and other experts to offer short-term free consulting services on disciplinary construction and programme development; setting up

various forms of research collaboration and presenting wise proposals, targeting at key issues in social-economic development of western regions.

140. After thorough preparation and mutual understanding, bilateral universities have signed counterpart support agreements.

**Table 6.1 National scheme of counterpart supports for TEIs in western regions**

TEIs as support provider	Supervising Department	TEIs as support receiver	Supervising Department
Peking University	MoE	Shi He Zi University	Xinjiang Production and Construction Corps.
Tsinghua University	MoE	Qinghai University	Qinghai University
China Agricultural University	MoE	Inner Mongolia Agricultural University	Inner Mongolia Autonomous Region
Beijing Normal University	MoE	Northwest Normal University	Gansu Province
Fudan University	MoE	Yunnan University	Yunnan Province
Shanghai Jiaotong University	MoE	Ningxia University	Ningxia Hui Nationality Autonomous Region
Nanjing University	MoE	Northwest University	Shanxi Province
Zhejiang University	MoE	Guizhou University	Guizhou Province
University of Science and Technology of China	Chinese Academy of Science	Southwest University of Science and Technology	Sichuan Province
Huazhong University of Science and Technology	MoE	Chongqing University of Medical Science	Chongqing Municipality
South China University of Technology	MoE	Guangxi University	Guangxi Zhuang Nationality Autonomous Region
Southwest Jiaotong University	MoE	Tibet University	Tibet Autonomous Region
Xi'an Jiaotong University	MoE	Xinjiang University	Xinjiang Uygur Autonomous Region
Nankai University	MoE	Yanbian University	Jilin Province
East China Normal University	MoE	Xinjiang Normal University	Xinjiang Uygur Autonomous Region
Huazhong Normal University	MoE	Kashi Normal College	Xinjiang Uygur Autonomous Region
Northeast Normal University	MoE	Yili Normal College	Xinjiang Uygur Autonomous Region

#### **6.4.6 Increase the financial support for minority tertiary education**

141. Intensifying the financial support for minority tertiary education is an important factor in bolstering its success. In 1990, the infrastructure investment for minority TEIs were RMB 16 million, and in 2001 this increased to RMB 310 million, an 18-fold increase. An exclusive investment for six TEIs directly under the administration of the Chinese Ministry of Education totalled RMB 35 million in 2000 while the figure rose to RMB 80 million in 2001 and RMB 120 million in 2002, at growth rates of 128.6% and 50% respectively. Such sizable increase has produced significant changes in educational undertakings of minority groups

#### **6.5 Growth in the enrolment of women students as proportion of the total enrolment of tertiary education**

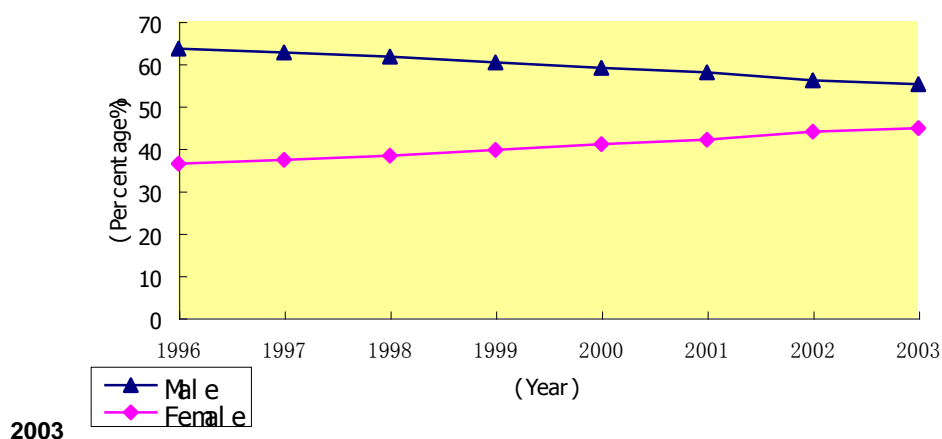
142. The Chinese government has always placed an emphasis on women's tertiary education. The central government has formulated a series of relevant laws and regulations to address women's equal right to education, and the local governments have taken tangible measures to ensure their equal access to tertiary education. All this has resulted in a remarkable development in the tertiary education of Chinese women. The proportion of women in tertiary education is climbing steadily over the past years and the ratio of men and women is approaching equality. In 2004, the enrolment of female students in national regular higher education institutions numbered 608.68 thousands, accounting for 45.65% of the total enrolment. In addition, there are more than 3.50 million women studying in correspondent, night, adult universities and other tertiary institutions. Traditionally, female students usually took foreign languages, medical sciences, and teacher education as their majors; the proportion of women in those programs has remained at a majority level. On the other hand, there has been an increase in women's participation in such programs as mathematics, electronic engineering, and mechanical engineering, etc., which used to

attract few female students. With the increase in number of women in natural sciences and engineering, the proportion of women in tertiary institutions of these two types is higher than before.

**Table 6.2 Number of male and female students in regular short-cycle and bachelor programmes in 1996-2003 (# of persons)**

Year	Total Enrolment	Male Students	Female Students
1996	3,021,079	1,920,605	1,100,474
1997	3,174,362	1,989,715	1,184,647
1998	3,408,764	2,102,837	1,305,927
1999	4,085,874	2,465,320	1,620,554
2000	5,560,900	3,281,995	2,278,905
2001	7,190,658	4,167,654	3,023,004
2002	9,033,631	5,063,276	3,970,355
2003	11,085,642	6,115,138	4,970,504

**Figure 6.1 Percentage of male and female students in regular HEIs offering of short-cycle and bachelor programmes in 1996-**



143. The above table and figure show a striking growth in the proportion of women’s participation in tertiary education over the past years. However, it should be pointed out that, in general, there exists a difference between men and women in receiving tertiary education. Especially in impoverished areas (like the western regions); a disparity is found between rural and urban areas which implies that women living in rural and mountainous areas have less opportunity to access tertiary education.



## 7. RESOURCING THE TERTIARY EDUCATION SYSTEM

### 7.1 Faculty

144. As a consequence of continuing enrolment expansion in recent years, the number of students in short-cycle and undergraduate programmes at regular tertiary education institutions (TEIs) reached 4.2 million in 2004, approximately 4 times of the figure in 1998. The size of admission in tertiary education has multiplied by three times within only 6 years. The total full-time-equivalent enrolment of all-type TEIs has exceeded 20 million. Similar fast enlargement of faculty at TEIs has also occurred as a result of the rapid growth of enrolment. Except that the number of full-time faculty in adult TEIs remains relatively stable with minimal decrease, the number of full-time faculty in all other types of TEIs has increased to a certain extent, which is shown in the following Table 7.1.

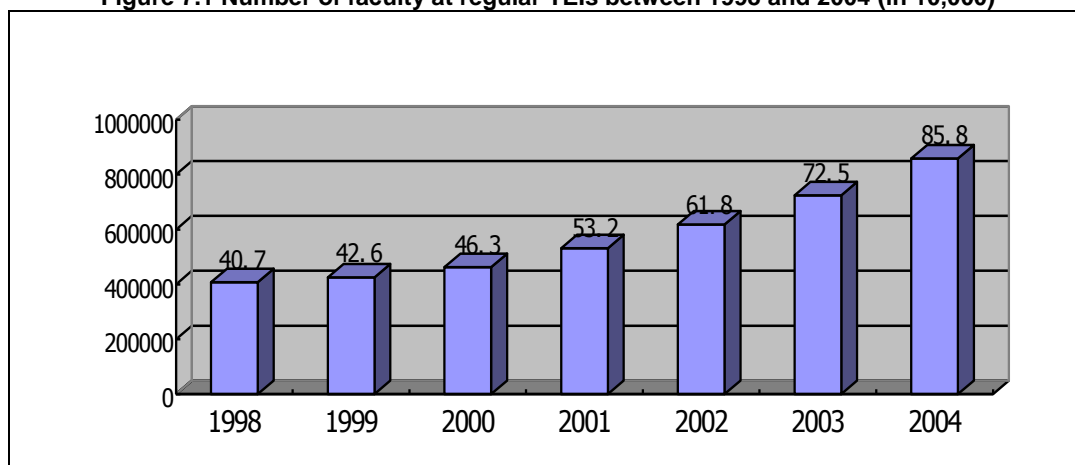
**Table 7.1 Number of faculty in tertiary education between 1985 and 2004 (in 10,000)**

	1985	2000	2003	2004
<b>Regular TEIs</b>	34.43	46.28	72.47	85.84
<b>1. TEIs offering bachelor-degree programs</b>		37.08	50.25	57.53
<b>2. TEIs offering short-cycle programs</b>		8.66	19.69	23.77
<b>Of which: tertiary vocational-technical colleges</b>			14.95	19.34
<b>3. Independent branches of universities &amp; short-cycle courses</b>		0.53	2.53	4.54
<b>Adult TEIs</b>	6.93	9.34	8.89	8.61
<b>Privately-run TEIs</b>			2.45	2.60
<b>1. Degree certificate testing organisations</b>			1.37	
<b>2. Non-degree certificate testing organisations</b>			1.08	

Source: China Education Statistics Year Book, 2005

145. In 2004, the number of faculty at all regular TEIs in China totalled 858 thousand, an increase of 110.3% as compared to that of 1998. While as a whole, the total number is still insufficient. Despite a relatively large number of faculty in traditional disciplines, the demand for faculty in newly-developed and applied disciplines falls short of supply; the percentage of faculty that either have practical working experiences in industries or have learning and working experiences at high-level international universities (or scientific research institutions) is comparatively low; there is lack of “double-credentialed teachers”(who holds professional or vocational qualifications and teaching licenses) at vocational TEIs.

Figure 7.1 Number of faculty at regular TEIs between 1998 and 2004 (in 10,000)



### 7.1.1 Faculty recruitment and development scheme

146. Both the government and TEIs have adopted a series of measures to improve the quality of faculty in recent years. The Ministry of Education (the MoE) issued the *Action Plan for Invigorating Education Toward 21st Century* in 1998, in which a “High-level Innovative Scholar Development Scheme” in TEIs was proposed. After that, a comprehensive training and support system conducive to the development of high-quality faculty has been built up through the implementation of a series of programs, namely, the “Changjiang Scholar Reward Program”, the “Distinguished Higher Education Young Teacher Award”, the “Program for Training Cross-Century Excellent Scholars” and the “Distinguished Young Teacher Granting Program”.

#### (1) The Changjiang Scholar Reward Program

147. The Changjiang Scholar Reward Program was jointly initiated and funded by the Chinese Government and the Hong Kong Le Ka Shing Foundation in 1998 to produce high-level scholars. According to the *Implementation Guidelines for Recruitment of Chair Professors*, the government shall create 500-1,000 specially-recruited chair professors whose responsibilities and requirements shall be clearly articulated. The TEIs that are approved to hold such positions shall advertise job offers to recruit outstanding middle-aged and young scholars who demonstrate strong academic merits and development potentials and who have the capacity to take a leading role in maintaining or surpassing the advanced international level on the frontier of research in various disciplinary areas. Candidates shall be reviewed by corresponding experts and be approved by an expert committee before being offered professorship position by TEIs. Each specially-recruited professor holds a 5-year contract with RMB100 thousand premiums each year. In the meantime, he/she is eligible to regular compensation, insurances and other welfares provided by TEIs according to state relevant regulations. In 2000, the MoE launched a special fund, allowing each specially-recruited professor to select 5 backbone teachers, so as to form a team that conduct advanced scientific inquiry and high-technology research. It is an exploratory initiative in building a team of innovative academic staff at TEIs.

148. The implementation of Changjiang Scholar Reward Program has attracted a number of top-notch scholars to work in various TEIs and spurred the construction of an academic leadership team in China. From 1998 to 2004, 727 Changjiang scholars were entitled as specially-recruited full-time chair professors (to work for three years and at least nine months each academic year) and part-time professors (to work for three years and at least three months each academic year), among whom 6 outstanding scholars were given Changjiang Scholar Achievement Awards. By the end of 2005, there were 24 Changjiang scholars being selected as members of Chinese Academy of Sciences (CAS) and Chinese Academy of Engineering (CAE),

and 46 as 973 Program chief scientists. In 2005, the range of the Changjiang Scholar Achievement Award extended from mainland TEIs to include those in Hong Kong and Macao as well as research institutions affiliated with the CAS. In 2005, there were 102 Changjiang scholars entitled as full-time chair professors and 89 as part-time professors.

*(2) The Distinguished Higher Education Young Teacher Award and the Program for Training Cross-Century Excellent Scholars*

149. The second level of the Innovative Scholar Development Scheme focuses on training and supporting a number of high-calibre academic leaders who possess outstanding academic capabilities, rich creativities and strong development potentials. Some programs have been implemented for this purpose, such as the Distinguished Higher Education Young Teacher Award and the Program for Training Cross-Century Excellent Scholars. The goal of the former program is to train a group of excellent academic leaders mainly within the nation. Each year about 100 scholars will be awarded through this program, and the total maximum of fund for each scholar is RMB500 thousand in a 5 year period. From 1999 to 2003, RMB200 million has been awarded to 429 outstanding young teachers from 132 TEIs with the average age being of 38 years old. The Program for Training Cross-Century Excellent Scholars focuses on creativities and capabilities in scientific research, and aims at training academic leaders who have original creative capabilities. The total investment of the program between 1993 and 2003 were RMB150 million, supporting 922 young scholars. Many scholars under this program have become project leaders or chief scientists of national key science and technology research projects.

