Higher Education in China
in the light of massification and demographic change

Lessons to be learned for Germany

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Contents

Abbreviations

ACA	Academic Cooperation Association
CASS	Chinese Academy of Social Sciences (In Chinese: 中国社会科学院)
CERNET	China Education and Research Network (In Chinese: 中国教育和科研计算机网)
CHE	Centre for Higher Education Development (In German: Centrum für Hochschulentwicklung)
DAAD	German Academic Exchange Service (In German: Deutscher Akademischer Austausch Dienst)
GDP	Gross Domestic Product
HE	Higher Education
HEI	Higher Education Institution
HRK	German Rectors' Conference (In German: Hochschulrektorenkonferenz)
MoE	Ministry of Education of the People's Republic of China (In Chinese: 中华人民共和国教育部)
NCEE	National College Entrance Examination (In Chinese: 高考)
QAA	Quality Assurance Agency for Higher Education
UNESCO	United Nations Educational, Scientific and Cultural Organisation

Abstract

This paper begins with a general overview of the educational system in China, casting some spotlights on basic education and adult learning, given that these two aspects of education are of considerable relevance when it comes to higher education, e.g. concerning illiteracy and education in rural areas.

Next, the historical development of higher education in China is described, starting with the very first institutions of higher learning, the private academies or shuyuan. This development continues through the period of Soviet-oriented education, after the Second World War, to the phase of renewed invigoration until today.

The paper then outlines the current system, the types of institutions and the spread of students over the system, and analyses some problems and challenges which have to be faced.

In the following step, the different policies of the Chinese government to cope with the main challenges are briefly analysed. Project 211 and Project 985 as well as the Action Plans for Invigorating Education are touched upon. In addition, the first ideas on how China can cope with the future demographic changes are introduced.

In a final step, the paper defines those areas in which lessons from the Chinese experience can be learned for Germany and where mutual activities seem to be advisable. Demographic change, the ideas of excellence and quality in education, foreign investment possibilities, and student recruitment are the main aspects considered.

Preliminary remarks[1]

The discussion about the impact of the demographic change in Germany on the higher education system is multi-faceted. Besides the German-specific aspects, the Centre for Higher Education Development (CHE) published twice on the international relevance of this change (AP93: Brandenburg et al. 2007, AP86: Witte 2007). In AP93, the centre addressed the issues of funding and enrolment requirements in 22 European and 4 non-European countries. AP86, on the other side, focused upon possible funding systems for study abroad concerning both individual full-time study abroad and limited study abroad periods as part of a degree programme at a German university. The paper showed how the Norwegian model (Lånekassen) operates and what lessons might be learned from the Dutch approach. Obviously, the main question to be answered was how Germany can cope with the expected enormous influx of new students into the higher education system during the next decade. After investigating various European models as described above, the CHE was also interested in analysing a non-European situation in order to find out what we might learn – what to do or not to do – from the perspective of different mind sets and approaches.

In order to do so, the researchers decided to have a closer look into a country with a very different history, mentality and subsequently, educational policy. This paper therefore tries to link the problem of possible dramatic increases in student numbers in Germany and the possible political reactions and reverberations of this demographic change with the situation of a country which is also trying to find ways to increase university places for tertiary level students. In addition, China is also going to face possibly the most serious ageing problem in the world. Estimates say that China might have a percentage of 31% of the population older than 60 by 2050, whereas Germany is expected to have 35% older than 60 by 2050 (United Nations 2004, pp. 53-54). Therefore, it is of interest to have a more substantial in-depth look into the policy that China has implemented to deal with the growing number of students as well as search for possible policies envisioned for the period of ageing.

[1] The authors would like to express their extreme gratefulness to Prof. Dr. Jürgen Henze who, as one of the leading experts world-wide on Chinese Higher Education, agreed to support the authors with advice and suggestions, particularly on the interpretation of data. In addition, they want to thank Diane Carr for her extensive support as a native speaker and critical reader.

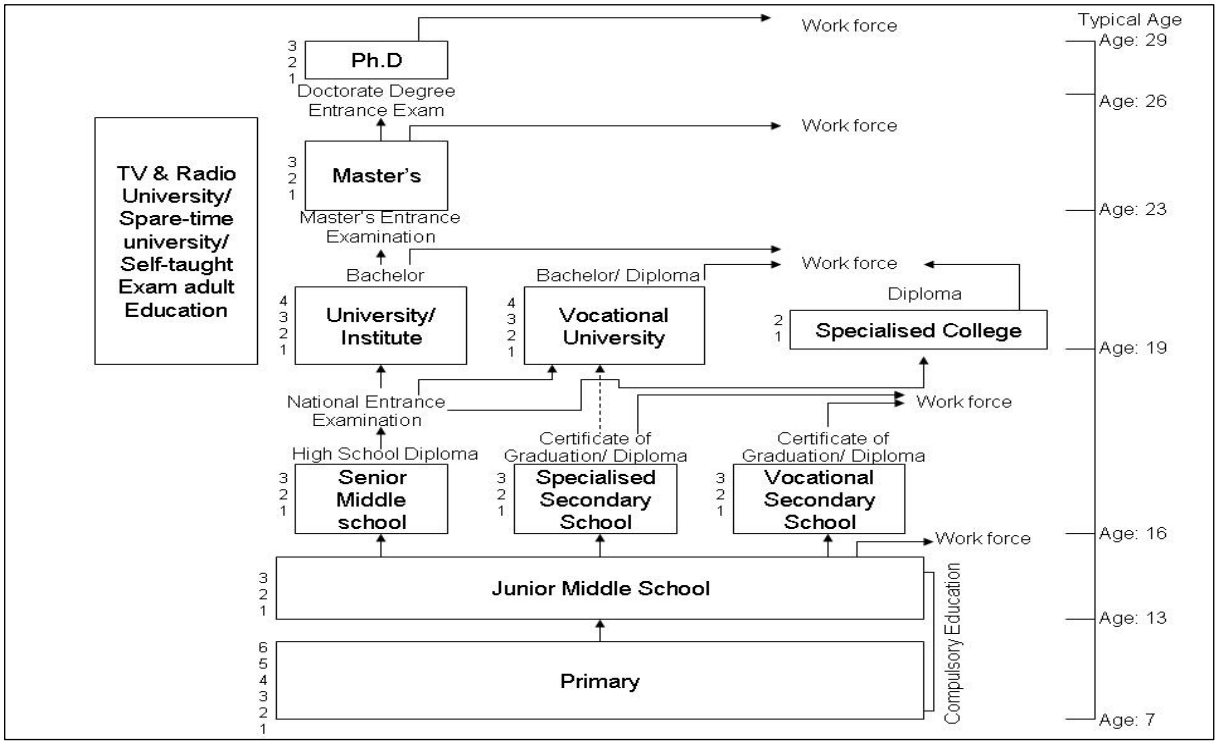
This research investigation requires the analysis of different aspects of Chinese education in general and higher education in particular, including Project 211 and Project 985 and their implications for the Chinese higher education system. Furthermore, the paper aims at providing some insights into the strategies of the Chinese government for dealing with the upcoming demographic challenge. Moreover, after the student peak, Germany in general will face a tremendous decrease in student numbers. In some Länder[2] such as Mecklenburg-Vorpommern, this decrease has started yet. Therefore, China and the development of the Chinese student population can maybe also provide some solutions for some HEIs through student recruitment or offshore activities. This paper will, however, not develop and scrutinise concrete recruitment strategies as this will be dealt with in a subsequent research including a variety of countries.

1. Overview of the educational system in China today

Today the educational system in China in general and the higher education system in particular present themselves as follows[3]:

Education in China is differentiated in three stages which reflect the typical stages in other educational systems around the world. The stage of basic education is followed by the stage of higher education. Afterwards, the stage of adult education is implemented.

[2] The “Länder” are the Federal States of the Federal Republic of Germany.
[3] Some additional information on the education system in China is provided by the government on its website: http://www.edu.cn/20041203/3123354.shtml.



Graph based on data from the report of the Finnish National Board of Education 2007, p.6

1.1.1. Basic education

Basic education is divided into compulsory education and senior secondary education with an optional pre-school system prior to elementary school education (in Chinese 小学/小學 or xiǎo xué) (Finnish National Board of Education 2007 p.6). Compulsory education starts at the age of seven and lasts for nine years; these nine years constitute six years in elementary school and three years in junior middle school (in Chinese 初中/初中 or chūzhōng). It is legally based on the "Compulsory Education Law of the People's Republic of China" (in Chinese 义务教育法/義務教育法 or yìwù jiàoyùfǎ), which was promulgated in 1986 and revised in 2006 (CERNET 2007f). Senior secondary education is accessible through entrance examinations generally at the age of 16. The results of the exams decide in which track of senior secondary education the pupil might be steered. Students later have to pass the "Standard Examination for Senior Middle School Graduates" (in Chinese 会考/會考 or huìkǎo). In the general senior secondary school (in Chinese 高中/高中 or gāozhōng) students are educated for three years and also prepared for the National College

Entrance Examination (NCEE) or gaokao (China Today 2007) and then admitted to study at a higher education institution if the results fit the requirements of the institutions.

On the other hand, those students whose abilities are rather practical or who want to enter the labour market at an earlier stage are educated in specialised – sometimes translated as "technical"- schools (in Chinese 技校/技校 or jìxiào) with three- to four-year programmes as well as vocational – sometimes called "professional"- schools (in Chinese 职校/職校 or zhíxiào) with three-year programmes. Theoretically, graduates from specialised secondary schools can take the national university entrance examination followed by studies at a vocational university, but as the Finnish National Board of Education in their report on Chinese higher education stated, "this is extremely rare in practice" (Finnish National Board of Education 2007 p.6).