*(3) The Distinguished Young Teacher Granting Program and the Training Program for Higher Education Backbone Teacher*

150. The third level of the Innovative Scholar Development Scheme aims at attracting, training and maintaining young academic staff so as to facilitate the overall improvement in the quality of teaching staff. In 1987, the MoE initiated an “Outstanding Young Teacher Granting Program”. It seeks to support outstanding young teachers in engaging in basic research and pioneering research in newly-developed disciplines and cross-disciplines. Since its initiation, tremendous results have been achieved. Up to 2002, this program has provided a total funding of RMB129 million, supporting 2,019 scholars. Over 90% of young teachers under this program have achieved significant academic results in scientific research and teaching; and over 70% of them have taken up academic leadership positions in TEIs. In addition, the MoE initiated another related program, the “Higher Education Backbone Teacher Granting Program.” As part of this program, six sub-programs have been implemented: the “Higher Education Youth Backbone Teachers In-Service Degree Upgrading Program,” the “Fund for Overseas-returning Scholars to Launch Researches,” “National Grants to Authors of Outstanding Doctoral Dissertations,” “Young Backbone Teachers Researching and Studying Abroad Program,” “Advanced Research and Study Workshop for Higher Education Young Backbone Teachers.” Each year, more than 10,000 young backbone teachers are funded by these programs for further professional development.

*(4) Improving the quality of faculty in tertiary vocational institutions*

151. In order to improve the educational quality of tertiary vocational education as well as the quality of faculty at vocational TEIs, the former Education Commission of China (now the MoE) issued the *Suggestions on Deepening Instructional Reform in Vocational Education towards 21<sup>st</sup> Century*, which called for the establishment of a team of double-credentialed faculty who possess both solid theoretical foundations and strong technical skills.

152. In 2002, to address the problem regarding the quality of faculty in tertiary vocation education (that is the unreasonable faculty structure, weak practical capability, and inadequate access to education

and training), the MoE took several improving measures<sup>18</sup> as follows: enhancing the professional level of full-time teachers, streamlining the qualification structure of teachers and requiring that 35% of full-time teachers shall hold master degrees or above by the end of 2005; improving quality of part-time teachers and bringing in experts and skilful technicians from enterprises and other social sectors to teach part-time in vocational TEIs; enhancing the teacher training, establishing faculty training bases inside of vocational TEIs, and developing tangible measures for building a double-credentialed teacher team.

153. In 2005, the State Council's *Decision on the Development of Vocational Education* was issued and required that a plan for improving the quality of faculty in vocational TEIs should be carried out and that local governments at different levels shall continue their efforts in supporting the construction of teacher training bases at vocational TEIs and other teacher training programs. The *Decision* demanded to establish a field work system which enables vocational teachers to work in enterprises. Every teacher in vocational TEIs should spend two months for field work every two years in related industries and businesses.

154. The above programmes and their implementations have played a demonstrative and guiding role for other TEIs all over the country. Following them, local governments and provincial TEIs have developed and implemented similar faculty development programs to intensify the recruitment of high-level faculty and training of outstanding young backbone scholars; to establish specially-recruited chair-professorships positions at provincial level; to enhance support mechanism in recruiting and training a number of high-level scholars and backbone teachers.

155. Meanwhile, TEIs themselves have launched various professional development programs to improve the quality of faculty.

### **7.1.2 Personnel management reform in TEIs**

156. Ever since 2000, many TEIs speed up personnel system reform, including faculty employment system, employment system of administrative staff, institutional post system, and allocation system, so as to establish a new personnel system that is adaptive to the market economy. To virtually reform the entire faculty employment system, following measures have been taken:

- The reform has abolished the life-time employment and the institutional ownership of faculty and substituted a contract-based employment system.
- A practice of publicly advertisement for job vacancies has been introduced.
- A post employment system has been introduced based on the integration of academic rank and employment status.
- The power of faculty hiring and promotion has been handed to colleges and departments so as to involve the professor committee in collective decision-making process.
- A clear set of rigorous employment criteria has been developed.
- The employment contract and management have been regulated and a flexible and diversified

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<sup>18</sup> Ministry of Education (2002), *Suggestions of the Ministry of Education on Strengthening the Development of a Faculty Team in Higher Vocational Education Institutions*, Beijing, No. 5.

form of employment has been adopted.

- The resolution of disputes in the employment has changed from administrative appeals to negotiation, mediation, arbitration, and litigation on the basis of employment contracts.

157. Currently, the hiring, dismissing, promotion, awards and punishments to the faculty are based on performance assessment. Performance assessment is a review and evaluation of a faculty's working performance, professional level and achievements. In the personnel management of faculty, every part of the whole processes, such as hiring and training, is closely related to faculty assessment. The content of assessment normally consists of three aspects: morals, professional ethics and working attitudes, professional levels and working achievements.

158. Principal forms of assessment include: (1) qualification review and assessment for taking up a post. When faculty submit application for academic positions, they shall provide self-evaluations to summarise their professional achievements and morals, professional ethics and working attitudes, etc. These self-evaluations will be reviewed and only those who meet the requirements could be offered corresponding positions. (2) Reviews and assessments at the end of academic year and employment contracts. Typically, tertiary institutions adopt an end-of-the-year assessment approach. The faculty shall submit their self-summaries in aspects of morality, ability, attendance and performance to the institutional administration office for review and assessment. Only those who have met the requirements could be offered an extended employment contract. This is the major approach to assess the faculty at TEIs. (3) Individual item assessment. In many TEIs, the evaluation of the faculty could be conducted by appraising individual items, such as in-class teaching performance assessment, promotion assessment and teaching workload assessment, etc.

159. Many tertiary institutions have established a post allowance system attempting to improve the overall quality of the faculty. At present, a dual salary system is adopted in Chinese tertiary institutions, namely a tiered post salary system and a structural salary system<sup>19</sup>. The income of the faculty at TEIs typically consists of two parts: the salary and fringe benefit determined by their professional ranks (the faculty could be categorised into four ranks, teaching assistant, instructor, associate professor and professor), and the allowance determined by the specific post. A tiered post allowance for research and teaching will be granted according to specific post allowance and work-load standards set by different TEIs. The post allowance is based on the strict annual performance assessment. Because individual TEIs determine the post allowance standard, there are differences in aspects of classification of posts, the workload standard and the levels of allowances among different institutions. The following is the post allowance policy for faculty and administrative staff at a comprehensive research university in China.

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<sup>19</sup> There is a complicated compensation system in Chinese TEIs. The compensation is set according two criteria: one is the rank, another is the structure. In a general meaning, structural salary is made up of two parts: the basic salary paid by the state and the allowance offered by the TEIs.

**Table 7.2 Policy on the post allowances for the faculty and the administrative staff at a comprehensive research university in China**

Academic posts are tiered into five levels, super grade, first grade, second grade, third grade and fourth grade. The first grade could further be divided into two levels: level A and level B. The work-load consists of three parts: teaching, research and services. According to the different proportions devoted to research and teaching, the research and teaching posts could be grouped into three categories: posts with equal proportion to research and teaching, posts with larger proportion on teaching and posts with larger proportion on research. The specific proportion of workload on research, teaching, and social work for each category are defined as follows:

1. Posts with equal proportion to research and teaching: teaching, 60%; Research, 30%; and services, 10%.
2. Posts with larger proportion on teaching: teaching, 75%; Research, 15%; and service, 10%.
3. Posts with larger proportion on research: teaching, 30%; Research, 60%; and service, 10%.

For those who have fulfilled the 100% workloads shall receive the full post allowance; for those who have fulfilled more than 80% while less than 100% workloads shall receive 80% of the post allowance; for those who have fulfilled more than 50% while less than 80% workloads shall receive 50% of the post allowance; for those who fulfil less than 50% of the workloads will not receive any post allowance. (Please refer to Table 7.3 and Table 7.4 for the post allowance standard and the workloads standard.)

In addition to academic posts, there are posts for administrators of student affair, librarian, and laboratory technician, which have their specific tiers of post allowance. The post allowances are closely tied to the performance assessment and employment status.

160. The implementation of the post allowance system noticeably increased the income of faculty. From 1998 to 2002, the annual average salary of employees working in the state-owned organisations and enterprises has increased 61% while the corresponding percentage for faculty at TEIs was 101%, forty percent points higher than the former. At present, the average salary of the faculty at TEIs is medium and atop of the list in various professions nationwide. With the increase of income, the academic profession in TEIs becomes attractive and competitive in labour market and many excellent talents, especially those outside the tertiary education sector, are employed as tertiary education faculty.

161. Because the post allowance system is linked up with the faculty performance assessment, to some extent, faculty members are stimulated to work harder. However, it also creates some negative consequences. For instance, since the workload of faculty is assessed based on indicators of class hours, the number of students being advised and the number of publications, it puts more burdens on faculty. As a result, the period of publishing research papers is shortened, and they are unable to conduct in-depth research on some projects that require long-term efforts. Moreover, while there is quantified assessment available for evaluating the performance of the faculty, there is no such quantified system for the assessment of administrative staff. Consequently, there is imbalance of assessment between the faculty and the administrative staff, which further results in the emergence of administration-centred tendency in TEIs.

**Table 7.3 Allowance standard for academic posts in a comprehensive research university**

Category of posts		Allowance standard (RMB10 thousand /year)
Super	Members of CAS and CAE	5.5
Grade One, Level A	Full Professor	3.5
Grade One, Level B	Full Professor	3.0
Grade Two	Associate Professor	2.0
Grade Three	Instructor	1.3
Grade Four	Teaching Assistants	0.8

**Table 7.4 Standard for calculating the amount of workload of research in a comprehensive research university**

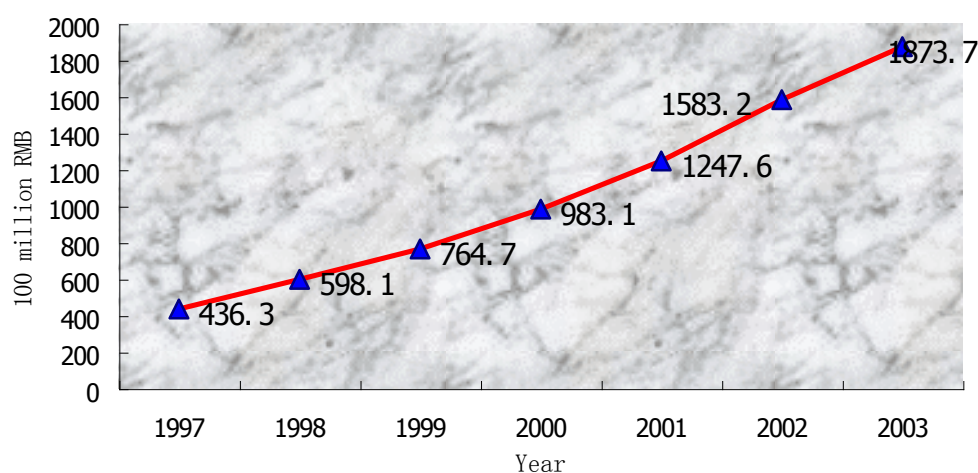
Items	Content	Scores	Note	
I. Papers	1. Nature Science	2000 scores/paper	For paper with multi-authors, it is the responsibility of the first author to allocate the scores to each author; for papers with a corresponding author, the corresponding author will be regarded as the first author. The excellent humanities and social sciences journals refer to those that have been included in CSSCI and Chinese Humanities and Social Sciences Citation Database (Chinese Academy of Social Sciences). They account for about 10%-15% of all the journals (no more than 100 journals).	
	2. Category A	SCI, SSCI, A&HCI, Chinese Social Sciences		300 scores/paper
		SCIE, EI, ISTP, International (overseas) formal journals (published in English), (humanities and social sciences ) the humanities and social sciences excellent academic journals		200 scores/paper
	3. Category B	CSTPCD (Institute of Scientific and Technical Information of China), CSSD (CAS), Overseas formal journals not included in the formal information searching systems (natural sciences), CSSCI, Chinese Humanities and Social Sciences Citation Database (Chinese Academy of Social Sciences)		100 scores/ paper
		4. Category C (other officially published academic papers)		20 scores/paper
	5. Category D (research and consultant reports)	100 scores/report	Adopted by central or provincial governments, and evidences should be provided.	
II. Intellectual Properties	1. Invention patents	200 scores/item	The owner of the intellectual properties shall be the TEI. For those intellectual properties produced by more than one person, it is the responsibility of the first author to allocate the scores. Product certificate shall be appraised by provincial certificating agencies; Industrial standards should be determined by the managing authorities of the specific industry or trade.	
	2. Practical new types	100 scores/item		
	3. Product Certificate	70 scores/item		
	4. Industrial standards (software for instance)	100 scores/item		
III. Books	1. Monograph	More than 400 thousand characters	300 scores/book	For books that are produced by more than one person, it is the responsibility of the first author to allocate the scores, the first author should be a faculty and/or staff working at this university.
		200 thousand – 400 thousand character	240 scores /book	
		Less than 200 thousand character	200 scores /book	
	2. Compilation, translation, ancient books collating	100 scores /book		
	3. Reference books, popular science readings, videos	50 scores /book		
IV. Teaching Materials	1. 21 Century Teaching Materials or National-level key teaching materials	7 scores per 10 thousand characters		
	2. Teaching materials for TEIs (including those edited under direction of the MoE)	6 scores per 10 thousand characters		
	3. Teaching materials for K-12 education	5 scores per 10 thousand characters		
	4. Reference books	4 scores per 10 thousand characters		
V. Research Projects	1. National-level projects	Key projects	800 scores/item	For projects conducted by more than one person, it is the responsibility of the principal researcher to allocate the scores, and the hosting organisation of the project should be this university; participating in projects in other TEIs/organisations/agencies shall be considered as Collaborative Projects.
		General projects	400 scores/item	
	2. Provincial projects		300 scores/item	
	3. Collaborative Projects)	Natural sciences	8 scores/item	
		Humanities and social sciences	25 scores/item	
	4. Educational reform projects at university level		50 scores/item	

## 7.2 Financing

162. Since 1997, there has been a sizable increase of the public expenditure on tertiary education in China. In 2003, the total public expenditure on tertiary education reached RMB187.37 billion, 4.2-fold of that in 1997. Among them, RMB175.43 billion were spent on regular tertiary education and RMB11.93 billion on adult tertiary educations.