1.1.2. Adult education

Whereas basic and the latter described higher education options are consecutive systems, adult education in China is a conglomerate of different offerings spread over the entire education system. It ranges from workers' and peasants' elementary schools and literacy classes (in Chinese 扫盲班/掃盲班 or sǎomángbān), established to overcome the still considerable illiteracy issues in rural parts of China[4], through radio and TV based specialised secondary schools in the segment of distance education, specialised secondary schools for workers, cadres and peasants (in Chinese 职工、干部、农民中等学校/職工、幹部 、農民中等學校 or zhígōng, gànbù, nóngmín zhōngděngxuéxiào), on-the-job teacher training schools (in Chinese 在职教师进修学校/在職教師進修學校 or zàizhí jiàoshīxiūxuéxiào), correspondence schools and educational colleges (in Chinese 函授学校/函授學校 or hánshòu xuéxiào). In the higher education segment, adult education comprises workers/cadres/peasants

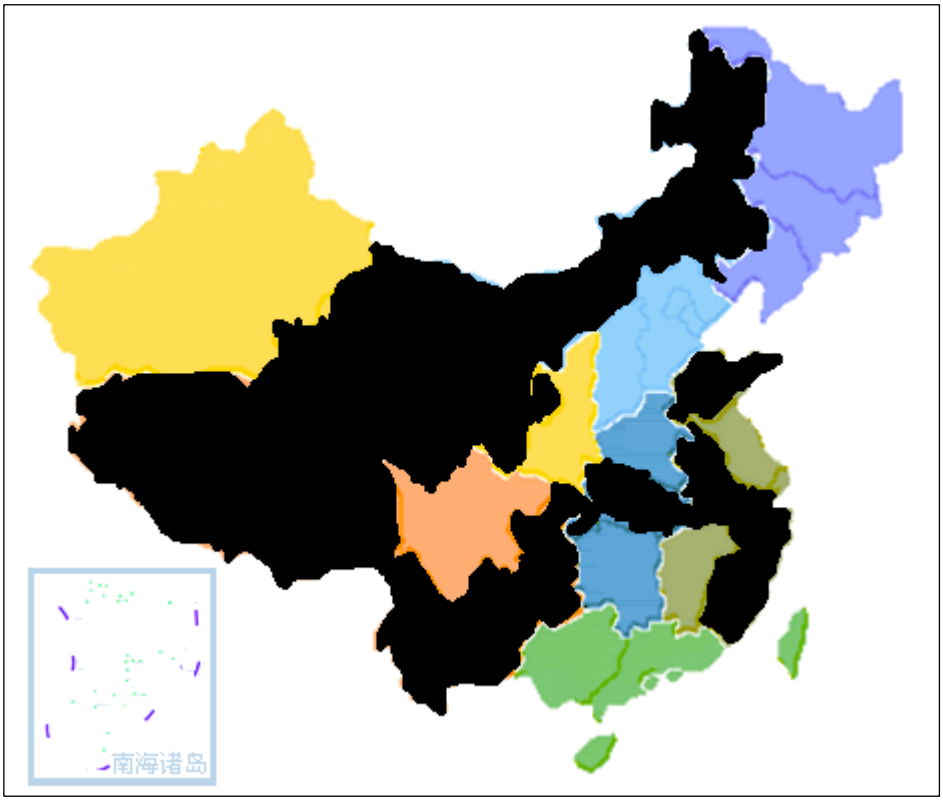
[4] The illiteracy rates in the cities compared to the countryside are 4.29% and 8.26% respectively (National Population and Family Planning commission of China 2007).

colleges as well as radio/TV universities and correspondence or educational colleges. However, although located in the higher education segment, these institutions are usually restricted to two- or three-year short-cycle programmes, whereas regular undergraduate programmes are seldom found (Education China 2007).

Table 1: Illiterate population aged 15 and over by region (2005)

	Population aged 15 and over	Illiterate population	% to total aged 15 and over
National Total	**13,664,737**	**1,508,706**	**11.04**
Beijing	182,650	7,152	3.92
Tianjin	120,572	5,793	4.80
Hebei	746,574	53,638	7.18
Shanxi	349,524	19,472	5.57
Inner Mongolia	262,000	29,476	11.25
Liaoning	479,167	22,839	4.77
Jilin	307,428	17,994	5.85
Heilongjiang	430,771	26,633	6.18
Shanghai	214,169	11,213	5.24
Jiangsu	835,732	83,702	10.02
Zhejiang	545,255	65,172	11.95
Anhui	623,028	119,875	19.24
Fujian	381,435	49,279	12.92
Jiangxi	427,446	45,038	10.54
Shandong	1,029,220	127,449	12.38
Henan	979,235	95,891	9.79
Hubei	613,088	74,114	12.09
Hunan	680,670	58,377	8.58
Guangdong	956,604	57,370	6.00
Guangxi	470,371	40,625	8.64
Hainan	83,637	8,162	9.76
Chongqing	293,816	34,244	11.65
Sichuan	849,493	141,104	16.61
Guizhou	353,816	75,750	21.41
Yunnan	446,987	89,713	20.07
Tibet	26,656	11,953	44.84
Shaanxi	396,108	40,903	10.33
Gansu	263,000	54,780	20.83
Qinghai	54,595	13,143	24.07
Ningxia	58,454	10,935	18.71
Xinjiang	203,235	16,919	8.32

Source: China Statistical Yearbook 2006, Chapter 4-13



In the above graph based on the statistics from table 1, the black area shows where the rates of illiteracy within provinces exceed the national average of 11.04%. Provinces such as Tibet (44.84%), Qinghai (24.07%) and Guizhou (21.41%), which are located in the West or Southwest of China, have the highest illiteracy rate while the provinces in the Northeast or Eastern part of China such as Beijing (3.92%), Liaoning (4.77%), Tianjin (4.8%) and Shanghai (5.24%) have relatively low figures.

Thus, besides the questions of higher education and of educating the managers and leaders for tomorrow, of utmost importance in regions such as Beijing or Shanghai, one of the main tasks of Chinese education is still to solve the problem of illiteracy. This is of particular concern in preparing the ground for the issues at stake when the one-child policy will show its demographic effects and educated people will be even more needed. China is aware of this problem. As Dr. Liu[5] from the Chinese Embassy in Germany stated, one of the major initiatives helping to overcome the illiteracy problem in rural areas was the recent abolishment of school fees, allowing children from low-income peasant families to go to school and receive education. This seems to be one of the most urgent and important tasks in China today.

2. Higher Education in China

2.1. Historical overview

2.1.1. Initial phase: until 1949

The history of modern higher education of a broader scope in China is a rather young history compared with the history of education in Europe and the Middle East. Nevertheless, China did establish some private academies (in Chinese 书院/書院 or shūyuàn) which may have been a close parallel to the medieval universities of Europe (Hayhoe 1989). These institutions functioned in their initial phase as pure libraries that later became research institutes and then academies. These private academies took over educational tasks especially in the late Tang and Five Dynasties periods when the government could not afford enough funds for education at the local level (Chinaknowledge 2007). Among these academies, the "four most prestigious academies" (in Chinese 四大书院 or sìdàshūyuàn) were outstanding. These academies, the Yuelu Academy (founded in 976), the Bailudong Academy (founded in 940), the Suiyang Academy (founded in 1009) and the SongYang Academy (founded in 484) (Statistical Information Hunan 2007) can be regarded as institutions of higher learning (Bookrags 2007). As Hayhoe states:

> *"Traditional Chinese higher institutions can be traced back as early as the Eastern Zhou dynasty (771-221 B.C.). By the Tang Dynasty (618-907 A.D.) there was a whole range of higher institutions, headed by the Guo zixue (School for the sons of the Emperor) and the Tai xue - (often translated university) which took major classical texts of the Confucian school as their curricular content. There were also professional schools for law, medicine, mathematics, literature, calligraphy, and Daoist studies. In the later Song Dynasty (960-1279 A.D), the Confucian classics were reordered to form a knowledge system that had to be mastered by all aspiring to become scholar-officials in the imperial civil service."* (Hayhoe 1989, p.54)

Although the education of adolescents from noble aristocratic families dates back to as early as the 16th century B.C., later Shang Dynasty (1523-1027 B.C.)

[5] All reference made to Dr. Liu is based on an interview made on July 26th, 2007 and additional information provided on August 1st, 2007.

(Surowski 2000), the education of ordinary citizens in general and higher education of different classes in particular is a very recent development. It took three centuries, until the very first steps in the direction of mass higher education were taken in the very last years of the 19th century. The failure in the Sino-Japanese War of 1894-1895 (in Chinese 中日甲午战争/中日甲午戰爭) was a fatal blow to the government of Qing Dynasty as it resulted in the transfer of regional dominance in Asia from China to Japan. More people came to realise how successful modernisation had been in Japan and how important education and technology is for strengthening a country. In an official document submitted to Qing Emperor, Sheng Xuanhuan, an intendant of Tianjin Customs and entrepreneur, emphasised "to build a strong dynasty, we should give priority to the cultivation of talents; while to cultivate talents, we must first facilitate our education" (in Chinese "自强首在储才，储才必先兴学") and "all the talents in western countries benefit from the university education" (in Chinese "西国人材之盛皆出于学堂") (Eastday 2007)[6]. With his advocate, Emperor Guangxu (1871-1908) approved the idea of establishing a new style institution of higher learning. Peiyang University in Tianjin (now Tianjin University) was established on October 2nd, 1895 and Sheng Xuanhuai was chosen as the superintendent of the university (Tjianjin University 2007). Peiyang University was the first institution of higher learning in modern China and plays an important role in the modern Chinese education system.

This appears to have been a rather productive phase concerning the establishment of universities. In 1886, Nan Yang Public School was founded, which is the predecessor to the Shanghai Jiao Tong University, followed by the founding of the Zhejiang University in 1897 and the Peking University in 1898. Hayhoe quotes from *Chinese Education History* that "by June of 1931 there were 39 universities, 13 national, 12 provincial and 14 private, 17 colleges, 2 national, 6 provincial and 9 private, 23 professional schools, 3 national, 15 provincial and 5 private" (Hayhoe 1989, p.65) and "by 1947, 207 higher institutions had been established, including 55 comprehensive universities" (ibidem, p.66).

[6] Sheng Xuanhuai, the first university president in China. The text here is based on the translation of the original Chinese text.

These years comprise three very different political settings in China, the Empire (since 221 BC until 1912), the very short period of the Republic of China (1912-1949 with Taiwan formally remaining the Republic of China) and since 1949, the communist People's Republic of China. In the time of the empire as well as during the republican era[7], China based its newly founded higher education system on the Western European model (Duan 2003). How much this decision was influenced by the colonial powers themselves, whether it constituted a preference for one colonial approach over another, or whether it was in no way related to the political agenda will not be analysed in this paper. However, the choice for an educational model is important to acknowledge, considering that it is often assumed that the Chinese system of higher education formed a rather solid and homogeneous block reflecting the communist ideology (Lang 2004).

The initial time when Western university models took root in China might be traced back to the missionary movement, although the introduction of Western university models was not on the forefront of the missionaries' religious efforts. Catholics tended to develop parochial education while most Protestant missionaries focused on evangelisation. In order to teach new converts basic religious and liturgical knowledge, necessary education had been developed. Meanwhile, some groups including French Jesuit missionaries, American Protestants with the cooperation of British and Canadian colleagues, and German industrialists created institutions with economic and cultural purpose (Hayhoe 1989, p.57ff).

By 1949, 205 universities (China Statistical Yearbook 1985) had been founded. Considering that the population of China comprised approximately 580.5 million people in 1952 (UN Statistics Division 2007), one might rightly assume that the system was still far from serving the entire population of China. In addition, the vast majority of the gross domestic product of China in those days was produced by peasants and farmers with little or no education whatsoever.

[7] During this time China had to manoeuvre between Asian, European and other colonial powers. This included for example the Portuguese in Macao. During the "Boxer War" (in Chinese 义和团起义/義和團起義 or Yìhétuán qǐyì, i.e. the "righteously joined militia") the counterparts were Austria-Hungary, France, Germany, Italy, Japan, Russia, the UK, and the USA.

According to the somewhat self-glorifying history of the communist party, the "long march" of the communist forces[8] was the beginning of a societal change. However, close to reality this self-estimation might come, Mao Zedong did indeed have ample chance to realise the day-to-day situation of rural China throughout the march and it can be fairly assumed that this experience thoroughly influenced his attitude towards mass education. "Mao Zedong not only produced a prompt definition of a policy to establish and develop mass education, but he also inspected the schools himself, made friends with educators and read and approved important documents on education" (Zhuo 1994, p.2). With Mao, we therefore entered the second phase of educational policy in China.

2.1.2. Transitional phase: 1949-1976

From this point in time onwards, when we talk about China in general we refer to mainland China. One should not forget that in Taiwan the higher education system established in republican times still prevailed. Also, in the former British Crown Colony of Hong Kong, a British style higher education system had been implemented with the foundation of Hong Kong University in 1910 by Sir Frederick Lugard, the British Governor of Hong Kong. Both systems were to play some role in the years following Hong Kong's return to China on July 1st, 1997.

The transitional phase 1949-1976 is characterised by two antagonistic approaches to higher education policy that were pursued in China. On the one hand, between 1949 and 1953 the number of comprehensive universities was reduced from 49 to a mere 13, accompanied by a severe reduction of university places in the fields of humanities and social sciences which decreased dramatically from 33.1 to 14.9% (Ouyang 2004, p.141). This reflected the keen interest of the Chinese government to achieve two goals for the higher education system: "First, it should have the right political nature; it should belong to the new government led by the Chinese Communist Party. Second, it should directly serve the needs of the rapid economic development taking place in the new country" (Ouyang 2004, p.141). The first national conference held in 1950 laid down the aims of higher education:

[8] In effect, the long march (长征 / 長征, Chángzhēng) was a tactical escape of communist forces from

> "*to educate workers for national construction who will have a high cultural level, will possess modern scientific and technical accomplishments and will serve wholeheartedly the people by means of the teaching method known as 'the unity of theory and practice' ".* (Hayhoe 1989, p.68)

It is anything but surprising that in the 1950s, the dominant model for universities in China was that of the Soviet Union. Since the new Chinese government lacked experience regarding the new schooling model, it much depended on the assistance from the Soviet Union. By that time, the Soviet Union had already achieved over 30 years of communist construction and development (Gu 2004). During the 1950s, 861 educational experts from the Soviet Union were sent to participate in the reform and establishment of Chinese higher education in order to facilitate teaching and higher education reform in the new Chinese universities (Chen 2003).

In 1952, a countrywide adjustment of colleges and of university departments took place which followed the Soviet concept of remodelling education, leading to the restructuring of the higher education institution itself (Mohrman 2003). In 1952, the Ministry of Education (MoE) of China announced the principles and schemes of the adjustment of universities and colleges, emphasising the outline of "giving priority to the cultivating of cadre in industry, developing the specialised colleges, and adjusting and strengthening the comprehensive universities" (in Chinese 以培养工业建设人才和师资为重点，发展专门学院，整顿和加强综合性大学").

Zhejiang University may serve as a typical example. Being a comprehensive university before the adjustment, it was then divided into several mono-disciplinary colleges and some of its disciplines were merged into other universities (Zhejiang University 2007). Although it is true that the adjustment in 1952 facilitated the construction of industry and the development of science and technology, producing a large amount of specialised talents for the economic development of the 1950s (Yang 2007), the change nevertheless resulted in various problems. The two most striking ones were: First, the number of comprehensive universities and departments of humanities and of the social sciences was dramatically decreased, leaving less options for interdisciplinary experiences and cross-disciplinary research; second,

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an encircling by Chiang Kai-Schek in 1934/35. Approximately 90.000 soldiers attempted to travel

since universities were divided and specialised into different and very constricted fields, the graduates tended to become more narrow-minded (Chen 2003).

In 1957 and 1966, two main changes took place. On the one hand, the administration was seriously decentralised with the abolition of the Ministry of Higher Education. On the other hand, the number of higher education institutions increased dramatically (Hayhoe 1989). This was related to a strong interest in pushing China into the world economies of the days – and thereby proving the strength of communism. The most prominent – and disastrous – example of this general policy was the 'the great leap forward in industry and elsewhere' (in Chinese 大跃进/大躍進, dàyuèjìn) starting in 1958 and ending in 1962. Although it is well-known that this initiative ended in one of the largest famines in world history, in higher education at least a quantitative change was made.

Between 1957 and 1960, the number of higher institutions grew from 229 to 1,289 (Hayhoe 1989, p.72). This huge increase seemed to have been considered rather exaggerated even by the Chinese government and subsequently the number of HEIs was reduced again to 610 in 1962, and continued to decrease to 434 in 1965 (China Statistical Yearbook 1996). However, the ratio between university students and inhabitants grew from 6.8 for every 10,000 in 1957 to 9.3 for every 10,000 in 1965 (China Statistical Yearbook 1999).

However, it is indeed very interesting to note that in the late 50s up until the mid-60s, China established a mixed Confucian-Western style higher education (Finnish National Board of Education 2007). The reasons for this change seem to be rather political than scientific. China was on rather less than friendly terms with Russia by the end of the 1950s and, therefore, it might not have seemed politically appropriate to follow an educational model of a state which was not well-received by the Chinese government. Thus, the Western-style model prevailed again, if only for a short time.

As Hayhoe puts it bluntly: "In conscious reaction to the narrow fragmentation and exclusivist orientation towards expertise of Soviet patterns, Mao directed in 1957 that 'our educational policy must enable everyone to develop morally, intellectually

about 12.000 kilometres with only 10% surviving the endeavour.

and physically and become a worker with socialist consciousness and culture'. Furthermore, 'education must serve proletarian politics and be combined with productive labor.' " (Hayhoe 1989, p.72).

The second blossoming of Western-style higher education was abruptly stopped in 1966. The Cultural Revolution led to the eradication of all formal education and a decade of deterioration set in, thus leaving an entire generation vastly uneducated. This was a disaster for the Chinese educational system and repercussions were felt for a considerable amount of time. Only in 1977, the National College Entrance Examination was resumed and universities opened again.

2.1.3. Booming phase: 1976 until today

Deng Xiaoping (1904-1997) took the position of General Secretary of the Central Committee in 1956 and in this capacity also tended to focus on education.[9] Over the years, he started to re-focus the educational policy of the P.R. China and changed the university entrance system from a formerly recommendation-based approach to an examination-led process.

In 1977, the National College Entrance Exam (NCEE), or gaokao, was restored (Mullins 2005). That year, about 5.7 million candidates took the exams and about 270,000 were admitted to higher education, i.e. a mere 4.7% (China Education Newspaper 2007). Considering that China comprised of approximately 962.5 million inhabitants in 1978 (China Statistical Yearbook 2006), and assuming that the numbers increased only slightly during this one year – data for 1977 was not available – this translates into 0.03 % of the population being educated in institutions of higher education.

The academic degree system was reintroduced, with bachelor's, master's and doctoral degrees, and a post-doctoral research system was set up. As Ouyang calls it, "a relatively rational higher education system was set up with different subjects, different aspects and different levels" (Ouyang 2004, p.143). This system included a rather diverse system of 270 different subjects. The development of diverse subjects

[9] More details may be found at: http://www.chinadaily.com.cn/english/doc/2004-06/25/content_342508.htm and http://english.people.com.cn/data/people/dengxiaoping.shtml

was the consequent answer to the developments in international research and teaching which were felt to be not adequately mirrored by the existing academic fields and categories and therefore an adjustment was felt to be needed in order to be able to produce education on an up-to-date level (Yuan 2000).

The reasons for these changes are again to be found in the political agenda of China at that time. Deng Xiaoping followed a policy of economic rationalism and therefore, higher education was regarded as an important corner stone in developing China into a global economic power. In addition, the practice of social reform and the open door policy supported the development of education in general and education reform in particular. By creating a socialist economic construction, the state also created a considerable need for large numbers of higher-quality blue and white collar workers (Ouyang 2004, p. 144). As a result, by 1998, 1,022 universities and colleges were educating 3,408,760 students (China Statistical Yearbook 1999).[10]

In this context, it should be mentioned that in the last decade many mergers of HEIs have taken place, sometimes reversing the above-mentioned policy of the 1950s and 1960s. Between 1996 and 2000, these mergers led to a reduction among the major colleges and universities from 387 to 212 (Melvin 2006). As Cai points out, most of these mergers were top-down decisions in that the state decided which institutions had to merge. A remarkable exception to this rule is the merger of the Peking University and the Beijing Medical University in 2000 which was preceded by a five-year period of increased cooperation (Cai 2006). In addition, Chinese higher education started to seriously internationalise, not the least based on the Ninth 5-Year Plan. More or less with the return of Hong Kong in 1997, a strong movement of cooperation between Chinese universities and Western universities began. Today, China has established educational relationships with countries across Europe, Central, North and South America, Oceania, Africa and the rest of Asia. Agreements on mutual recognition of academic degrees have been signed between China and, e.g., Germany, the UK, France and New Zealand. In the meanwhile, international educational cooperation agreements and memoranda of understanding on

[10] To find the correct data is somewhat difficult. Bie talks about 3.8 million in 1990 and 15 million in 2002 (Bie 2007). However, the authors decided to focus on the official Chinese statistics as the point of reference.

educational cooperation have been signed with, e.g., the USA, Australia, Canada, and New Zealand (MoE 2007).

Table 2:
Countries which signed agreements on mutual recognition of academic degrees with China

Year	Country	Year	Country
1988	Sri Lanka	1998	Belarus
1990	Bulgaria	1998	Ukraine
1991	Algeria	1998	Mongolia
1991	Peru	2000	Belarus
1992	Mauritius	2002	Kyrgyzistan
1993	Uzbekistan	2002	Germany
1994	Cameroon	2003	United Kingdom
1995	Romania	2003	France
1995	Russia	2003	Australia
1997	Egypt	2003	New Zealand
1997	Hungary		

Source: MoE (in Chinese) 2007

Peking University (in Chinese 北京大学/北京大學), as one of the top Chinese universities, for example, has established intercollegiate cooperative relations with more than 200 universities and research institutions in 49 countries and regions in the world (Peking University 2007).