163. In addition to the growth on the total amount of public expenditure, the average expenditure per student has also been significantly increased. In 2003, the average expenditure per student in regular TEIs reached RMB14,963, which was 50% more than that in 1998.

**Figure 7.2 Growth of public expenditure on tertiary education in China, 1998-2003**



**Table 7.5 Data on the funding of regular TEIs in China from 1998 to 2004**

	1998	1999	2000	2001	2002	2003	2004	2004/1998 (Times)
Enrolment of full-time students in regular TEIs (10 thousand)	361	432	586	758	903	1109	1340	3.71
Total revenue of regular TEIs (RMB100 million)	545	704	904	1167	1447	1683	2000	3.67
Average educational expenditures per student (RMB Yuan)	9422	9768	10787	10786	15120	14963	14929	1.58

Source: China Educational Funds Statistics Yearbook, 1999-2005.



**Table 7.6 Data on the revenue of adult TEIs in China from 1999 to 2004 (in RMB100 million)**

Source of funds	Total	Public current expenditure	Grant from Educational surtax	Income generated from educational offerings		Income of affiliated enterprises, social service, and work-study programs	Donations and fund-raising	Others	Government Appropriations for capital constructions
				Total amount	Among it: Tuitions and fees				
Year									
1999	49.0	20.7	0.8	22.7	17.1	0.8	0.2	2.6	1.1
2000	62.2	24.0	0.9	31.0	24.0	1.2	0.2	3.6	1.3
2001	68.3	25.3	0.6	37.4	30.0	0.9	0.2	2.9	0.9
2002	80.8	29.2	0.7	44.1	35.8	1.0	0.1	4.2	1.3
2003	95.5	29.8	0.6	57.6	43.0	0.4	0.1	5.3	1.6
2004	103.4	33.0	0.9	60.0	46.2	0.6	0.1	6.9	1.8

Source: China Educational Funds Statistics Yearbook, 2000-2005.

### 7.2.1 Multiple sources of fund-raising

164. Before the reform and opening-up to the outside world, the government appropriation had long been the single source of funding for tertiary education in China as a result of the highly centralised planned economy. Ever since 1980s, the Chinese government re-oriented the tertiary education financial policy towards a multiple-sources of funding embracing the state, society, TEIs, parents and individuals. This change was confirmed in the *Higher Education Law of 1998*, whereby “the state shall establish a higher education financing mechanism with government appropriations as the primary source while funds raised from other multiple sources as a complement, so that the development of tertiary education can accommodate the economic and social development;” “the state encourages enterprises, social agencies, other social organisations and individuals to invest in higher education”. It explicitly legalised the new channels of funding tertiary education through multiple sources.

165. In general, the current main channels of funding can be summarised into nine Chinese words, namely, public finance, taxes, fees, business, society, foundations, research, loans and interests.

166. “Public finance” refers to the government appropriations. Government appropriation used to and still remains to be the major source of funding tertiary education. According to the state plan of tertiary education and special projects undertaken by TEIs, they receive educational appropriations, scientific research appropriations and other kinds of appropriations both from the central and local governments.

167. “Taxes” are funds collected in the form of tax for tertiary education according to the Education Law of the People’s Republic of China and from the deducted taxes of institution-affiliated enterprises so as to encourage TEIs to run high-technology enterprises. The *Notice of the Ministry of Finance and the State Administration of Taxation on Education Tax Policies* was issued in February 2004, regulating that “if taxpayers make donations for educational undertakings through not-for-profit organisations or governmental agencies in the territories of P. R. China, they shall get full tax reductions of the donation amount before they pay enterprise income tax or personal income tax.” Besides, TEIs are exempt from the following taxes: business tax for incomes from technology transfer, consultation and development; business tax and enterprise income tax for the income from training courses; enterprise income tax from approved fees, and real estate tax for real estates that TEIs obtained for educational and scientific research purposes.

168. “Fees” include tuitions and accommodation fees that students are charged according to national regulations. In 2003, tuition and fees accounted for 29% of the total income of tertiary institutions, the second biggest source of funds that follows the government appropriations. To ensure educational justice,

the government and TEIs have taken a series of measures to establish a financial aid system, in which student loans are the main financial assistance complementing by scholarships, fellowships, grants, and reduction & exemption of tuition.

169. “Business” refers to the income of TEIs from their affiliated enterprises. This part of income has played a measurable role in the development of tertiary education. (Please refer to the following table.)

**Table7.7 Data of TEI-affiliated enterprises in China from 1999 to 2003 (in RMB 100 million)**

Year	Number of enterprises	Total Income	Total Profit	Profits and fees submitted to institutions
1999	5,444	379	31	16
2000	5,451	485	46	17
2001	5,039	603	48	18
2002	5,047	720	46	17
2003	4,839	826	43	18

Data source: China Education Yearbook, 2004.

170. “Society” refers to the donations TEIs receive from the society, as well as overseas. In 2003, this part of funds accounted for only 1% of the total income.

171. “Foundations” refer to the funds, either with a specified usage or not, that TEIs established and rose from enterprises, corporations, organisations and individuals domestically and internationally through various social relations. Some institutions have established foundations, however, the amount of this type of fund is small and the operational mechanism is not mature enough yet. This part of the income is still not able to provide powerful supports to the institution.

172. “Research” refers to the income that institutions obtain through undertaking scientific research, cooperating with enterprises and corporations to conduct research, and providing the society or enterprises with services such as research and development, consultation, and products transfer, etc. In 2003, this part of income totalled RMB25.3 billion, which accounted for about 6% of the total income. In 2004, the corresponding amount was RMB34.44 million<sup>20</sup>.

173. “Loans” refer to the loans that TEIs borrow from financial organisations according to national policies, and used for research, affiliated enterprises, the socialisation of logistics and capital constructions, etc., as well as the international loans that they obtain through related governmental agencies to finance teaching and research. According to the social blue book, *2006: An Analysis and Prediction of China's Social Situations* issued by China Academy of Social Sciences, the total amount of loans borrowed by TEIs in China reached RMB150 billion in 2005<sup>21</sup>. On the one hand, loans have empowered the development of tertiary education; on the other hand, the increase of loan scales has implied certain financial risks. In 2004, the MoE and the Ministry of Finance jointly issued *Suggestions on Further Improving HEIs' Financial Accountability and Strengthening Banks' Management of Loans to Avoid Financial Risks*, and provided an institutional loans control and risk evaluation model. TEIs are required to establish project accountability mechanism, risk prevention mechanism and pre-warning mechanism, etc. Ministry-affiliated TEIs with unpaid loans having reached 10% of the annual total income in recent three years will be recorded by the government. For those TEIs that the amount of loans has exceeded their paying capacity and the financial risk has reached the pre-warning standard, the government will require them to suspend borrowing further

<sup>20</sup> Ministry of Education (2005), *China Educational Statistics Yearbook*, People's Education Press, Beijing, p.263.

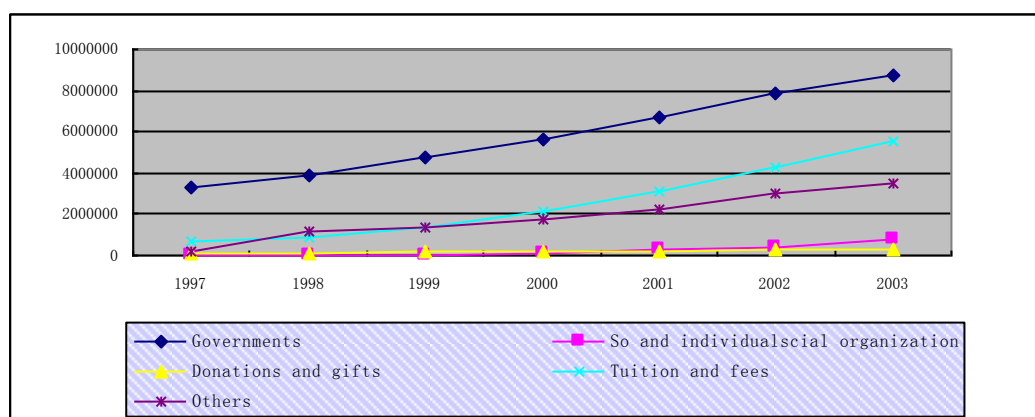
<sup>21</sup> Yanfeng Huang and Hongmei Li (2005), *The New Manifestations of Financial Risks: Overheated Enclosing Land and Loaning by Higher Education Institutions*, in *2006: An Analysis and Prediction of China's Social Situations*, Social Sciences Academic Press, Beijing, p298.

loans. If they continue to increase the loan scale, the government will deduce their special appropriations or temporarily suspend their qualifications to apply for financial special appropriations.

174. “Interests” refer to that institutions, within the limits of national policies, invest part of the deposited funds to generate interests based on principals of being legal, secure and low risks.

175. Figure 7.3 shows the changes of income sources in TEIs in recent years. It implies that the mechanism of single funding source from the government has changed greatly. In 1997, government appropriations accounted for 76% of the total income of TEIs, while it decreased to 47% in 2003.

**Figure 7.3 Changes of income sources of TEIs from 1997 to 2003**



### 7.2.2 Public fund and regional differences

176. As shown in the above two figures, although the percentage of public fund has decreased, it is still the major funding source for tertiary institutions. Ever since 1985, China’s public tertiary education funding model changed from the former “previous year funding level plus development” to a combination of “comprehensive ration plus subsidies for special purposes” and “lump-sum budget contracted with the government and balance left for self-use”. The comprehensive ration is determined mainly by the indicators of current enrolment and the expenditure per student; meanwhile, subsidies for special purposes are determined by the special needs of TEIs. In order to ensure a noticeable increase of educational expenditure, the central government regulated that “the central government will increase one percent point of educational expenditure in its financial output each year from 1998 to 2002. The provincial and municipal governments shall increase the percentage of educational expenditure in the local financial output accordingly based on the local realities.” This is an important initiative to address the shortage in educational expenditure that has emerged in recent years. After that, most of the provincial and municipal governments began to gradually increase the percentage of educational expenditure in their local financial output. From 1998 to 2002, the central government has accumulated an increase of RMB48.9 billion as compared to that of 1997. The state finance related educational expenditure has increased from RMB33.38 billion in 1997 to 78.75 billion in 2002, which was more than two times of the former.

177. In recent years, it has shown a policy preference of the government in public expenditure on tertiary education. The central government tends to focus funding on a small number of key universities and key disciplinary areas. The Project 211, an effort to build 100 universities and a group of key disciplinary areas of first class quality at the beginning of the 21<sup>st</sup> century, is the biggest-scaled key university and discipline development project in China since 1949. It consists of three parts: the construction of overall institutional facilities, the construction of key disciplinary areas, and the construction of public service system in tertiary education. By the end of the 10<sup>th</sup> Five-year Plan, a total

grant of RMB 29.294 billion has been allocated to TEIs through this project, among which RMB 8.755 billion were from the central government for special purpose. During the periods of the 9<sup>th</sup> Five-year Plan, the total grant was RMB 10.894 billion, among which RMB 2.755 billion from the central government for special purpose, and during the period of the 10<sup>th</sup> Five-year Plan, the corresponding figures were RMB18.4 billion and RMB 6 billion respectively. Regarding the usage of the grant money, RMB15.811 billion has been used for key disciplines constructions, of which RMB 6.211 billion from the 9<sup>th</sup> Five-year Plan and RMB 9.6 billion from the 10<sup>th</sup> Five-year Plan. At present, the project in the period of the 10<sup>th</sup> Five-year Plan is about to be completed, and the implementing scheme of the Project 211 in the period of 11<sup>th</sup> Five-year Plan is being drafting.

178. World-class Universities Construction Project (Project 985), which was launched in 1999, is another typical example of selective granting program launched by the government. The first phase of the Project 985 has concluded with a total grant of RMB 14 billion. The second phase is the current phase. Though the number of universities involved in the Project 985 is less than that of the Project 211, the amount of each grant is much larger than that of the Project 211. From the results of the first phase, the Project 985 has made the following achievements:

- It has injected strong vigour and energy into participating universities and established an important infrastructure facilities platform for research.
- It has adjusted and streamlined the orientation and structure of academic disciplines.
- It has rapidly accumulated a number of top-notch academic talents and improved the quality in training high-level innovative talents.
- It has achieved a set of research results that have met or been close to the advanced level worldwide.
- It has strengthened the overall capacities of participating universities and hence spurred the improvement of overall education quality in tertiary education.
- It has accumulated valuable experiences and set solid basis for building world-class universities in China.
- It has promoted the social, economic and cultural development of China.