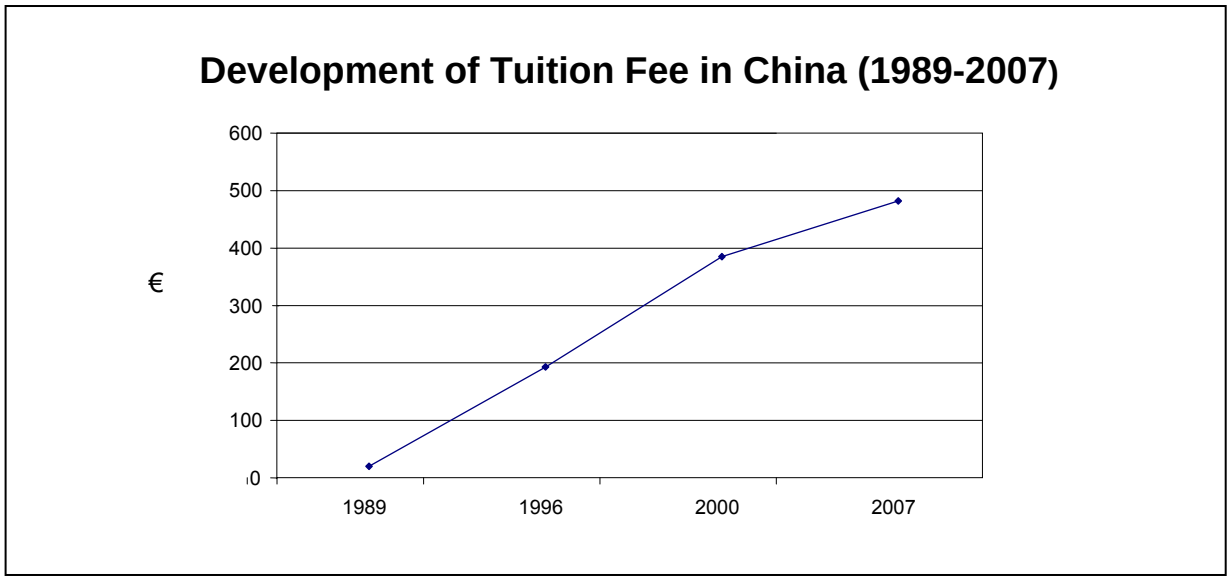
2.2. Higher education today

The higher education segment of the Chinese education system carries aspects both of the US and the UK systems with a stronger affiliation to the US system. Two- and three-year colleges which are also referred to as short-cycle colleges (in Chinese 专科院校 / 專科院校 or zhuānkēyuànxiào), typically awarding associate degrees (in Chinese 大专文凭 / 大專文憑 or dàzhuānwénping), exist next to typical four-year colleges and universities which offer academic as well as vocational courses leading to bachelor degrees (in Chinese 本科文凭 / 本科文凭 or běnkē wénping) or higher. Master's degrees and PhDs are offered by universities and research institutions which are accredited by the State Council (MoE 2005). It is to be remarked that China did opt for both three- and four-year programmes of which the latter is only offered at four-year colleges and universities, while the first can often be studied at any kind of higher education institution. In contrast to four-year programmes, the

three-year programmes usually do not lead to a bachelor's degree. However, if a student chooses to enrol for an additional two-year period as part of the three-year programme, he or she could receive a bachelor's degree (Education China 2007).

2.2.1. Tuition fees

Since the establishment of the People's Republic of China, tuition had been free. However, in 1985, a decampment called "Decision of the Reform of Education System of the Central Committee of the Communist Party of China" was issued, noting that those students who were not within the national planning number should pay some amount of the so-called training fee. In 1989, another document called "Decision of requiring tuition and accommodation fee in the regular Higher Education Institutions" co-issued by the National Education Committee, Price Bureau and Ministry of Finance announced that students should pay tuition. In 1993, "An outline of Chinese education reform and development" pointed out that "Higher Education is none-compulsory education in China. Principally, students should pay the tuition" (China Newsweek 2005).



Source: Tang 2001, Guo 2007

In 1997, and practically ten years before Germany started to introduce tuition fees, universities began to charge fees. According to a survey carried out by the China Youth Daily and another report from China Weekly Reading, fees officially jumped

from 200 RMB[11] (18 €) per year in 1989 to some 5.000 RMB (450 €) nowadays (Tang 2001, Guo 2007).

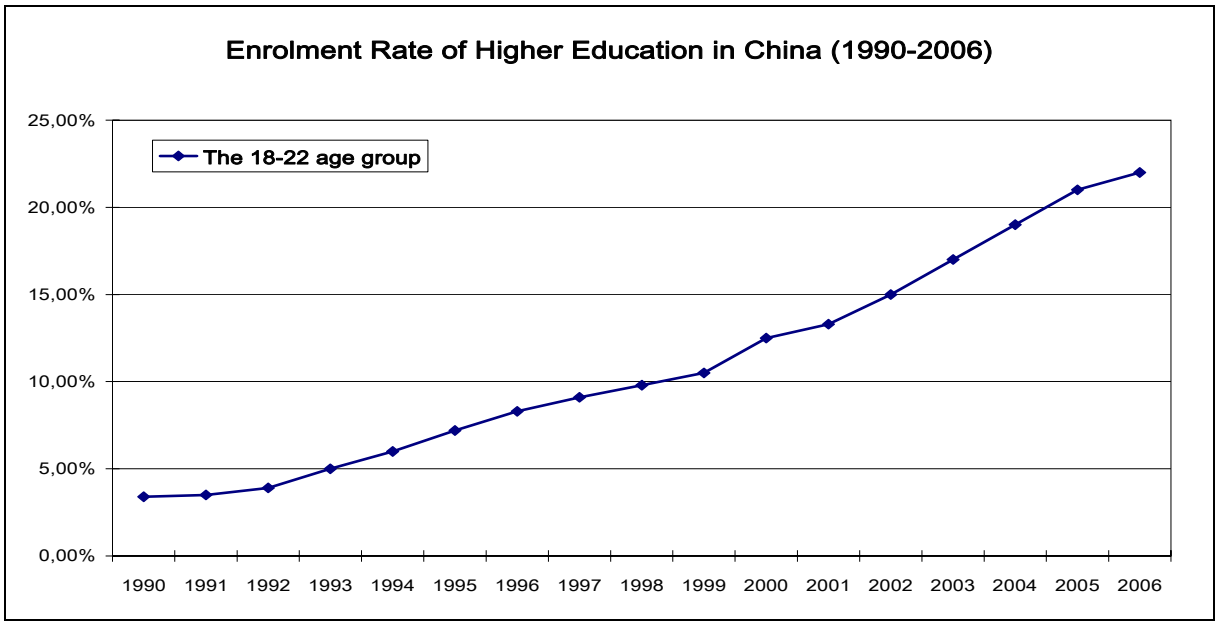
To estimate the economic impact on an individual student, one has to weigh the tuition fees against the average income in the country. According to World Bank statistics for 2005, a ratio of 471 € / 1,278 € is ascertained (tuition fees / GNI[12] per capita), or a tuition that corresponds to approximately 37% of the average Gross National Income per person in China (Worldbank China 2007). This, compared to approximately 500 € / 22,122 € (tuition fees / GNI per capita) in Germany, or 2.3% of the average GNI per person, considering the new tuition fees being implemented in many German Länder (Worldbank Germany 2007). Statistics show that the average tuition fees are taking up some 50 percent of the per capita GDP since 1999, which is much higher than the 20 percent in developed countries. The president of Renmin University, a prestigious university located in Beijing, recently pointed out that the tuition fee in China is already very high and suggested that it should not increase any further (Ji 2007).

The question for the next years will be whether the average income will rise faster than the tuition fees. If not, the HE system might face serious problems.

2.2.2. Development of student numbers

As we have seen, higher education used to be “elite education,” with only very few students lucky enough to enter the system. In 1999 however, China began to dramatically expand its higher education system. The decision to expand further was most likely a response to pressure from the people due to the increase in students graduating from secondary schools. Since then, more and more Chinese students have achieved access to higher education.

[11] All RMB values were converted into Euro based on the daily exchange rate of October 9, 2007, of 1 RMB = 0.09 € of the German Bankenverband: http://www.bankenverband.de/html/reisekasse/waehrungsrechner.asp .
[12] GNI = Gross National Income



Source: MoE Age Group 2007

In 1990, less than 4% of the 18-22 age group enrolled as students in higher education institutions compared to 22% in 2005 (MoE Age Group 2007). The total number of students in 2005 exceeded 23 million (Bie 2007, Zhou 2006), showing a considerable growth rate of 10% in a single year, considering that in 2004 the Ministry of Education announced slightly less than 21 million (MoE Enrolment 2007). For 1998, we have quite a difference between the official figures set at approximately 3.4 million and the figures given by Prof. Bie of 6.4 million[13]. In order to stay coherent, the authors remain relying on the official Chinese statistic. This leads to a 517% increase from 1998 to 2004. It has to be mentioned that the definition of a "student" in Chinese statistics deviates considerably from the definition in other countries in that it is not restricted to tertiary higher education necessarily but might also comprise students in the further education sector. However, figures are not clear on this nuance, so we are obliged to use the official data available.

Despite these increases in enrolment, access to higher education in China remains a very competitive endeavour (Finnish National Board of Education 2007) because of "gaokao", the National College Entrance Exam (NCEE), which is described by the Chinese as "thousands of troops on a single-log bridge" due to its low enrolment rate. As previously stated, when Deng Xiaoping reinstated the gaokao in 1977, about 5.7 million Chinese competed for the 270,000 university study opportunities, due to the

[13] Compare http://www.moe.edu.cn/edoas/website18/info25848.htm and Bie 2007.

fact that universities resumed student enrolment after 11 years of basically zero enrolment (from 1966 to 1976).

In 2007, the Ministry of Education informed that a record 10.1 million people had applied for the exam and about 5.67 million would be able to enter college (app. 56%). Even though this translates into an increase in the application-participation ratio from 20:1 in 1977 to 2:1 in 2007, it is still a competitive situation. Particularly, as there is a tendency to try to enter the prestigious institutions (identified under Project 211 and Project 985) rather than others so that the competition between the HEIs is increasing. In addition, the sheer increase in numbers means that today nearly as many people as in 1977 remain without an option to study.[14]

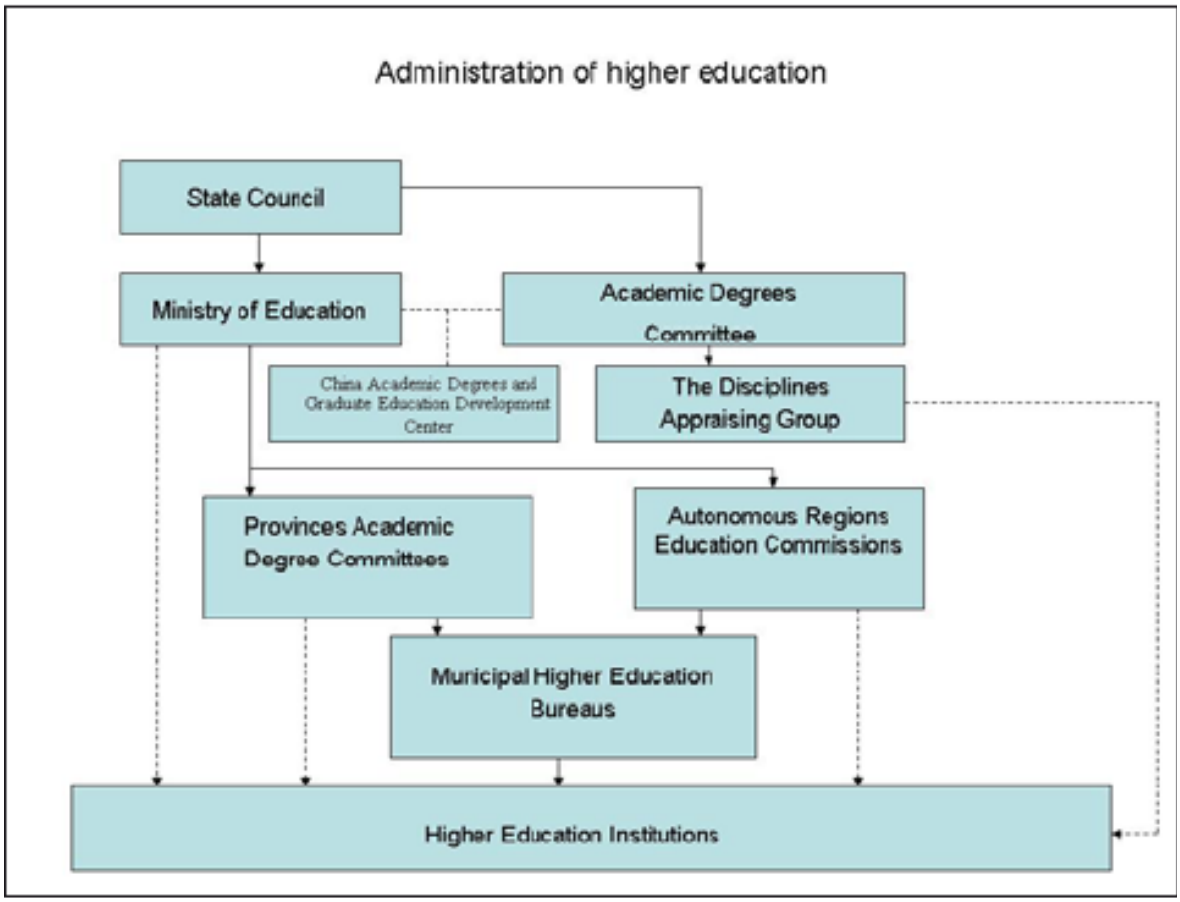
Statistics showed that overall, 60 million Chinese had taken the exam in the last 30 years and about 1/6 had been accepted (People's Daily Online 2007). Today the gaokao comprises three compulsory subjects (Chinese, English and mathematics) and one extra subject. In addition, in 2005, 14 provinces were allowed to design and run the gaokao independently, a privilege which had been first granted only to Beijing, Guangdong, and Shanghai (Henze 2006). The best and most comprehensive research on the gaokao with detailed data analysis and documentation has just been published by the DAAD (Geist/Deng 2007).

2.2.3. Types of institutions and supervision

What types of higher education institutions (HEIs) are providing the education for these 23 million students? In general, HEIs are as diverse as in most European or North-American countries. Regular universities, technical universities, specialised HEIs for agriculture, foreign languages or medicine, vocational colleges – e.g. for teacher training - and specialised colleges: the whole range is represented, although according to the report of the Netherlands Education Support Office Beijing one may identify three clusters: 1,650 regular higher education institutions, 528 adult institutions and 214 private higher education institutions (Netherlands Education Support Office Beijing 2005, p.8). Many private institutions are active in the higher vocational training market so that the percentage of higher education through private

[14] At the same time, this group constitutes a formidable resource for international HEIs to draw from.

institutions amounted to 4.3% in 2003 (Netherlands Education Support Office Beijing 2005, p.8).



Source: Finnish National Board of Education 2007

The affiliation or controlling bodies also vary. Some HEIs are directly administered by provincial governments such as Shanghai University (by the Shanghai Municipal government) while others are affiliated with the various ministries or departments of the state such as Beijing University of Aeronautics and Astronautics (by the Commission of Science, Technology and Industry for National Defence). There are also institutions controlled directly by the Ministry of Education, such as Peking University. A third variant is a joint supervision by central and local authorities. A very interesting example of this is Shanghai, where some universities are managed and financed by both national and local authorities.

With this level of commitment, according to Mohrman, the Shanghai municipal government also wishes to have influence on universities and to ensure that Shanghai may enjoy the benefit of having universities on its territory which are

playing an important role in the local economy as well as for cultural and social development. In other words, provincial authorities like the one in Shanghai regard investments into higher education as important both for the well-being of the region as well as the increase of prestige of the region among the different provinces.[15] Thus, the control is divided between the central and local government. Three out of sixty higher education institutions in Shanghai, i.e. Fudan University, Shanghai Jiao Tong University, and East China Normal University, are run under this joint responsibility system (Mohrman 2003).

Table 3: Number of Higher Education Institutions[16]

Programmes	Total	HEIs under Central Ministries & Agencies			HEIs under Local Authority			Non-state / pri-vate
		Total	HEIs under MOE	HEIs under Other Central Agencies	Total	HEIs under Commission of Education of local authority	Run by non-educational Department	
1. Graduate Programmes	**769**	**369**	**73**	**296**	**400**	**332**	**68**	
Regular HEIs	454	97	73	24	357	332	25	
Research Institutes	315	272		272	43		43	
2. Undergraduate Programmes Regular HEIs	**1731**	**111**	**73**	**38**	**1394**	**799**	**595**	**226**
HEIs Providing Degree-level Programmes	684	104	73	31	571	500	71	9
Short-cycle HEIs	1047	7		7	823	299	524	217
Of which: Tertiary Vocational	872	2		2	662	220	442	208
3.HEIs for Adults	**505**	**19**	**1**	**18**	**484**	**201**	**283**	**2**
4.Non-state/private HEIs	**1187**							**1187**

Source: MoE Number of HEIs 2004

All levels of education, non-degree as well as degree education (MoE Higher Education 2007) can be found, ranging from post-secondary vocational education (at junior college level), to undergraduate education, to graduate education for a master's and doctoral degree (QAA 2006). The control of education, however, is not as evenly spread. In fact, in some areas central control is far more dominant than in others. According to data from MoE, there are nearly 770 different institutions offering graduate programmes. Out of these, 73 or nearly 10% are directly controlled by the

[15] This is to some extent a rather sharp contrast to the position of some German Länder, where investments in higher education were over the last years - and are right now in the light of the demographic change - regarded as costs which should and can be cut. In fact, some Länder even considered closing down HEIs to save expenditure.

[16] The definition seems to be slightly confusing as the title refers to institutions whereas the left column refers to programmes. However, we assume that the figures show the number of institutions providing such programmes.

MoE and another 296 are controlled by other central bodies. In addition, 272 of the 315 research institutes are under central control. Therefore, the central supervising bodies control roughly 48% of the graduate programme-providing institutions. In the field of undergraduate studies it is quite the opposite. 1,731 HEIs offer undergraduate programmes and of these only 111 are under central control and a mere 73 under MoE control, which translates into approximately 0.06% (or even 0.04% concerning MoE controlled programmes). A similar picture can be drawn for the adult learning sector which is not large (with 505 institutions) but also not unsubstantial as roughly 65% of the size of the graduate sector and 30% of the size of the undergraduate sector. Therefore, it can be stated that the Chinese government obviously places a considerable political focus on graduate education, which it wants to see under increased direct central control.

2.2.4. Students and institutions: distribution effects

How are the student numbers spread among the different education levels and HEI types? The overall student population in China was 21 million in 2004 and 23 million in 2005, as stated above. The differentiation between the different types of education is quite remarkable. According to the MoE, nearly 820,000 students, or 4% of the whole student population, are enrolled in graduate programmes (and therefore quite a substantial number in HEIs under central control) whereas about 13.3 million students (or 64%) were enrolled in undergraduate or short cycle programmes in 2004 (MoE Data Students HE 2004). For 2005, the figures are slightly different, with nearly 1 million graduate students out of a total of approximately 15.6 million students (China Statistical Yearbook 2006, 21-6 and 21-8). Therefore, in 2004 we have a ratio of 1:17 in favour of undergraduate education, whereas the 2005 data leads to a 1:15 ratio. In both cases, this is a rather unusual distribution compared to other countries, such as Germany, where the ratio in 2005 was approximately 1:4.4 (46,233 master's students and 202,802 bachelor's students) (HRK Bologna 2007).[17] Students in adult learning programmes comprise 4.2 million, or 20%, forming the second largest market segment, although it only comprises 505 institutions and, therefore, considerably less than the rather small graduate education market. A surprising

[17] Although due to the still ongoing change from the old degree structure to the new BA/MA scheme, these 249,035 students only comprised 12.5% of the entire student body.

figure compared to the European discussion about online-based education is the number of nearly 2.4 million students (or about 12% of the entire student population in China) enrolled in web-based programmes.