**Table 7.8 Public expenditure on regular tertiary education in some provinces in 2004 (in RMB Yuan)**

	National average of local TEIs	Provinces whose public expenditure on tertiary education is lower than that of the national average
Current-fund expenditure per student	12,163	Guizhou(8103), Sichuan(8296), Anhui(8727), Inner Mongolia(8927), Xinjiang(8987), Shandong(9424), Guangxi(9616)
Budgetary current-fund expenditure per student	4,810	Sichuan(2102), Hubei(2581), Jiangxi(2652), Xinjiang(2715), Hunan(2759), Hebei(3042), Guizhou(3408)
Budgetary expenditure for capital instruction per student	450	Guizhou(120), Hubei(121), Hebei(120), Anhui(117), Jilin(139), Jiangxi(144), Sichuan(155)

Source: China Educational Funds Statistics Yearbook, 2004

179. In addition to the variation of educational expenditure among institutions caused by the aforementioned selective granting program, there is a disparity among different regions of China in terms of average expenditure per student. Regions with expenditure per student lower than the national average are mainly in central and western China where the economic development level is comparatively low or areas where there are only a few of high-quality TEIs. Since majority of TEIs receive public expenditure

from Provinces and the charge of tuition correlates significantly with local economic development, the local economic development level is a major contributing factor in the level of expenditure per student in regional TEIs.

## **8. PLANNING, GOVERNING AND REGULATING TERTIARY EDUCATION**

180. After 1949 when the People's Republic of China was founded, higher education was governed by a highly centralised system in order to accommodate a massive economic development and industrialisation. Under a less-developed planned economy, this governing model has produced a great number of high-calibre workers for a long period of time and its historical significance should not be undervalued. As the economic system reform continues to deepen and economic society develops since the adoption of the reform and opening-up policy, disadvantages of such a highly centralised governing system with a low level of involvement of the society and a segmented governance structure between central ministries and local governments, have shown up gradually.

181. Since China initiated the reform and opening up to the outside world, especially since 1990s, the Chinese government has drawn up the development roadmap for tertiary education and taken a system reform as the breakthrough point during the process of phasing into a market economy to replace a planned economy. An overarching vision and framework for the system reform of tertiary education have been generated as well. It has later led to the formulation of a series of policy documents, laws and regulations with the purpose to deepen the system reform. Breakthrough progress has been made with regard to governing, running and operating tertiary education institutions (TEIs) as well as their internal management, etc.

### **8.1 Reform and development of governance structure of tertiary education**

182. In 1985, the Chinese government issued the *Decision on Reforming the Education System*, attempting to explore a new governance structure of tertiary education in a new era of the reform and opening-up. The issuance of the *Outlines of China Education Reform and Development* in 1993 and its *Implementation Guidelines* next year marked the acceleration of the reform process in governance structure. The promulgation of related policies, laws and regulations has implied that the system reform in the new era has focused on the following aspects: attracting social resources for tertiary education; promoting cooperative operation of TEIs in diverse ways; modifying the "segmented governance structure" gradually; and removing barriers in governance structure.

183. From 1994 to 1996, the General Office of the State Council convened three symposiums on the system reform of governing tertiary education, at which participators summarised reform experiences and clarified reform visions. In 1998, a meeting for experience exchanging was held with the same theme, at which a policy principle of "Co-building", "Adjustment", "Cooperation" and "Annexation" was brought forward. After that, under the leadership of the central government, three restructurings of TEIs affiliated with central ministries (or other organisational units of the State Council) were conducted by seizing the opportunity of the 1998 organisational restructuring of the State Council. Under the cooperation among the Ministry of Education (MoE), the Ministry of Finance, and the State Planning Commission (now the State Development and Reform Commission), etc., this round of restructuring has solved the problem of running mechanism at ministerial level and marked a historical breakthrough in the system reform. Some TEIs involved in the restructuring were transferred to the governance by the MoE or merged into TEIs affiliated

with the MoE, while most of them were handed over to the local governments and were co-built by the central and local governments. Through institutional merges, a batch of more comprehensive TEIs has emerged with enhanced strengths. Particularly, a few of large-sized colleges and universities of medical science with high reputations were merged into comprehensive or multidisciplinary universities, which changed the long-standing situation of independent development of Chinese colleges and universities of medical science.

184. Between 1992 and 2001, there were 556 TEIs around the country (387 regular TEIs and 169 adult TEIs). After the annexation of HEIs, the number dropped to 232 (212 regular HEIs and 20 adult TEIs), 324 less than before. Among the regular TEIs, some institutions that are closely connected with national development or have distinct industrial characteristics continue to be governed by educational administration of the State Council or ministries other than the MoE. Most regular TEIs that used to be governed directly by other ministries were transferred to the sole or primary responsibility of Provinces.

185. Great changes have been taken place in the governance structure of tertiary vocational education as well. Entrusted by the State Council in 1999, provincial governments took over full power and responsibility to boost tertiary vocational education. This means that provincial governments have the authority in approving the establishment of tertiary vocational institutions, setting and managing admission plans for tertiary vocational institutions affiliated with local governments (or local institutions offering short-cycle programs). Such policy measures have bolstered the development of tertiary vocational education. Along with further transforming its functional role and strengthening the macro-management, the central government has encouraged and supported local governments to carry out educational reforms in various ways so as to form their own unique development models.

186. Please refer to Part 2.3 for more information on the governance and administration of regular TEIs.

## **8.2 Running mechanism of tertiary education**

187. Issued in 1998 and implemented in 1999, the *Higher Education Law* articulated that “When formulating the plan of higher education development and establishing higher education institutions, the government encourages participation of such social sectors as enterprises, institutions, societies and other social organisations and citizens in the establishment of higher education institutions, rendering support for the reform and development of the cause of higher education in accordance with law.” In the past ten years, the running mechanism reform of tertiary education has focused on changing the monopoly of the government in running tertiary education, while at the same time mobilising all social sectors to establish and operate tertiary institutions. Gradually, a new diversified running mechanism in which the government plays the major role with the participation of other social sectors has been set up.

### **8.2.1 Running and governing public TEIs**

188. Under the traditional system of planned economy, tertiary education fully relied on the government. All TEIs were “public” or “state-run,” which meant TEIs were funded and run by the central and local governments. The governments had to play many roles, namely, runner, sole investor and supervisor. Since the mid of 1990s, however, following the deepening of systemic reform and the change of governance models, the function of centralised direct management from the central government has been weakened considerably. Tertiary education has shown the trend of diversification of investors, variation of assessment methods, and decentralisation in running TEIs. While government has crossed out the role in direction management and supervision, TEIs have more autonomy in institution’s operation. In addition, buffer agencies have taken up the role of assessment and supervision, which acts as the major forces in the booming of assessment agencies in tertiary education.

189. Currently, in terms of public TEIs, China has formed three-level governance structure, namely governance at the central, provincial and municipality levels. TEIs at central level include colleges and universities directly under the governance of the MoE and other central ministries, most of which are national key universities for all the students around the country; TEIs at provincial level are funded and governed by Provinces, which accommodate the needs of local socio-economic development; TEIs under local municipalities, most of which are higher vocational institutions offering short-cycle programs, have emerged and experienced a rapid growth in recent years. This governance decentralisation has pushed TEIs to improve their significance and pertinence to society. The role of TEIs in facilitating local socio-economic development can't be substituted.

### **8.2.2 The “minban” (privately-run) tertiary education system**

190. Due to China's transitions from a planned economy to a market economy, its reform and opening-up have moved into a new historical era in which the public sector of the economy remains dominant and diverse sectors develop side by side, which is a development agenda set by the government. Consequently, changes took place in the traditional way of education provision. The promulgation of *Higher Education Law* has embodied the principle that “the state... . . . adopts various ways to aggressively promote the cause of higher education” in the form of law. The legal status of social sectors and individuals in funding and providing tertiary education is justified and minban (privately-run) education is legitimately included as part of the tertiary education system.

191. In addition to the *Higher Education Law*, a series of laws and regulations marked the establishment of the legal system for minban education, for instance, *Regulations on Education Provision by Social Forces* issued by the State Council in 1997; *Law on Promotion of Privately-run Education* adopted by the 31<sup>st</sup> Meeting of the Standing Committee of the 9th National People's Congress in 2002; and the *Implementing Regulations for “Law on Promotion of Privately-run Education”* by the State Council in 2004. Under the government's working principle of “encourage actively, support forcefully, guide wisely, and govern by the law,” minban education has grown rapidly.

192. China's minban education includes three main types: the first is the independently-established minban TEIs (including minban regular TEIs and minban adult TEIs) which are funded and operated by social forces; the second is the independent colleges which are established by regular public TEIs through utilising social resources with new running mechanism and model; the third is tertiary education agencies for self-taught adult students preparing for state-administrated college level examination. The first two have the authority to grant degrees.

1. Independently-established minban TEIs. This type of TEIs are funded and operated by social forces, consisting of minban regular TEIs and minban adult TEIs. In 2004, there were 228 regular institutions that were recognised to grant degrees, accounting for 13% of the total number of national TEIs. And there are only two minban adult TEIs. After 20 years of development, among all the degree-granting minban regular TEIs, 24 institutions are offering bachelor-degree granting programs. Some minban universities possess a relative higher level of overall capability in running tertiary institutions and a few have even exceeded their counterparts in public sector. The flexible system and well-tailored programs and majors allow minban TEIs to respond quickly to the changing demands of the socio-economic development and its popularity is no less than some prestigious public universities in economically-advanced areas.
2. Independent colleges. This type of TEIs offers undergraduate education with the cooperation between public regular TEIs and social sectors (including enterprises, public institutions, social organisations and/or individuals and other agencies). Without governmental financing, the funding is provided by cooperative partners or by collective forces through minban mechanism.

The tuitions fees for independent colleges are set with reference to the related state regulations. Independent colleges were first launched in 1999 in Jiangsu and Zhejiang provinces, titled “Privately-run Second-tier College with Public-ownership” at that time. In 2003, the MoE issued *Guidelines on Strengthening and Regulating Pilot Independent Colleges under New Mechanism and Models*, in which the principle of “active promotion, regulated administration, and innovative reform” was imposed on independent colleges. Requirements and rules have been specified in the *Guidelines* on operating mechanism, degree certificates in the name of the independent colleges, etc. On the whole, the *Guidelines* has standardised the operation of independent colleges and ensured its healthy, rapid growth. The pilot independent colleges is a good attempt of integrating the operating advantages, education traditions, faculty strength, and managing practice on the public TEIs with fund, resources, and educational enthusiasm on non-public social sectors. The independent colleges, well-known for distinctive “independences” (independent legal entity, independent infrastructure and campus, independent teaching organisation and management, independent admission and degree-granting, independent financing and accounting), have become a new increment in the minban tertiary education development. By now, there are 320 independent colleges all over the country.

3. Tertiary education agencies for self-taught learners. Self-taught examination at tertiary level is a unique form and an important part of Chinese tertiary education, which combines self-taught learning, community-assisted education and state-administrated examination together. As stated in the *Higher Education Law*, “The state practices self-taught higher education examination system. Students having passed the examination shall be issued corresponding certificates of college education or other certificates of studies.” Tertiary education agencies for self-taught learners are learning-support organisations with formal certificates of education provision. Concurrent with the public system of self-taught examination, minban TEIs for self-taught learners are approved by educational authorities, funded by various social forces, reviewed by and registered at self-taught examination organisations. The learning-support approaches and teaching time are flexible in forms of full-time, part-time, night courses, correspondent courses, etc., aiming to providing relevant professional courses for self-taught individual. After passing national unified examinations for theoretical and practical courses requested by teaching plans, self-taught learners will be issued bachelor degree and/or short-cycle diploma.

### **8.2.3 Chinese-foreign co-operation on TEIs**

193. Chinese-foreign cooperation refers to the activity that foreign educational institutions and Chinese educational institutions cooperate on establishing educational institutions (programs) within the territory of China to provide education service mainly to Chinese citizens. As prescribed in the *Regulations on Chinese-Foreign Cooperation in Running Schools*, the government encourages all levels of domestic education institutions including TEIs to cooperate with foreign counterparts whose academic reputation and teaching quality have been widely recognised, and encourages cooperative provision of tertiary education in newly-developed and most-needed disciplines. At the same time, the *Regulation* has stipulated the protection of the lawful rights and interests of the owner and manager of cooperatively-run TEI as well as the lawful rights and interests of its teachers and students. Chinese-foreign cooperative TEIs are entitled governmental supportive and promotive measures.

194. There are many types and forms of such cooperation in the beginning period. Domestic researchers classified cooperative TEIs into two types in term of the ownership of TEIs and whether the state recognises the educational certificate. They are independently-established TEIs and non-independently-established TEIs. The independently-established TEIs include formal and non-formal education; the non-independently-established TEIs consist of second-tier colleges and cooperative programs with public regular TEIs, both of which can be subdivided into formal and non-formal education.



195. In past ten years, Chinese-foreign cooperation in provision of tertiary education has contributed to the ecosystem of Chinese tertiary education. Its significant role has been demonstrated as follows:

- Optimising tertiary education curriculum.
- Improving teaching methods.
- Promoting the openness of educational institutions.
- Training a great number of professionals and specialists with practical skills.
- Enabled domestic students to enjoy first-class educational resources from abroad.

#### **8.2.4 Student transfer among tertiary institutions**

196. There is no prescription on whether students can transfer among public HEIs, minban HEIs and Chinese-foreign cooperative TEIs. For students transferring within public HEIs system, there are prerequisites to be met. According to the *Regulations on Student Administration of Regular Higher Education Institutions* issued by the MoE and implemented on September 1<sup>st</sup> 2005, students in public regular HEIs “shall complete their education at the college where he/she is enrolled,” only when the student can’t continue his/her study due to serious illness and/or especial difficulties, he/she can apply for transferring. However, under following circumstances, the student is not allowed to transfer: (1) Enrolled within one semester; (2) transfer from ordinary TEIs to key universities or from short-cycle to bachelor programs; (3) enrolled as targeted students or under appointed education contract; (4) flunked out; (5) without justified reasons. At the same time, the *Regulation* has stated that students in public regular TEIs can register in other TEIs’ courses based on trans-college agreements. The credits he/she obtains in other TEIs can be recognised by his/her TEI after review.

### **8.3 Internal relations in tertiary education and links between tertiary education and other forms of education**

197. Due to constraints of economic development and historical reasons, the linkage between China’s tertiary education and other education institutions outside the system used to be rather loose and weak. However as the idea of lifelong learning becomes more widespread and the goal of building a learning society is brought up, the unified schooling system is under pressure and an inclusive, cross-intersectional lifelong education system is to take hold, which has become a social focus. This leads to changes in the relationship between tertiary education and other education institutions outside the system.

#### **8.3.1 Formal regular tertiary education, adult education and lifelong education**

198. China’s adult education is an important part of the education system in the process of transition from traditional schooling to lifelong education system. In 1950s, in order to meet the demand of a large number of educated workers for the massive economic development, “education for agricultural and industrial workers,” empowered by a flexible teaching approach, emerged and was characterised for its targeted students that were the massive ordinary people and the education content that was closely linked to real production. While in the late of 1960s, formal adult higher education appeared in the forms of correspondent and night universities operated by regular higher education institutions. In addition, there were independently-established correspondent colleges, part-time formal higher education and radio-television universities offering local distance education. After China initiated its reform and opening-up in 1978, adult education gained a rapid growth. In the *Outline of China Education Reform and Development*, issued in 1993, it was clearly pointed out that adult education was a new form of education in the process

of transition from traditional schooling to lifelong education. It plays an important role in accelerating overall quality of Chinese people and promoting socio-economic development. The adult education system was included in the 1995's *Education Law*.

199. From the traditional point of view, adult education based in regular TEIs and independent tertiary adult education have the closest linkages with the tertiary education system among other forms of education, such as adult education, lifelong education and in-service training, etc. These two forms of education, together with secondary technical school governed and operated by industrial administrative organisations and local governments, and in-service training agencies run by enterprises, compose the adult education system with Chinese characteristics. The adult education system has its own clearly-defined education goals, targeted students, teaching contents, separate admission channels and examinations, special graduation certificates, etc. Meanwhile, it has set up a special subsystem for curricula, textbooks, and assessment. The system is governed and managed by a special department under the MoE and local educational authorities. The established adult education system has made its contribution in ensuring the rights of citizens in receiving education and realising the goal of equal access to education.

200. However, because of its rather separate governing and operating structure, the linkage between adult education system and regular formal tertiary education was ex part, and a separate situation was observed in the link with the regular schooling education. Such segregation was implied in the following two aspects: the lower level of sharing faculty and teaching facilities; and no direct transfer channel available for students with similar educational backgrounds. Currently, the education administrative authorities and researchers are working together to explore how to integrate the regular formal education and adult education at tertiary level. The regular TEIs are expanding their functions in adult education and lifelong education. There appeared new form of education such as online higher education and part-time graduate education which are all targeting adult students. All the initiatives have expanded the resources for adult education and accelerate its development.

### ***8.3.2 Tertiary education and upper secondary education***

201. The relationship between tertiary education and upper secondary education is mainly reflected by the influence of the former on the later, which is further expressed in the impact of national entrance examination for higher education (“Gaokao” in Chinese) upon upper secondary education. Comparatively speaking, the Gaokao for adult TEIs has little influence on upper secondary education.

202. Though vocational secondary education is one part of the dual secondary education system in China, general secondary education dominant this phase of education in terms of student's choices and imposed attentions. Thus Gaokao has extraordinary impact on upper secondary education. The yearly-held Gaokao is a crucial step in the life of every student during their upper secondary education as well as such an important event in the family which drives the parents to fidget. At the same time, the Gaokao in reality has become a Lydian stone in assessing the quality of upper secondary education by society. The college admission rate becomes an authoritative indicator in judging teachers and schools' capabilities. Therefore, the influence of tertiary education upon upper secondary education is directly reflected by the influence of Gaokao upon upper secondary schools, which inevitably produced some negative impacts, such as teaching-for-test.

203. Currently, some TEIs and upper secondary schools that possess favourable conditions began to pay particular attention on the transition from secondary to tertiary education and initiated experimental explorations on meaningful conjunctions of the two (other than the Gaokao). Depending on different situations of the schools and universities, such exploration and activities are taken mainly in the following three areas: (1) advanced placement course created at upper secondary schools; (2) inviting tertiary faculty to upper secondary schools to offer seminars and advanced courses; (3) organising secondary students to

participate in laboratories and other research activities of TEIs. Though the above-mentioned activities are limited to key upper secondary schools in large cities, the idea of taking well-linked secondary and tertiary education as an integral part and relevant efforts to make it happen have been recognised by leaders of secondary schools and tertiary institutions, education administrative authorities, and parents.

#### **8.4 Internal administration and management of TEIs**

204. The internal administration and management system plays a determining role in the development orientation of TEIs, its quality and effectiveness. Furthermore, it is an important part of the China tertiary education reform since 1990s. The reform of internal administration and management system has focused on overcoming management drawbacks, for instance, the overlapped administrative organisational structure, the lack of a competition-based incentive system and an effective obligation mechanism, too high ratio of staff to faculty, equalitarianism in allocation, etc. Through means of restructuring the management system, changing the administration mechanism, optimising management teams, an internal administration and management system and operating mechanism that initiatively accommodate to national socio-economic development have been gradually established.

##### **8.4.1 Leadership and management of TEIs**

205. According to the *Higher Education Law*, the president is the legal representative of TEIs, responsible for teaching, research, and other administrative management affairs. The president shall be the Chinese citizen who meets the basic requirements set in the *Education Law*. Appointments of presidents and vice presidents in public TEIs are decided by their supervision authorities. The selection and appointment process shall follow certain principles and procedures. When a TEI selects a new president, the supervision authority will make an in-depth assessment on the candidates who meet the basic requirements. The final appointment suggestion will be made after going through the procedures of opinion poll, recommendation, etc., and then the government declares the final appointment decision.

206. As stated in the *Higher Education Law*, state-run TEIs shall practice the president responsibility system under the leadership of the institution's committees of the Chinese Communist Party (CCP). In accordance with the Constitution of the CCP, the committees of the CCP in TEIs exercise leadership over campus work and support the presidents to exercise their duties and responsibilities independently. The major responsibilities of the committee are as follows:

- To implement the guidelines and policies of the Chinese Communist Party.
- To adhere to the socialist orientation of running the institutions.
- To exercise leadership over ideological and political work and work related to morality in the institutions.
- To hold discussions and take decisions on the set-up of internal organisational structures and candidates for the heads of administrative units.
- To hold discussions and take decisions on such major matters as the reform, development and basic administrative rules of the institutions to ensure the completion of various tasks centred round education.

207. Additionally, TEIs have established faculty and staff representatives practice. According to the *Higher Education Law*, TEIs shall guarantee the participation of faculty and staff in democratic management and supervision and safeguard their legitimate rights and interests by law in the organisational

form of the conference of representatives of faculty and staff, in which the faculty representatives hold the majority of the places. The faculty organises regular representative meetings to participate in campus management and supervise the governance of the institutions.

208. TEIs have much autonomy in their internal administration and management, and also in organisational structure in which administrative and academic units can be set and adjusted in accordance with institutions' situation. From 1950s to 1980s, TEIs had operated at the "institution-department" structure in which sections of research and teaching were set up under the department. Since 1980s, due to the scale expansion of TEIs and discipline adjustment, many TEIs have established the structure of "institution—colleges (departments)—departments (institutes)," which reflects a decentralised management accommodating large-scale, multi-discipline TEIs. The management under the name of three-tier management structure varies a lot among TEIs, which means that a position and its responsibility with similar titles in one TEI are not correspondent to that of another.

#### *Organisational structure at institutional level*

209. The president is responsible for overall teaching, research and other administrative affairs, and executes the following functions:

- Mapping out the development plan.
- Setting tangible regulations and annual working plan and its implementation.
- Organising activities in teaching, research and moral education.
- Drawing out internal organisational structure layout.
- Recommending vice-presidents; appointing and removing heads of administrative and academic units.
- Employing and dismissing faculty and administrative staff.
- Managing student's registration administration and determining reward or penalty for students.
- Generating and executing annual budgetary plan.
- Protecting and managing campus property and lawful interests.
- Other functions formulated in the institution's constitution.

210. Like the organisational structure of other institutions, TEIs' organisational structure is a relatively independent and complete system within a given scope. Besides the longitudinal structure (institution-colleges or departments), the internal organisational structure includes a horizontal functional structure. The administrative system comprises a multi-layered, cross-sectional matrix management network, based on the two aforementioned systems.

211. The administrative offices serve as an assistant to the president in administration activities, in charge of execution under the leadership of the president. Every functional division (office) deals with administrative affairs following the president's direction. Within the given authority, the division (office), on behalf of the university, serves the teaching and research as well as the faculty and staff.

212. Many TEIs have set up the Committee of Campus Affairs, consisting of experienced scholars and managers, offering consultancies to the president.

*Organisational structure at colleges (departments) level*

213. The colleges (departments) are grass roots working units for teaching and research based on the nature of disciplines and programs. Teaching and research are the two basic functions for colleges (departments), which is a fundamental part of the tertiary institution's organisation. Their main tasks are to organise and coordinate the education, teaching and research activities within their responsibilities and authority and contact directly with teachers and students.

214. The dean of colleges (chairperson of departments) is appointed by the president, responsible for the overall administration of the college (department) under the leadership of the president. Within the college (department), there are institutes, teaching and research divisions, etc., which are established in line with different disciplines, programs, research orientations, curriculum, etc. As a teaching and research unit, the college (department) is the frontline for a TEIs teaching and research activities and its principal tasks are organising and delivering instruction, conducting researches, graduate education, developing textbooks, building up the team of teachers and researchers, establishing and maintaining laboratories and reference rooms, etc.

*Administration and management in minban TEIs*

215. In accordance to the *Law on Promotion of Privately-run Education*, minban schools shall establish such decision-making organisations as school council, board of directors, etc. The school council or board of directors is comprised of the investor/owner (or his/her representative), the president, representatives of faculty and staff, etc. The school council (board of directors) shall have in minimum five members and one director of the council (president of the board). The legal representative of minban TEIs is undertaken either by the director of the council, the president of the board, or the president.

216. The school council (the board of directors) assumes the following responsibilities:

- Appointing and dismissing the president.
- Amending the school constitution and working out rules and regulations.
- Mapping out the development plan.
- Approving the annual working plan.
- Raising the fund, reviewing the budget, and final accounting of revenue and expenditure.
- Determining the position quota and compensation standard for the faculty and staff.
- Making decision on the merger, splitting, close-down as well as other crucial affairs.

217. The president of minban schools takes charge of teaching and administrative affairs, assuming the following responsibilities:

- Executing the decision made by the council, the board, or other decision-making organisations.
- Implementing the development plan; drawing out the annual working plan, financial budget, rules

and regulations.

- Employing and dismissing teachers and staff.
- Exercising award and penalty.
- Organising teaching and research activities to ensure the teaching quality.
- Charging the daily administration.
- Other tasks designated by the council, the board, or other decision-making organisations.

#### ***8.4.2 TEIs personnel management system reform***

218. The goals of the reform are to create a favourable environment for TEIs reform and development, and gradually set up new personnel management system to cater to TEIs' own characteristics through:

- Defining the liabilities and responsibilities of the government and its functional organisations, the supervision authority and TEIs.
- Streamlining the relationship between the government administration and the TEI management.
- Decentralisation.
- Giving more autonomy to TEIs for their institutional operation.

219. The new system, supported by related measures and under the governmental supervision by law, shall enable the institution to make its own decision on recruitment and allow the faculty and staff more freedom and flexibility in choosing their jobs. It will further refine the competition-based incentive system, change the personnel management mechanism, and bring in flexibility in mobilising human resources and allocation system. Since 2000, some TEIs have implemented a personnel mechanism with a market-oriented recruitment and employment, in which the employment, promotion, demotion, and compensation are based on the performance and meritocracy. The practice has facilitated the faculty employment reform, the reform for staff management system, the organisational quota reform, and the allocation reform.

#### ***Drive the organisational quota reform***

220. The organisational quota reform in TEIs shall follow the principle of “macro-controlling, micro-decentralisation, streamlining administration structure and higher efficiency.” Tangible measures include cutting down the number of internal units and personnel; controlling the number of administrative units within 10-20; drafting out regulatory documents on internal quota management; providing guidance for TEIs in setting developmental principle that a proper size of recruitment and employment shall be oriented to the efficiency and education quality.