Table 4: Data on Students in Higher Education 2004

	Graduates	Degrees Awarded	Entrants	Enrolment	Anticipated Graduates for Next Year
1. Postgraduates	**150,777**	**147,218**	**326,286**	**819,896**	**222,952**
(1)Doctor's Degrees	23,446	22,427	53,284	165,610	56,590
(2)Master's Degrees	127,331	124,791	273,002	654,286	166,362
2. Students Enrolled in Normal and Short-cycle courses	**239,1152**	**1,050,952**	**4,473,422**	**13,334,969**	**3,150,760**
(1)Normal Courses	1,196,290	10,50,952	2,099,151	7,378,436	1,509,518
(2)Short-cycle Courses	1,194,862		2,374,271	5,956,533	1,641,242
3. Students Enrolled in Normal and Short-cycle Courses Provided by Adult HEIs	**1,896,152**	**79,459**	**2.211,580**	**4,197,956**	**1,735,862**
(1)Normal Courses	540,356	79,459	759,434	1,415,954	567,820
(2)Short-cycle Courses	1,355,796		1,452,146	2,782,002	1,168,042
4. Students Enrolled in Normal and Short-cycle Courses Provided by Web-based Programmes	**393,715**	**10,728**	**839,325**	**2,365,908**	

Source: MoE Data Students HE 2004

Table 5: Data on Students in Higher Education 2005

Postgraduates	**978,610**
Doctor's Degree	191,317
Master's Degree	787,293
Regular Undergraduates and College Students	**15,617,767**
Enrolled in Full Undergraduate Courses	8,488,188
Enrolled in Specialised Courses	7,129,579
Adult Undergraduates and College Students	**4,360,705**
Enrolled in Full Undergraduate Courses	1,611,140
Enrolled in Specialised Courses	2,749,565
Students Enrolled in Internet-based Courses	**2,652,679**
Enrolled in Full Undergraduate Courses	1,272,292
Enrolled in Specialised Courses	1,380,387
Employees Enrolled in Graduate Programmes Leading to Doctor or Master Degrees	**254,672**
Students Taking Exam Leading to Diploma	**203,545**
Students Enrolled in Radio and Television Programmes	**45,698**
Classes for Self-learning Programmes	**737,918**
Postgraduate Courses for Advanced Study	**88,243**
College Preparatory Courses	**23,663**
In-service Training Courses	**1,549,563**
Overseas Students	**78,323**

Source: China Statistical Yearbook 2006

2.2.5. International aspects: study abroad and internationalisation at home

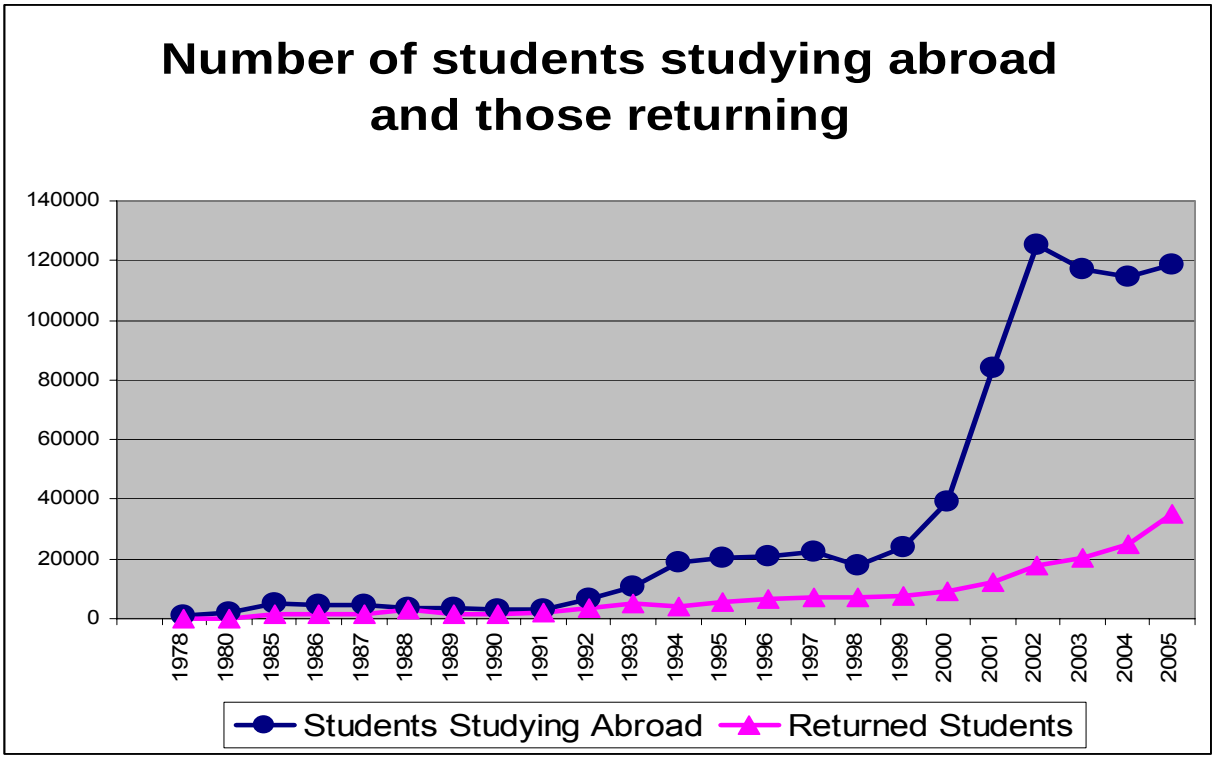
2.2.5.1. Study abroad

Although study abroad is not one of the main policy goals of the Chinese government, in 1992 the MoE set the agenda with a sentence which could be translated as "support [students] to go abroad, encourage [them] to come back, and freedom of entry and exit" (ACA China 2005, p.17). This strategy seems to be successful. In 2005, according to government statistics, 118,515 Chinese students were studying abroad while only 34,987 returned to China in that year (China Statistical Yearbook 2006, 21-8). [18] However, this official figure of 118,515 seems to be slightly problematic. Given the number of Chinese students studying in certain countries, such as Germany with 26,000 (DAAD Müller 2007), Australia with 28,000 (Abbott 2006), the USA with 62,500 (Open Doors 2006), and the UK with 32,000 (British Council 2004), thus amounting to more than 159,000 students, the official figure of 118,515 seems to be very much on the lower end of the estimate. Nonetheless, even in their 2006 report, the Chinese Academy of Social Sciences relied on this figure as the overall number of Chinese students abroad (JIANG 2007). Abbott estimates the amount of 381,330 Chinese students abroad in 2004, relying on the UNESCO Institute of Statistics in Montréal (Abbott 2006).The authors tend to support this figure. An explanation for the substantial discrepancy could be that the national statistics might mean "postgraduate students abroad" when saying "students abroad," as Table 21-8 is overall focusing on postgraduate students (China Statistical Yearbook 2006, 21-8). In that case, 118,000 would sound quite realistic, both in comparison to the nearly 1 million postgraduate students in total and in light of the Abbott paper.

Study abroad developed quite remarkably in China. Although data on graduate students versus undergraduate students is missing[19], we can assume that the ratio in study abroad is much more in favour of graduate studies versus the graduate/undergraduate ratio within China itself, as it is still considered to be very prestigious to hold a postgraduate degree from one of the famous universities in

[18] Taking into account that a student abroad will spend between 1 and 5 years (depending on degree, programme structure, etc.) abroad, it is not possible to link this figure directly to one year group and thus define a return rate. It can merely be an indication that a substantial number of students do not return to China after finishing their studies, thus producing a considerable brain drain symptom.

Australia, Europe or North America. This assumption would be supported if we accept Abbott's figure of 381,000 students in connection with the 118,000 students in the official statistical yearbook being graduate students abroad. This would result in a 3.2:1 ratio of undergraduates and graduates abroad, thus being quite different from the 15:1 ratio in China itself in 2005. In order to provide an impression of the development in study abroad, however, we have to rely on the official data despite the restrictions mentioned. Nevertheless, the relations between the different snapshots in the timeline provide some indication on the developing character of study abroad within the Chinese student population:



Source: China Statistical Yearbook 2006, 21-8

What are the motivations and perceptions of study abroad in China? According to a survey by ACA, Chinese experts defined the following main advantages of study abroad as seen by the Chinese government:

- It is a wish to train and develop a pool of talents with up-to-date knowledge and expertise; this focuses on the modernisation in and of China.

[19] Even the Chinese Embassy could not provide the relevant data.

- It is seen as important to create a new elite with international experience, international perspectives and international language skills.
- Besides exchange, international cooperation is regarded as a way to upgrade China's standards in education and research (new methods, standards, skills).
- Through study abroad more Chinese students can receive higher education (reflecting the gaokao results).
- By sending students abroad (and receiving students in China) the government wants to improve the international understanding of China and Chinese culture.

The report also states that "the Chinese policies are partly reactive in nature: 'Internationalisation is simply unavoidable.'" The aspect of increasing quality and gaining international reputation was among the aspects which the rectors and vice-rectors interviewed for the report stated as very important (ACA China 2005).

When looking for the advantages and disadvantages of study abroad, the Chinese experts interviewed came up with various perspectives. Students are considering study abroad as a turning point in life. Acquiring language skills, working with famous professors and increasing their labour market value were among the advantages mentioned. Another observation is that many Chinese companies are less enthusiastic today about a foreign degree, more aware of the varying degrees of quality, and are more conscious about the different levels of education in different countries and HEIs. The ACA report also notes that interestingly enough the acquisition of new knowledge and skills as a major benefit was not mentioned very often (ACA China 2005).

For the disadvantages, different aspects were noted. Experts mentioned that often Chinese students find it difficult to readjust to the Chinese society after often having lost their social bonds as well as having changed in behaviour and attitudes. Even if this is not totally unknown to experiences of European or American students, the fact that many students coming back and entering the labour market or returning to the home university have to face worse treatment than local or foreign students is remarkable. In addition, tensions in the families tend to arise as high costs correlate with high expectations which might not always be met by the students. Taking into consideration the perception of education in the Chinese culture as being of high

relevance according to Liu, as well as the importance of family values, these tensions are not to be underestimated (ACA China 2005, p.18). The report also reflects interviews with 31 parents of students studying abroad. They all had made very serious considerations before deciding to finance and allow the child to go abroad. The aims and expectations for studying abroad (language, skills, knowledge, different culture, career boost) are more or less comparable to the experts view. Among the risks many parents were afraid of included security issues and culture shock, while the financial obligations were the most serious drawback for most families (ACA China 2005, p.27). The experts focused on three typical obstacles and thereby adding one to the parents' perspective: language, money, and obtaining the visa. The latter obstacle has increased even more for those students wishing to study in the USA since 9/11 (ACA China 2005, p.18). These aspects and attitudes should be taken into serious consideration when an HEI is planning to recruit Chinese students on a professional scale.

Brain Drain an Issue?

The problem of Brain Drain is discussed in every country which sends numerous students abroad. The Chinese Academy of Social Sciences (CASS) informed the government in its 2006 report on Chinese students abroad that 70% of the students studying abroad between 1978 and 2006 had not yet returned to China and that about 200,000 have achieved permanent residency, work permits or other documentation abroad (JIANG 2007, predominantly in Chinese).[20]

In contrast to this perspective, the Counsellor for Education at the Chinese Embassy in Germany, Dr. Liu Jinghui, stated in an interview that China does not see brain drain as a serious problem. On the one hand, she observes a recent tendency that the best Chinese students do not go abroad anymore, but prefer to study at the excellent Chinese universities, in particular those supported under the projects 211 and 985, which will be analysed later. Also, as long as a large number of high school graduates can not take up studies in China due to a shortage of university places, according to Liu, it is preferable to offer them the option to study abroad. If graduates ultimately choose not to come back to China, this could still strengthen the country

[20] The reading that this means that 70% did not come home (in the sense of brain drain) seems to be an over-interpretation of the text.

because these students will retain close links with China and will usually foster economic cooperation. Liu also expects the return rate to rise in accordance with the expanding economy and the growing labour market for highly educated graduates.