#### ***Proactively promote the reform for non-academic staff management system***

221. TEIs apply the non-academic staff management system as stated in *Educational Law* and *Higher Education Law*, reflecting the goal of public institutions' personnel reform. The adoption of staff management system in accord with academic faculty management system is conducive to increase the management capability and efficiency, to stabilise the faculty and staff, and to improve management skills. The implementation of staff management system is an unprecedented innovative reform in TEI personnel

management. In order to establish a staff management system by law in line with the characteristics of TEIs' management, the MoE initiated the pilot reform in some TEIs in 1999 under the guideline of "intensive research, cautious implementation, experimental pilot, and gradual popularising." Based on the experience gained in the pilot reform, the MoE expanded its coverage of the pilot reform and drive it further.

#### *Promoting the reform of compensation allocation system*

222. The reform covers compensation and benefits, post allowance and social security system, with the objective to further rationalise the internal allocation system. Under the new system, the compensation, of which the post salary constitutes the main part, is based on three "standards", namely, the post, the amount of work, and the performance. The goal is to establish a virtuous circle for internal allocation system which attracts talents as well as retains good faculty to maintain the personnel stability. The reform takes consideration of the principle of "efficiency speaks without compromising fairness." It utilises control and adjustment of total compensation payment, and the collective effects of state tax and social security policies, to achieve a balanced, coordinated development of the reforms in various areas. The reform is to drive the sustainable development of TEIs and to help achieve several "transforms" supported by the allocation system: from improving the compensation and benefit of the faculty and staff to motivating them by established incentive system, from the obtaining short-term benefits to sustaining stability of the talents in the long-term, from the money stimulation to recognitions and spiritual rewards.

## **9. ASSURING AND IMPROVING THE QUALITY OF TERTIARY EDUCATION**

223. Quality is viewed as the core of tertiary education as well as the attention focus of the government and the society. Since late 1990s, the government has formulated a series of guiding policies and taken numerous measures to address the challenge of educational quality brought about by the enrolment expansion of tertiary education. In addition to increasing tertiary education opportunities and meeting the educational demands of society at tertiary level, the Chinese government has been dedicating efforts to ensure and improve the educational quality. After many years' exploration and practice, China has initially formed a quality assurance and assessment system for regular tertiary education, adult tertiary higher education and graduate education.

### **9.1 Measures for assuring tertiary education quality**

224. The emphasis on tertiary education quality is mainly manifested in the following ways: strengthening policy guidance at the macro level, guaranteeing educational conditions, and supporting relevant agencies to conduct educational assessments.

225. In 2001, the Ministry of Education (MoE) issued the Suggestions on Strengthening Undergraduate Education and Improving Its Quality in Regular Higher Education Institutions whereby stringent requirements, referring to 12 areas of financing instruction, enforcing instructional performance assessment, using high-quality teaching materials, etc., have been set for assuring educational quality of tertiary education institutions (TEIs).

226. In 2003, the "Project for Reforming Teaching Practice and Enhancing the Teaching Quality in Higher Education Institutions" was officially launched. With a core focus on quality, the project has

adopted a number of measures as follows:

- Further strengthening the reform in instructional modes, curriculum structure, and teaching content and methods.
- Rewarding outstanding teachers.
- Improving teaching qualities of fundamental courses and developing model courses.
- Refurbishing and enriching teaching laboratories for fundamental courses.
- Continuing to develop China Academic Library and Information System (CALIS) and the national system for sharing experimental facilities and other high-quality resources.

227. In 2004, the State Council approved the 2003--2007 Action Plan for Invigorating Education, which was proposed by the MoE. The Action Plan requires that, in tertiary education,

- The quality assurance system shall be perfected.
- Assessments and consulting agencies shall be established.
- A national quality assessment of instructional performance shall be conducted on a five-year cycle.
- Standardising and improving relevant assessments for programs & majors.
- Gradually establishing a program & majors assessment system that is linked with the qualification certificates and profession's entrance validation.
- Continuing to construct an information system of instructional performance assessment for TEIs.
- Developing an assessment indicator system.
- Instituting the collecting, analysing and periodically publishing of related data on instructional quality.

228. To meet the above requirements, in October 2004, the MoE set up a "National Assessment Centre of Instructional Performance in Higher Education Institutions," which assumes an administrative function of supervision by organising and conducting instructional performance assessment and assessment of various programs & majors at tertiary level.

229. With a view to utilise modern information technologies, a model course project was initiated in 2003, which planned to develop and recognise 1,500 national model courses within five years (2003--2007). Related contents will be public to institutions nationwide through the Internet. Up to the end of 2005, 750 model courses have been recognised.

## **9.2 System of quality assurance and assessment**

230. The quality assurance and assessment of Chinese tertiary education are mainly undertaken by educational administrative authorities, social organisations and TEIs. Since the majority of Chinese TEIs has been included in the public education system for a long time, in which the government is the major



source of funding, the government becomes the major player in accountability system and this determined its leading role in the external quality assurance and assessment of TEIs.

### ***9.2.1 Educational administrative authorities***

231. At the central government level, the MoE has established a Section for Higher Education Assessment, a “Leading Group for Higher Education Assessment” and an “Expert Committee (Secretariat) for Teaching Assessment of Short-cycle and Undergraduate Programs in Higher Education Institutions,” all of which are responsible for:

- Carrying out study and draft tertiary education assessment guidelines, policies, regulations and documents.
- Promoting the establishment and improvement of the macro supervision and adjustment of quality assurance and assessment system in tertiary education.
- Planning and coordinating various assessment activities in tertiary education.
- Planning, coordinating and conducting various instructional performance assessment of TEIs and reviews of assessment results.
- Organising related assessment experts to provide advices on assessments conducted either by experts committees of assessments or by other agencies.
- Managing the information system of tertiary education assessment, conducting corresponding data analysis and research, and providing information to the public.
- Planning and organising research and academic exchanges of tertiary education assessment.
- Planning and recognising national awards on instructional achievements in tertiary institutions.

232. Undergraduate and graduate education assessments are implemented by the “National Assessment Centre of Instructional Performance in Higher Education” and “China Academic Degrees and Graduate Education Development Centre,” respectively under the guidance and leadership of the MoE and the Academic Degree Committee of the State Council. Instructional performance assessment on short-cycle programs is guided and organised by the local educational authorities at provincial level, while the MoE shall send experts to conduct sample assessment.

233. Ever since 1985, the Academic Degree Committee of the State Council has piloted the inspection and assessment on the degree conferring qualities of 22 disciplines and programs, including philosophy, economics, natural sciences, engineering, agriculture, and medical science. In recent years, the methods of quality inspection and assessment for degree and graduation education has been continuously enriched and improved. A set of assessment criteria and methods has been established based on previous practices. Relevant laws, regulations and policies are being drafted, improved and refined. In 1994, the “Institute of Degree and Graduate Education Assessment for Higher Education Institutions and Research Institutes” was established to fulfil the transfer of responsibilities for related assessments from the government to public organisations. As conclusion, the inspection and assessment on academic degrees and graduate education quality has contributed to the development of degree-granting programs, the improvement of graduate education quality, and the enforcement of administrative capabilities of TEIs. It plays an important role in assuring the quality of academic degrees. In 1996, 12 first-category disciplines have been assessed by the Education Commission of China (now the MoE) and the Academic Degree Committee of the State Council

or their entrusted provincial degree committees. Within the 12 first-category disciplines, there are 103 second-category disciplines containing 171 doctoral programs and 1,099 master's programs. In 1997 when the MoE issued a new discipline catalogue, a benchmark assessment was conducted on 1,718 doctoral programs and 3,814 master's programs, which accounted for 66% and 40% of national doctoral and master's programs respectively.

234. The quality of doctoral graduates is an important indicator of the overall quality of higher education. Beginning in 1999, the MoE selects and rewards 100 outstanding doctoral dissertations each year. Such action is of great significance in improving the quality of graduate education, especially the quality of doctoral education.

### ***9.2.2 Social organisations***

235. A common way for society to assess tertiary education is the evaluation of working performance of graduates of TEIs. Each year, TEIs survey employers to learn about the working performance of their graduates. Based on the collected information, they will adjust educational objectives, curriculum and the training model accordingly.

236. Recently, some social organisations began to conduct quality assessments and rank TEIs based on indicators of teaching, research and social services. However, it is still at a voluntary and primary stage.

### ***9.2.3 Tertiary education institutions***

237. As the government strengthening educational quality management and assessment, TEIs are active in internal quality monitoring and assurance as well. A two-levelled (university and college) quality management system has been established, and a quality assessment system with the participation of experts, peers and students has been gradually perfected.

238. Many TEIs have established inspection office of instruction as well as quality assessment and monitoring centres for instructional performance. The inspection office of instruction usually consists of experienced senior experts, faculty and senior students. They often observe teaching and after-school activities and review students' study, homework, and graduation theses (designs) in order to make appropriate assessments. A quality assessment and monitoring centre, exclusively for institutional self-assessments, is usually located in the office of instruction. Sometimes, however, it may be established as an independent unit.

239. In recent years, the mechanism for students to evaluate instructional performances has been developed. Normally, the office of instruction hands out assessment forms to students at the end of a course. Then the office calculates a teacher's assessment result based on the scores given by the students. The final results falls into one of the four categories: excellent, good, pass, fail. These results are transferred to related individual instructors, which will be the basis for teachers to improve their teaching. The peer observation and assessment have been widely adopted. Moreover, it is very common that leaders of universities, colleges or departments regularly observe classes.

## **9.3 Criteria and methods for educational quality assessment**

### ***9.3.1 Instructional assessment***

240. In 1990, the MoE issued Provisions on Educational Assessment of Regular Higher Education Institutions, which defined the types of assessment, assessment agencies and the assessment process. Between 1997 and 1998, the MoE issued a series of assessment schemes for evaluating undergraduate education programs in comprehensive universities and others specialised in industry, agriculture and

forestry, medical science, law and politics, economics and finance, foreign languages and teacher education. In 2002, based on the previous assessment experiences, the MoE issued Scheme for Assessing Undergraduate Programs in regular HEIs (Draft). It set forward the criteria for assessing undergraduate education:

**Table 9.1 The Criteria for assessing undergraduate programs in regular HEIs**

First-category criteria	Second-category criteria
1. The guiding principles and philosophy for the institutions	1.1 Mission statement 1.2 Strategic planning
2. Faculty	2.1 Number and structure of the faculty 2.2 Backbone teaching force
3. Educational conditions and utilisation	3.1 Basic educational facilities 3.2 Instructional funds
4. The development of academic disciplines and instruction reform	4.1 Programs and majors 4.2 Curriculum 4.3 Supervision of internship and field work
5. Instructional management	5.1 Managing team 5.2 Quality control
6. Teaching and learning atmosphere	6.1 Paragon of teachers 6.2 Learning attitude
7. Instructional results	7.1 Basic theories and skills 7.2 Graduation theses or designs 7.3 Morals and ethics 7.4 Physical education 7.5 Social reputation 7.6 Employment
Projects with featured characteristics	

241. This Scheme targets at all the regular TEIs. Assessment results fall into the following four categories: excellent, good, pass, and fail. In 2003, the MoE issued a scheme for assessing the quality of vocational tertiary education and short-cycle programs, and piloted it in 26 vocational TEIs.

242. In China, the curriculum design and organisation at the undergraduate level are careful and strict along with rigorous instructional requirements. In recent years, China has signed agreements of mutual recognition of certificates, diplomas and degrees in tertiary education with countries such as Germany, France, United Kingdom, Australia, New Zealand, etc.

### **9.3.2 Assessment of scientific research**

243. Normally, assessment on scientific research in tertiary institutions is conducted by experts organised by the hosting organisations of the research project; however, they may, in particular cases, commission the assessment tasks to specialised buffer agencies. National Planning Leading Group of Philosophy and Social Science and its offices are responsible for such assessment, accreditation, and promotion of key research projects in philosophy and social sciences. National Natural Science Foundation

of China and the Ministry of Science and Technology are responsible for the corresponding assessments in the fields of natural sciences and technologies.

244. A strict review shall be conducted before a research grant is offered. The process of review comprises initial review, peer review, and expert-team review or follows the review procedure set by committees of academic disciplines. After the completion of a research project, the project leader(s) shall write a summary report and submit it to the institution where the project is housed. The latter shall review the report and make their comments. Then, related agencies or institutions shall organise experts to complete the review process via meetings, correspondence, or other means.

### ***9.3.3 Assessment of academic disciplines***

245. Since the end of 2000, “the Institute for the Assessment of Degree and Graduate Education in Higher Education Institutions and Scientific Research Institutes” began to research and prepare assessment on academic disciplines, which is to assess and rank each first-category discipline of all institutions that are recognised to offer degree-granting programs based on review results. In March 2001, the Discipline Assessment Scheme (draft for discussion) was formulated. On April 20th, 2002, the Institute initiated the pilot assessment among TEIs. In September 2002, the pilot assessment was completed, and assessment results were published on public media including China Postgraduates, which aroused strong attention in society. Based on the experiences of pilot assessment, the Institute started a second-round assessment in July 2003. It will continue the assessment periodically in the future. After thorough research and discussion, along with consulting experts in various fields, the period of the assessment is initially set for 3 years, which means that the Institute will conduct assessments on all the first-category disciplines (except for disciplines in the military affairs) every 3 years. The assessment criteria and techniques will be adjusted and modified each time after the completion of assessments, taking into consideration of the suggestions from experts in various fields. Comments and suggestions from experts all around will also be taken into consideration to continuously improve the scheme so as to make it more candid and scientific-sound.

246. The assessment on disciplines is carried out by collecting objective data and conducting survey on the academic reputation. The objective data come from the basic information forms filled by tertiary institutions and public information sources, such as the 211 Project Office, the Information Centre of the MoE, the Document and Information Centre of Chinese Academy of Sciences, etc. The academic reputation comes from survey results from experts in the same discipline. The objective data and academic reputation survey results will be synthesised according to the discipline assessment criteria, i.e. the objective data will be processed through (60, 100) linear transformation to obtain the scores of various indicators for each participating discipline. These scores, combined with the academic reputation scores, will be calculated by weighted means to generate a final comprehensive score for each discipline program. Thus a ranking will be obtained based on the final scores of each academic discipline.

## **10 THE INTERNATIONALISATION OF TERTIARY EDUCATION**

### **10.1 The impact of internationalisation on China’s tertiary education**

247. As the wave of economic globalisation is approaching, the economic inter-dependence and competition between China and other countries has been intensified. International standards and conventions will become the general rules for China’s economic operation. China’s tertiary education is no

exception.

248. Within such a context, policies set by the Chinese government for its tertiary education system are as follows:

- To open education wider to the outside world and strengthen international cooperation and exchanges, both of which are important parts of the national education development strategy.
- To adopt an overarching guiding principle: “the cooperation and exchanges shall be conducted both by the government and non-government sectors, on a bilateral or a multilateral bases, with attention to strategic balance while ensuring a prioritised development, with an emphasis on effectiveness.
- To promote international cooperation and exchanges in all aspects, in a variety of educational fields and at a higher level.
- To study, absorb and learn about advanced sciences and technologies as well as successful experiences of educational development and management from other countries.
- To introduce advanced cultural achievements, scholarships and financial resources from abroad, to promote science, technology and education and to train qualified workers of various types.
- To promote friendships between China and other countries as well as to serve China’s cultural and economic development.
- To take active measures in delivering all commitments in educational services and further open to the outside world under the educational provisions of WTO Agreements.

249. Consequently, there will be considerable changes to tertiary education ideas, education and training models, the TEI autonomy, programs and majors, teaching content, curriculum structure, student backgrounds, and funding channels.

250. The impact of economic globalisation on tertiary education can be identified by the following trends:

1. The degree of openness in tertiary education has noticeably increased. Tertiary education worldwide has evolved gradually from localism to globalisation, transcending geographic limits and national borders. In recent years, tertiary education institutions (TEIs) in U.S., Canada, Britain, Australia, etc. have been exporting educational services to China. The openness has not only facilitated the improvement of China’s educational level but also created more opportunities in tertiary education for Chinese people.
2. The running model of tertiary education has been diversified. As the internationalisation of tertiary education is gaining strength, it is unrealistic to fund tertiary education only through government appropriation. TEIs under Chinese-foreign cooperation have become a new running model following the trend of diversified tertiary education. According to the Regulations on Chinese-Foreign Cooperation in Running Schools in 2003, the government encourages domestic education institutions at all levels including TEIs to cooperate with foreign counterparts with worldwide reputation so as to introduce advanced running models, curriculum, teaching methods, and other high-quality educational resources. The purpose is to fuel China’s tertiary education reform and development through the international cooperation and exchanges.

3. International exchanges among high-level faculty are increasing. Since 1990, the government has launched a batch of programs such as “The Fund for Returnees to Launch Researches,” “Financial Aids Foundation to Out-standing Youth Faculty in Higher Education Institutions,” “The Chunhui (literally, Spring Sun) Program,” “Changjiang Scholar Award Program,” etc. Being widely recognised by the society, these programs have enabled a great number of overseas Chinese scholars to return and to serve their homeland through different ways, and hence have accelerated the growth of China’s economy.
4. The scale of two-way overseas study is expanding. Following the globalising process of tertiary education, the numbers of Chinese citizens going abroad for overseas study and foreign students studying in China have been on the increase.
5. There are more international cooperation and exchanges.

## **10.2 The Policies and measures for internationalisation of China’s tertiary education**

### ***10.2.1 Bilateral and multilateral education co-operation and exchanges***

251. Under the macro-guideline of “education should be geared to the modernisation drive, the world, and future,” and the working guideline of “widening channels, promoting exchanges, setting priorities, and emphasising effectiveness,” the Chinese government has held on to the principle that “the opening-up of Chinese education shall serve national education reform and development, national socio-economic development, and state foreign relations and peaceful development.” The government has established educational cooperation and exchanging relationships with over 170 countries across the world and signed hundreds of bilateral and multilateral educational exchanging agreements and executing plans.

#### *Trans-collegial cooperation and exchanges*

252. Chinese TEIs have carried out “cooperation between excellent institutions” and “first-class collaborative projects” with well-known universities around the world, for example, Peking University has established trans-collegial cooperation and exchanges with more than 200 universities and research institutions in 49 countries and regions.

#### *Trans-national recognition of certificates, diplomas and degrees*

253. The Chinese government actively promotes the recognition of certificates, diplomas and degrees among different countries (regions). As early as in 1983, the Chinese government signed the Regional Convention on the Recognition of Studies, Diplomas and Degrees in Higher Education in Asia and the Pacific. Agreements have been signed with developed countries such as Germany, France, U.K., Australia, and New Zealand, etc. Agreements with countries in the North Europe, the Mid-Europe, and the South Europe are being drafted.

#### *Diversified multilateral activities*

254. The Chinese government is intensifying the participation and support in plans and activities organised by the United Nations Educational, Scientific and Cultural Organisation (UNESCO), continuing in the cooperation with other international organisations such as the United Nations Development Programme (UNDP), the United Nations Population Fund (UNPF), the United Nations Children's Fund (UNICEF), etc.; strengthening cooperation and exchanges with regional organisations, such as the Europe-Asia Meeting (ASEM), the Asia-Pacific Economic Cooperation (APEC), the Organisation for Economic Co-operation and Development (OECD), the Asian Development Bank (ADB), and the International University Sports Federation (FISU), etc.

255. In addition, China has introduced accredited certificates for international vocational qualifications. Through the courses offered by the international vocational certificate, learners will be able to master essential theories and practices in programs such as business administration, accounting, auditing and to obtain world-wide accredited certificates after passing various examinations, such as the AIA, the CIA, etc.

### ***10.2.2 Policies on study abroad and returnees***

256. Now, China has the largest number of students studying in other countries. The undertaking of China's study abroad has played an important role in areas like education, science-tech, trade and cultural exchanges. After a rapid growth and several phases of transitions, the government has finally formed the following relevant working principles: "support for overseas study, encouragement for returning, freedom for coming and going." Tangible management measures are as follows: "studying abroad shall be applied by individuals and reviewed by experts, selection processes shall be based on fair competition, the government shall select the best candidates, students and scholars shall sign contracts for study abroad, and the state shall be compensated due to default." After several years of reforms, returnees as percentage of all study abroad learners financially supported by the public fund were raised from 92% in 1997 to above 97% in 2005. The percentage of study abroad returnees has increased greatly.

257. Current measures for study abroad are as follows: to orient state-funded study abroad towards state needs at a higher level; to continuously enhance services for self-financed study abroad; to refine the incentive mechanism for study abroad returnees.

258. The following table shows basic data on study abroad learners and returnees

**Table 10.1 Basic data on study abroad learners and returnees in 1998 and 2004**

Types	Year	1998	1999	2000	2001	2002	2003	2004
Number of study abroad returnees		7,379	7,448	9,121	12,243	18,000	20,100	25,100
Number of study abroad learners		17,622	23,749	38,989	83,973	125,000	117,300	114,700
Percentage (%)		41.88	31.36	23.49	14.58	14.40	17.14	21.83

Note: Data are compiled based on the China Education Statistics Year Book between 1999 and 2005 (People's Education Press)

### ***10.2.3 Study in China***

259. The Chinese government has paid particular attention on foreign students applying to study in China. The Study Abroad Foundation of China issues scholarships for foreign students studying in China each year from over 150 countries according to related exchanging agreements and schemes. Under the working principle of "deepening the reform, refining the management, ensuring the quality, sustaining the development," the government has put continuous efforts in reforming and refining the administration and management system to improve living and learning conditions for international students. By 2005, the number of international students had exceeded 110 000, a 32% increase from that of 1998. The purpose of receiving international students is not earning profits, but rather extending China's influence across the world and raising the reputation of China's universities so as to achieve the goal of building world-class Chinese universities. Tangible measures are as follows:

#### *Standardising management and service*

260. The government continuously adjusts and makes new policies in order to ensure a sound system for receiving international students. Given that in a new period, self-funded study in China is increasing in number, becoming more diverse in terms of nation of origin, and orienting to a higher-level education and

training, the government has prioritised educational quality as well as the autonomy of TEIs, which has led to a stable and healthy system of study in China. In regard to registration management of international students, there emerged the trend that the registration of international students would follow the administration pattern of Chinese students' registration; meanwhile, the government standardises the tuition and fees charged by TEIs with the goal of safeguarding the lawful interests of self-funded international students.

#### *Providing material guarantee*

261. Many TEIs have included augmenting the enrolment of international students as part of the institution's overall development plan. In addition to investing human resources to conduct survey and research on worldwide international students, TEIs have invested in setting up modern teaching and living infrastructure for international students. Some local governments have included expanding the scale of international studying in China as part of local development plans so as to create more favourable learning and living conditions.

#### *Various incentive programs*

262. The Chinese government has launched various programs to encourage and attract international students to come to China for higher-level study and research. Among them, there are "the Great Wall Scholarship" (offered through the UNESCO), "Short-term Visiting Scholarship for Foreign Teacher for Chinese Language," "Scholarship for Winners in the Chinese Proficiency Test (HSK)," "Scholarship for Chinese Cultural Studies," "Outstanding Student Scholarship," etc.

263. The restriction on international students' taking part-time employment has been removed in some places. Beijing Municipal Commission of Education has formulated the policy of "Work-study for International Students" with reference to corresponding policies in other countries. Thus international students have the right to teach in TEIs other than the one where they study. Furthermore, the Beijing Municipal Government and the Commission of Education have appropriated money to set up international student scholarships to recognise outstanding international students.

#### ***10.2.4 International promotion of Chinese language***

264. The Chinese government attaches great importance to the promotion of Chinese language throughout the world. In 1987, a trans-ministry leading group "the National Leading Group for Teaching Chinese as a Foreign Language" (changed to current name of "the National Leading Group of the Chinese Language Council International"), was founded, responsible for overall leadership and coordination of international cooperation and exchanges in international promotion of Chinese language. Under the Leading Group, the Office of Chinese Language Council International (Hanban in Chinese) is responsible for the daily work of promoting Chinese language. In order to meet the demand of the international market for Chinese language, Chinese governments and educational authorities at all levels take diverse measures to provide foreign students with rich, diversified and appropriate Chinese teaching resources, in which TEIs are the main vehicle.

265. The Chinese Proficiency Test (HSK) is the only standardised test worldwide to assess the Chinese language proficiency of non-native speakers. It offers an objective and standard test for non-native Chinese speakers to evaluate their Chinese language skills. In 1992, the HSK was officially recognised as a national test. The State Committee for the Chinese Proficiency Test of China was given the responsibility of managing and executing HSK examinations. HSK is divided into three categories: beginning level (HSK Basic), elementary to intermediate level (HSK Elementary-Intermediate), and advanced level (HSK Advanced). HSK tests are held regularly both at domestic test centres and at overseas test centres each year.



The three types of examinations are independent to each other and consist of a complete series of examinations, from the primary level to advanced level. In order to meet the differing needs of examinees from different backgrounds, the State Committee for the Chinese Proficiency Test is working on the design and development of complementary HSKs. Among them, there are HSK (for Young Learners), HSK (for Business), HSK (for Secretaries), and HSK (for Tourism). By now, more than 161 HSK centres have been set up in 37 countries and regions; the number of people taking the examination is increasing, the examination has been taken 400 000 times. In 2004, there were 226 HSK winners awarded scholarship to study in China.

266. The project of Chinese Language Bridge, whose main focuses are placed on Program of Confucius Institute, Program of Volunteer TCFL Teachers, and Programs of World Chinese Conference, was initiated in 2005. Overseas Confucius Institutes have grown rapidly. By May 2005, there were over 60 Confucius Institutes in more than 30 countries and regions.

### ***10.2.5 Foreign experts working in China***

267. Usually, foreign experts working in China are divided into two groups: “foreign economic, technical and managerial experts” and “foreign educational, scientific, cultural and medical experts.” Those who work in such fields as education, publication, medicine, scientific research, culture, art, and sports are referred to as “foreign educational, scientific, cultural and medical experts.” Foreign teachers employed by Chinese TEIs are referred to either as language experts or professional experts, both of which work in China on a long-term basis (half a year or longer). Further, Chinese TEIs invite short-term foreign experts to hold lectures, or conduct collaborative research. Inviting foreign educational, scientific, cultural and medical experts to work in China is a major approach for Chinese TEIs to introduce international advanced intellectual scholarship, to learn from advanced science, technology and culture, to enhance disciplinary construction, to improve faculty level and research capability, and to train high-calibre workers. In recent years, China has achieved significant development in importing international intellectual scholarship, which has made a significant contribution to the reform and development of China’s tertiary education.