Liu's position is supported by the Chinese experts interviewed for the ACA report who did not regard the brain drain as a serious issue, in particular because of a steep rise in the return rate of students (ACA China 2005, p.18).

In addition, the "2003-2007 Action Plan for Invigorating Education" strongly supports study abroad for Chinese students by, on the one hand, highlighting the benefits such as creating an intellectual elite and supporting the economy and, on the other hand, calling for massive action in the way of increased funding and support services for students wishing to study abroad (MoE Action Plan 2005, pp.27ff.).

2.2.5.2. Internationalisation at home

Two main aspects shall be highlighted in this context: the influx of international students and the influx of international programmes offered in China. The possibilities for incoming foreign students are still very underdeveloped in China. Overall, only 78,323 students from overseas were studying in China in 2005 (China Statistical Yearbook 2006, 21-11). Thus, less than 4‰ of the total student population is coming from abroad, compared for example with nearly 190,000 international students in Germany, equalling 9.5% (DAAD Müller 2007). However, the MoE clearly states in the action plan for 2003-2007 that they do not wish to increase numbers as such but want to "adopt a strategy of creating 'renowned brand names' for selected institutions and academic fields and adhere to the principles of 'expanding the scale, raising the level, ensuring the quality, and managing according to established norms and standards'" (MoE Action Plan 2005, p.29).

Another aspect of internationalisation is the question of study programmes offered in China by foreign higher education institutions. In 2003, 712 programmes were officially accredited and accepted as joint programmes out of which only 150 were allowed to confer non-Chinese degrees. As to be expected, the majority of the programmes are offered by US, UK and Australian higher education institutions. The Chinese government created some very strict regulations concerning these

programmes. It is not possible, for example, to run a foreign programme without an accredited Chinese HEI (Netherlands Education Support Office Beijing (2007), p.9. The entire, very complex process is controlled by the "Regulations of the People's Republic of China on Chinese-Foreign Cooperation in Running Schools" (Foreign Cooperation 2007) and the "Implementation Measures for the Regulation of the People's Republic of China on Chinese-foreign Cooperative Education" (MoE Implementation (Chinese)). It is therefore quite a difficult endeavour to start off-shore education activities in China, and the German activities as an example are still in a very tentative and developing stage. Through the DAAD programme "Studienangebote deutscher Hochschulen im Ausland" (Study Programmes Offered Abroad by German Higher Education Institutions) the following projects are currently undertaken (DAAD Export 2007):

Table 8: German DAAD-funded Offshore Projects in China

1.	*Universität der Künste Berlin, China Academy of Arts:* Postgraduate Master Programme in Fine Arts (Weiterbildender Masterstudiengang Bildende Kunst) (Master of Arts)
2.	*Fachhochschule des Mittelstands (FHM) Bielefeld, Universität Suzhou:* Sino-German SMC (small and medium-sized companies) Institute (Deutsch-Chinesisches Mittelstands-Institut (DCMI))
3.	*Hochschule für Bankwirtschaft, Frankfurt/Main, Shanghai University of Finance and Economics:* MBA in Finance
4.	*Fachhochschule Furtwangen, Northwest University Xi'an:* Master of Business Administration
5.	*Hochschule für Angewandte Wissenschaften Hamburg, University of Shanghai for Science and Technology:* Centre for Technology and Business in Cooperation with the USST (Zentrum für Technik und Wirtschaft mit der USST)
6.	*Fachhochschule Lübeck, East China University of Science and Technology (ECUST):* Sino-German kooperative study model (Deutsch-Chinesisches kooperatives Studienmodell)
7.	*Fachhochschule Osnabrück, Shanghai Institute of Foreign Trade:* International Event Management Shanghai (IEMS)
8.	*Universität Paderborn, University of Science and Technology:* Sino-German Technical Faculty (Chinesisch-Deutsche Technische Fakultät (CDTF))

It is striking that these endeavours in China in the framework of the DAAD programme are mainly undertaken by smaller or medium-sized HEIs, whereas the TU Munich, e.g., co-founded the German Institute of Science and Technology (GIST) in 2003 in cooperation with the National University Singapore (Herrmann 2003). The University of Stuttgart, in cooperation with the University of Ulm, started the German

University Cairo in 2003, which is also sponsored by the same DAAD programme as the Chinese programmes (German University Cairo 2007). In other words, it seems that the larger German universities prefer broad-band cooperation to offshore activities when being active in China (e.g. FU Berlin) whereas smaller and medium-sized HEIs move into the offshore segment.

3. Reforms and trends

3.1. General reforms

In the 1980s, the Chinese Higher Education was facing four major challenges besides the sheer increase in numbers:

- accelerating development of science and technology,
- social reform and innovation,
- reform in the economic system and methods of production,
- conflicts between Chinese and Western culture (Gu 2000).

Thus, China had to find answers to these challenges. As we have shown above, the 1980s mark an era of change in the Chinese higher education sector. China initiated reforms in the fields of economics, politics, and science and technology which also had repercussions on the educational system. The most important steps in the late 80s and early 90s were the decisions by the central committee of the Chinese Communist Party on the reform of the educational system: in 1985, the “Founding Principles of the Reform and Development the Chinese Educational System,” in 1993 and leading to the ninth 5-Year Plan in 1996 and the first Action Plan for Invigorating Education of 1998, followed by the above mentioned Action Plan 2003-2007.

Since the 1980s onwards, the internal and external environment for higher education has undergone significant changes which has called for corresponding reforms in its organisational structure (Yuan 2000). The Ministry of Education states that “The overall objectives of higher education reform are to smooth the relationship among government, society and HEIs, setting up and perfecting a new system in which the

state is responsible for the overall planning and macro management while the HEIs follow the laws and enjoy the autonomy to provide education according to needs of the society" (MoE Higher Education 2007). The reforms comprise, according to the MoE, a higher degree of autonomy of the HEIs, a new financing system including both new institutional funding and tuition fees, new recruitment strategies and systems, and in particular, a staff and salary system with a higher degree of performance-based decisions. Throughout these reforms, the MoE emphasises the responsibility and role of the central government (MoE Higher Education 2007).

The reason for both the strong emphasis on the importance of education and the still rather centralistic approach lies in the traditions of China. On the one hand, education was and is considered one of the prime virtues and main values in society. It is part of the Chinese philosophical heritage to strive for knowledge, thus being one of the desires a government has to fulfil. On the other hand, according to Liu, the Chinese are expecting the government to take the lead in such a process.

A more explanation for the slightly controversial situation is provided by Mohrman who observes that the MoE has reduced its staff by 50% over the years (1000 to 500) so that a totally centralised control is no longer manageable. She argues that this allows for more autonomy and with the delegation of control to the regional authorities, a certain degree of "central" or state control is still maintained. And in addition, she claims that the MoE has more resources free for control over certain institutions such as the graduate programme providers and research centres. Mohrman, however, concludes that it might be unfair to judge the Chinese policy as being not entirely coherent as "perhaps consistency in the policy process is an unreasonable expectation in any governmental system. Certainly the American policy environment for higher education could not meet a standard of rationality!" (Mohrman 2003, p.11)

Ouyang Kang adds that the new development in China shows five characteristics: internationalisation, synthesis/comprehensiveness, modernisation, diversification, and holistic education/self-cultivation. He points out that the aim of Chinese higher education has been changed from a political weapon to a means of educating and cultivating. As higher education has become a top priority in the Chinese society of today and the function of an HEI has been redefined from a pure teaching centre to a

scientific research community, research and teaching are taking over as key roles in the society. His fourth point, the plan of placing 100 Chinese universities in the premier league of higher education world-wide in the 21st century will be reviewed in the next chapter (Ouyang 2004).

The dominant tendencies in the reform movement in China up until the Projects 211 and 985 might therefore be summarised as:

1. From central regulation to more local autonomy
2. From elite to mass education
3. From specialisation to breadth
4. From public to private
5. From national to international

All five aspects are intensively drawn upon in the "2003-2007 Action Plan for Invigorating Education." Other aspects of education that are highlighted within the document include the implementation of quality-oriented education, the strengthening of institutional innovations and the implementation of legal governance of education, and the opening of education to the world. The document also sets two high priorities: education in rural areas and the development of top ranking universities and key academic disciplines (MoE Action Plan 2005).

Overall, a tendency is observed which could be described as

from quantity to quality.

It is, however, no surprise that one of the high priorities carries the word "ranking." Therefore, the authors would like to briefly touch upon the interplay between Chinese higher education and rankings as this issue holds some explanatory power for the initiatives 211 and 985 described later.

3.2. Rankings and the Chinese higher education policy

The orientation towards rankings can be considered as a result of the enlargement policy of the last years and the perceived need for quality assurance. It is not without reason that currently one of the most influential and discussed rankings world-wide called the Academic Ranking of World Universities (ARWU) is run by the Institute of Higher Education at the Shanghai Jiao Tong University, nicknamed “The Shanghai Ranking.”[21]

The history of rankings in China dates back to 1985, when according to “the Decision of the Reform of Education System of the Central Committee of the Communist Party of China” assessments and comparisons are required to be carried out on HEIs. The first Chinese university ranking was carried out in 1987 by the China Management Sciences Institute and since then, Chinese scholars engage in initiatives of university rankings throughout China. Until now, 30 rankings have been carried out by 13 different units and institutions across China (Wu 2007) and it seems that research capacity is on the forefront of interest for Chinese rankings and/or recipients of rankings (Usher 2007), although the two most famous rankings, the Netbig, often discussed because of its indicators, and the Ranking of the Guangdong Institute of Management Sciences (GISM), also stress non-research education aspects. The indicators are described in Annexes 7.1 and 7.2.