### ***10.2.6 Running TEIs under the Chinese-foreign co-operation***

268. As a new phenomenon in China, the running of TEIs under Chinese-foreign cooperation has undergone more than ten years of development. The key to promote and standardise cooperatively-run TEIs is the introduction of high-quality overseas educational resources.

269. By the end of 2005, the number of institutions and programs under Chinese-foreign cooperation exceeded 1 000, an increase of 13 times compared with that of early 1995. Such institutions and programs cover 28 provinces, autonomous regions and municipalities directly under the jurisdiction of the central government, however, most of them are located on the east coast and in large and medium sized cities where the economy and culture are relatively well-developed. Running TEIs under Chinese-foreign cooperation has demonstrated the trend toward rapid growth, diversified forms, and higher levels.

270. Most of Chinese-foreign cooperative TEIs and programs offer formal tertiary education, which focus mainly on business management, foreign languages, electric and electronics information, economics, arts, education, etc. The foreign partners mainly come from developed countries and regions with rich resources in science, technology and high-quality education.

## **10.3 Problems and challenges**

271. The internationalisation of China’s tertiary education has achieved rapid growth in recent years. It has greatly contributed to the advancement of China’s science and technology, improved research by TEIs,

and the acceleration of training for professional workers. Following the entry of China into WTO, the internationalisation of China's tertiary education will experience a further expansion. There are, however, some problems and challenges facing the Chinese government during the process of internationalisation.

#### *Brain drain*

272. The internationalisation of tertiary education, inevitably, results in fierce competition between China and other countries in scrambling for educational resources and high-level talents in particular. Following the ever-increasing degree of economic integration, investors and businessmen from abroad forestall the market of China's tertiary education. They take advantages of better-off compensations to recruit professors and professionals from the market of China's tertiary education. China is facing a brain drain crisis.

#### *Inequality*

273. During the process of internationalisation, there exist discrepancies and inequalities in China's cooperation and exchanges with other countries due to the impact of a dependent relationship. For example, with regard to objectives of tertiary education development, China, under the influence of western tertiary education, places more emphasis on academic performance than on application and thus sets preference to advanced, refined and frontline research programs. The dependence of China in academic research on western tertiary education has led to a lack of innovative capability of Chinese TEIs.

#### *Financial difficulty*

274. Due to the constraint of economic development and the pressure of a large population, the input of tertiary education still needs to be strengthened. Only with continuous financial input can the internationalisation meet the need of ever-increasing academic activities. Such conflict constrains the speed and scale of internationalisation of China's tertiary education. Currently, financial difficulty for the internationalisation of China's tertiary education is reflected by the shortages of research funds and international programs funding in TEIs. Such problem might result in the loss of cooperation and outstanding hi-tech innovative talent, an unfavourable environment for cooperation and exchanges with outside world, a negative impact on Chinese academics and even on its economy.

#### *The imposing of political ideology, culture and social values by foreign countries on China*

275. The internationalisation of tertiary education requires each country to open up its tertiary education market gradually. The collision and fusion of different cultures are speeding up. Various western values and philosophies of life are freely diffused through internationalisation in a short time. The developed countries expand the ideological penetration in realms of politics, culture and values by taking advantage of their dominant role in tertiary education. Some cultural traditions will erode and undermine China's traditional culture and values and cause negative shock upon China's tertiary education.

276. Facing these problems and difficulties, the Chinese government insists on opening up to outside world as a fundamental state policy. In the wave of internationalisation and globalisation of tertiary education, China is taking advantage of favourable opportunities to meet the challenge so as to improve and perfect governing and managing of tertiary education, develop and complete institutionalisation of modern universities. Arduous efforts have been made to actively participate in international education services, to refine and perfect the legislation system of tertiary education and to enhance international cooperation in tertiary education.

## 11. CONCLUSION

277. After many years of efforts, and especially through a leap-forward development at the turn of the century, China ---- the largest developing country in the world ---- has been providing the largest scale, quality-basically-assured tertiary education to its people.

### 11.1 Achievements

#### *Entering into the period of massive development*

278. Since 1999, China's tertiary education has achieved a leap-forward development at an unprecedented speed and moved smoothly into the period of massive development. The decision to expand enrolment of TEIs has not only accommodated changes of domestic and international development but also catered to the strong desire of all members of society to accelerate the development of tertiary education. Due to the increasing demands for higher quality workers, the ever-intensifying competition in employment, and the arriving of the one-child and the few-child era, such desire is soaring to an unprecedented level, for which education policies have to take responsive action. Facts have proved that the expansion of tertiary education has played a substantial role in the following respects: alleviating student's pressure related to entering tertiary education during the phase of upper secondary education; creating a conducive environment for the promotion of quality education; training a large number of specialised workers for the speed-up of China's modernisation in the 21st century and the construction of an innovative nation.

#### *Achievements of all kinds of reforms:*

279. In recent years, considerable achievements in tertiary education are represented by the following five areas: (1) the running mechanism has been moved away from an old system in which the government played a singular role to embrace more diversified running models. (2) Funding mechanisms have been changed from a government appropriation dominated model to a new system in which government appropriation is supplemented by diverse channels; (3) progress in five forms of governance structure have been established, namely, co-building and co-governing, cooperative running, merging of TEIs, sponsoring of TEIs and governance by local governments (4) reform in the entrance examination for tertiary education has been initiated. The 3+X model has been widely practiced; a web-based admission system has been established; the entrance examination and admission will be more scientific-based and enforce social justice and equity; (5) the reform of the internal management system has been further deepened. TEIs' capacity in self-running and self-discipline by law through proactive responsiveness to society has been enhanced. Achievements from all these reforms have ensured the leap-forward development of tertiary education in recent years, and additionally set a solid institutional foundation for the future.

280. However, the predicament for the largest developing country to run education at a magnitude dwarfing and the relative low levels of socio-economic development has created difficulties for tertiary education development. In such a short period, the historical achievement by leaps and bounds has introduced a number of new problems, some of which reveal deep-seated conflicts. When China's tertiary education is growing, the government shall take cautious and active measures to deal with these problems.

### 11.2 Problems

281. To summarise the gains and loss of tertiary education policies, the conflict focuses on three aspects: the input, the equity, and the quality:

282. The input: China falls short of the total educational fund on the whole, with a huge gap between funding and expenses. Though as early as in 1993 the government proposed to increase the public expenditure on education as percentage of GDP to 4% in 2000, it has not been realised yet. The overall deficiency of educational fund leads to a shortage of funds in tertiary education, a heavy social burden, and hence, the low quality of tertiary education.

### ***Equity***

283. Under the influences of unbalanced development of regional economies and a wide income gap among different social classes, the equity problem in tertiary education is comparatively distinct from other problems. The inequity is mainly reflected by the disparity between urban and rural areas. Students from rural areas have less access to tertiary education, fewer financial resources and fewer employment opportunities than their counterparts in cities.

### ***Quality***

284. Due to the long-standing of planned system which has a long-lasting effect on tertiary education, and during a process of shifting from a shortage condition to a surplus condition, the educational structure and education model needs to acclimatise to changes in the economy and labour markets. Students' innovative spirits, hands-on ability, professional qualifications, and entrepreneurial capability need to be improved. Further, the rapid expansion of tertiary education has led to challenges in quality. Enrolment expansion has made the shortage condition for running a TEI more apparent, and exerted a discernible negative impact on the quality.

## **11.3 Prospects**

### ***11.3.1 Several issues demand prioritised attention***

285. From the point view of short-term changes, the policies on tertiary education will likely focus on three aspects: the first is to promote employment; the second is to refine the internal management system; and the third is to enhance the role of tertiary education in serving regional areas.

#### ***Promotion of employment and self-employment***

286. After enrolment has been increased, the employment issue is becoming more noticeable for TEI graduates. To meet the challenge, the government has implemented the "Project on Promoting College Graduates' Employment," in which, on one hand, tangible measures have been taken to refine the managing and operating mechanism along with policy and service systems for job-seeking of TEI graduates, while on the other hand, the emphasis has been placed on social demands by deepening various reforms both in internal and external education systems. In order to promote graduates' employment, there will be many tasks for the government to undertake, for example, coordination among related ministries and organisations; adjustment of disciplinary programs and educational structure; establishment of employment consultancy organisations and teams; utilisation of the market to set up a social service system of tertiary graduates, etc. Furthermore, the government needs to change the attitudes of tertiary graduates towards employment, to improve the education model so as to help TEIs train talents for medium-sized and small companies, privately-run organisations, and devote attention to rural areas.

#### ***Increase the soundness of internal management system***

287. Under the context of socialist market economy and massive higher education, the Chinese education system and the internal management of TEIs has remained at a relatively low level and has lagged behind. On one hand, the function of the government has not been changed fundamentally. Links

among financial appropriation, macro-adjustment, and performance assessment are broken. The planning approach and administrative power are dominant in the education management system. The market mechanism and role of buffer agencies are not fully utilised. On the other hand, many public TEIs and educational organisation have low efficiency, accompanied by noticeable waste of resources which implies that limited resources is negatively influenced by systematic obstacles. So in the future, the relationships among TEIs, the government, and the market need to be further streamlined. At the same time, the reform on internal management systems needs to be deepened with a view of establishing a mechanism of “self-management, self-development, self-discipline, and supervision by society” and a modern TEI system.

### *Serving regional development*

288. In terms of the geographic structure of the tertiary education development, the government will take full consideration of the unbalanced socio-economic development of different regions to formulate a regional education development strategy along with local situations and characteristics and based on the differences between the urban and rural areas, coastal and hinterland areas, and different ethnic minority groups. Given that consideration, the government will generate appropriate regional education plans to promote aggressively the coordinated development among different regions. The current and future working focuses are as follows: implementation of relevant policies concerning supporting the massive development of the West through education; active rejuvenation of old industrial bases in the north-eastern areas, maintenance of the education development in mid-China; facilitation of the education modernisation in eastern areas; aggressive efforts put into the education and training of high-calibre minority talents; continuance of educational support to Tibet, and Xinjiang Uigur Autonomous Regions.

### *11.3.2 Long-term tasks*

289. In terms of long-term objectives, China’s tertiary education will be improved in the following aspects:

#### *To improve the quality*

290. Generally speaking, the provision of tertiary education in China has said goodbye to a severely insufficient situation, however the educational capacity and resources are far from adequate. After meeting the basic educational needs of the majority of its people, members of society have set higher requirements for education and have shifted from a focus on external factors to internal ones. Internal qualities of TEIs, such as education internal values, quality, institutionalisation, etc., have obtained much public attention. The call for education quality improvement is increasingly heard. In order to improve the quality, the government will strengthen the quality assurance system, expand quality management systems and focus on accreditation criteria, on the other hand, a quality assurance shall be provided throughout the teaching process at institutional level by establishing an appropriate quality management and auditing system. Three measures deserve attention: the first is to facilitate building a batch of high-level (world-class) universities and key disciplines. The government will continue to implement the “985 Project” and the “211 Project,” to intensify the implementation of the “High-level Creative Talents Education Program,” the “Innovative Programs for Graduate Education,” “Science and Technology Innovation Program of Higher Education Institutions,” so as to enhance the innovative capability of TEIs; the second measure is to implement the “Innovative Project for Vocational Education and Training,” aimed at education and training high-calibre skilled workers; the third is to implement the “Reform Project of Teaching Quality and Methods in Higher Education Institutions,” with a goal to deepen teaching reform, improve the capacity of running institutions, and refine the teaching assessment and guarantee system. Furthermore, China is steadily expanding the openness of school education, offering more learning opportunities for all members of society, constructing a life-long learning society with the participation of all members. The goal is to build China into an innovative nation.

### *Ensuring financial inputs*

291. In order to expand enrolment and improve quality, China's tertiary education needs not only to increase the total amount of financial input but also to increase the effectiveness of fund use both in the whole system and at the institution level. Tertiary education contributes responsibly to the fulfilment of various social objectives and provides a wide range of potential socio-economic benefits. With the strategic consideration of its role in social, economic, cultural, organisational, and environmental realms, tertiary education deserves a larger percentage of public expenditures. This issue shall be given prioritised attention and finally be dealt with through negotiations of relevant ministries so as to guarantee the contributions of tertiary education to social benefits. In the future, important measures will be taken to reform and improve the educational input system. This includes establishing an educational financial system compatible with the public financial system and ensuring a stable growth of educational expenditures; expanding fund-raising channels and establishing an effective incentive mechanism for social organisations and individuals to invest in and donate to tertiary education; refining the financial assistance systems funded by governmental authorities and social organisations for students with financial difficulty; tightening up management and improving efficiency.

### *To promote educational equity*

292. To overcome the ever-increasing disparity and inequity caused by the unbalanced development in society and in the realm of education, future tertiary education shall take proactive actions to tackle these problems, especially to improve access to better education for the following groups of people: people living in rural and less-developed areas, people of low-income, minorities, and disadvantaged people. Tangible measures are as follows: first, continuously ranking rural education as top priority and fostering a coordinated development between urban and rural areas as well as the socio-economic development of rural areas per se; second, providing intensive educational supports to the western areas, minority areas, old revolutionary areas, and old industrial bases located in the north-eastern areas, and promoting a coordinated development among the eastern, mid-China, and the western regions; third, faithfully carrying out financial assistance and supporting policies for students from impoverished families, improving the state student loan system, and ensuring that students from impoverished families will finish their college education smoothly. Maintaining social equity is the eternal theme of policy formulation and negotiations. From the aforementioned development trends and the orientation of current public policies, increasing educational equity will be the highest priority of the development strategy for tertiary education.