The idea of defining top universities among the HEIs is based on some past traditions. From 1954 to 1963, China established 68 so called "key-point institutions" of higher learning, a list which was enlarged to 96 institutions in 1981. In 1984-85, the State Planning Commission and the Ministry of Education jointly decided to increase the level of selectivity and chose 16 out of these 96 HEIs which were approved by the State Council. These institutions were defined as targets for improvement for teaching and research and in this capacity included in the Seventh Five-Year Plan. The group included, e.g., Peking University, Tsinghua University, Fudan University, Xi'an Jiao Tong University, Shanghai Jiao Tong University, University of Science and Technology of China, Beijing Medical University, People's University of China, Beijing

[21] More information about ARWU is available at: http://ed.sjtu.edu.cn/ranking.htm The CHE has often discussed the problems of world rankings and their methodology. A brief overview might be taken from: http://www.che-ranking.de/cms/?getObject=42&getName=CHE-Ranking&getLang=de

Normal University, and Beijing Agricultural University (Yang 1998). Consequently, according to the Quality Assurance Association (QAA) two state programmes which can be "described as 'pivotal' in modernising and enhancing the quality of higher education have been introduced: Project 211 and Project 985" (QAA 2006, p.6).

3.3. Project 211

In 1995, the Chinese government launched the ***Project 211***. The title refers to the aim of building up **1**00 top level HEIs and key disciplines in the **21**st century. This initiative is built into the ninth Five-Year Plan[22] (国务院关于《中国教育改革和发展纲要》的实施意见[23]). The project aims at

> *"training high-level professional manpower to implement the national strategy for social and economic development, the project has great significance in improving higher education, accelerating the national economic progress, pushing forward the development of science, technology and culture, enhancing China's overall capacity and international competitiveness, and laying the foundation of training high-level professional manpower mainly within the educational institutions at home."* (CERNET 2007a)

The idea is to establish a specially funded group of universities that will considerably improve the quality in teaching, research, management and institutional efficiency. It is expected that from this group, standards for quality will derive. It is also expected that most of the Project 211 universities will be able to enhance their own performance, physical conditions and competence of staff (CERNET 2007b). Project 211 comprises three major components:

1. ***Improvement of the overall institutional capacity***
2. ***Development of key disciplinary areas***
3. ***Development of the public service system in higher education***

[22] The document was issued by State Council of the People's Republic of China on February 13, 1993 (MoE 9th 5-year plan 2007).
[23] The document was issued by State Council of the People's Republic of China on July 3, 1994, http://www.moe.edu.cn/edoas/website18/info3319.htm, last retrieval April 26, 2007

The first component deals with the question of enlargement and enhancement of all academic activities from teaching to research. “More and Better” could be the motto. The second component is a concentration activity, in which the institutions shall define those areas of competence with the highest value for society and the highest level of problem-solving capacity. It is envisioned to spread this over as many disciplines as possible, as interdisciplinary approaches are considered to be pivotal in education. The third component focuses on the service backbone of the system and addresses the Chinese Education and Research Network (CERNET), the Library and Documentation Support System (LDSS) and the Modern Equipment and Facilities Sharing System (MEFSS) aiming at improving the infrastructural setting (CERNET 2007b).

Overall, and particularly during the ninth 5-Year Plan, Project 211 gives priority to the improvement of the universities’ standards and outputs. However, despite the aim for quality improvement, in every part of the initiative, the reference point is the economic development of China. “[…] Project 211 is mainly oriented to economic development of China” (CERNET 2007b). The project is steered by a ministerial level coordinating group which combines the State Council, the State Planning Commission, the MoE and the Ministry of Finance. In a first round, 61 universities were approved for the project with another 40 waiting to be approved (CERNET 2007d, 2007e).

The funding is based on a joint initiative that includes the central government, local authorities and the higher education institutions. The funding is divided into two priority levels. Key disciplinary areas and the public service system are on the first priority level, whereas infrastructural improvement follows in the second priority level (CERNET 2007c).

During the period of the ninth Five-Year plan, 602 key disciplines were developed. The overall funding topped 18.3 billion RMB (1.65 billion €), including 7.5 billion RMB (app. 675 million €) on support facilities, 6.4 billion RMB (app. 576 million €) for the development of key disciplines, 3.5 billion RMB (315 million €) for the public service system, and slightly more than 1 billion RMB (95 million €) for infrastructure. The tenth Five-Year Plan further increased the investment in the 211 initiative with an overall funding of 18.4 billion RMB (1.66 billion €).

Table 6: Expenditure for Project 211

	Ninth Five-Year Plan Investment for the 211 Initiative (in million RMB)	Tenth Five-Year Plan Investment for the 211 Initiative (in million RMB)
Key disciplines	6.400	9.600
Support facilities	7.500	-
Public Service System	3.500	3.600
Infrastructure	1.066	2.300
Faculty Team Building	0	2.200
Unpredictable use	0	0.700
Total	***18.300***	***18.400***

Source: Liu

It can be observed how some foci changed. The support facilities, which are the best funded portion of the ninth Five-Year Plan investment for the initiative 211, are not funded in the tenth Five-Year Plan. Funding for the key disciplines (777 in the tenth Five-Year Plan) is increased by 50% and funding for the infrastructure by 100%. Faculty team building enters the scheme in the tenth Five-Year Plan with 2.2 billion RMB (app. 198 million €). These changes are clearly strategic and mark the shift of focus between the ninth and tenth Five-Year Plans.

3.4. Project 985

In contrast to Project 211, information is rather scarce concerning Project 985. The title of the project derives from the month in which it was announced, May 1998 or **5**/19**98**. In May 1998, Jiang Zemin, then President of P.R. China declared that China was in need of some first-rate universities on an international level. Accordingly, the MoE launched the "Educational Action Plan toward the 21st Century" which explicitly stressed the development of World-Class Universities and Internationally Renowned High-Level Research Universities (MoE 2007).

Project 985 is aimed at developing 10 to 12 so-called world-class universities which are able to compete with the premier league of HEIs world-wide, plus a number of renowned high-level research institutions. More than 14 billion RMB (app. 1.26 billion €) were invested for the first stage of the Project 985 from 1999 until 2003, including a so-called transitional phase. The project focused on ten HEIs: Beijing University, Fudan University, Harbin Institute of Technology, Hefei University, Nanjing University, Shanghai Jiao Tong University, Tsinghua University, the University of Science and Technology, Xi'an Jiao Tong University, and Zhejiang University. In the

second phase, according to Liu, 39 institutions are currently supported which comprise:

1. Tsinghua University
2. Peking University
3. University of Science & Technology of China
4. Nanjing University
5. Fudan University
6. Shanghai Jiao Tong University
7. Xi'an Jiaotong University
8. Zhejiang University
9. Harbin Institute of Technology
10. Nankai University
11. Tianjin University
12. Southeast University
13. Huazhong University of Science & Technology
14. Wuhan University
15. Xiamen University
16. Shandong University
17. Hunan University
18. Ocean University of China
19. Central South University
20. Jilin University
21. Beijing Institute of Technology
22. Dalian University of Technology
23. Beihang University
24. Chongqing University
25. University of Electronic Science & Technology
26. Sichuan University
27. South China University of Technology
28. Sun Yat-Sen University
29. Lanzhou University
30. Northeastern University
31. Northwestern Polytechnical University
32. Tongji University
33. Beijing Normal University
34. Renmin University of China
35. East China Normal University
36. China Agricultural University
37. National University of Defense Technology
38. Central University for Nationalities
39. Northwest Sci-Tech University of Agriculture & Forestry.

A second phase is currently being conducted for the years 2003-2007. A third and fourth period are intended and additional phases are possible. Unfortunately, according to the embassy, details on the funding for the second and following phases

is not publicly available, however, the information provided states that the budget for phase two is considerably larger than for phase one.

Project 985 in conjunction with Project 211 can be regarded as the two most important strategies of the Chinese government concerning the quality aspect in the overall massification of higher education.

4. Challenges

It would indeed be remarkable if developments in higher education of this scale passed without tremendous challenges. Four challenges with special importance for the higher education sector shall be highlighted. Firstly, the question of distribution of opportunities between urban and rural areas (or core and fringe populations) needs to be addressed. Secondly, the issue of unemployment of university graduates seems to be both relevant and pivotal enough to be considered. Thirdly, it should be taken into account that quality is one of the serious issues related to higher education on which the authors at least would like to shed some light. Fourthly, although this is also not the place to discuss the repercussions which can be expected as a result of the one-child policy (such as male-female ratios, growing egocentrism because of lack of inter-sibling negotiations and disputes, pension system breakdown, etc.), the impact of the expected demographic change is of interest. We will therefore spotlight the strategies the Chinese government is planning to implement.

4.1. Core and fringe

One striking example of inequality between core and fringe populations is the chance for enrolment of students from urban versus those from rural areas. In metropolitan and thriving economic areas such as Beijing, Shanghai or Hong Kong, most students[24] who want to study can find a place. However, the opportunities for students from rural China is less extensive, so that the separation between cities and rural areas is a looming problem (Melvin 2006).[25] This is, among other possible aspects, due to the fact that the universities in the cities and strong economic areas differentiate between the gaokao results needed for local students to enter the

[24] At the end of 2005, the university enrolment among local students in Shanghai was around 55%: http://www.meishulu.com/article/2007-1-9/941019931.shtml

universities and those demanded from students from other regions (Henze 2006). However, it is interesting that more than 50% of the undergraduate students and 2/3 of the graduate students in a survey undertaken by Jacob in 2003 came from homes more than 500km away from the university at which they studied (Jacob 2006).

Still, discrimination towards students from rural areas and towards ethnic minorities was strongly felt among the interviewees. Language barriers and cultural differences are among the stumbling blocks for these students. The most striking aspect of this discrimination is presented by one interviewee who describes the situation as follow:

> *"There are generally two different groups at my university – those from the rural regions and those from the cities. It is very hard for the two groups to mix together. Students from rural regions and minority ethnic groups will continue to feel inferior while students from urban centers will continue to maintain a sense of superiority."* (Jacob 2006, p.165)

In the eyes of the interviewees, the barriers outweight any possible positive initiative such as additional grants or alike. In addition, the report states that the quality of teachers and institutions in rural areas is still inferior to that of the cities. This is one of the aspects which is at the centre of interest of the 2003-2007 Action Plan.

4.2. Unemployment

One of the most urgent problems for Chinese society lies with the unemployment of university undergraduates. With an output of more than 4 million graduates in 2006 (compared to 1.1 million in 2001), the higher education system is mass-producing highly qualified managers, leaders, doctors, top level technicians and alike. However, the Chinese labour market seems not to be adequately prepared for this wave of skilled professionals. In addition, accustomed to a system in which university graduates were placed, many students are not trained in "selling themselves" which exacerbates the situation leading to a "skyrocking unemployment rate among new college graduates" (Melvin 2006). Moreover, as there is still a strong feeling of a social contract between citizens and government, this situation is felt by some as a breach of this contract. Additionally, the Chinese economy today calls for highly skilled workers which are not yet readily available, since many and the best high

[25] Jacob is also analysing this effect extensively (Jacob 2006).

school graduates chose to go to university. As a result of all these developments, many graduates start working menial jobs (Melvin 2006).

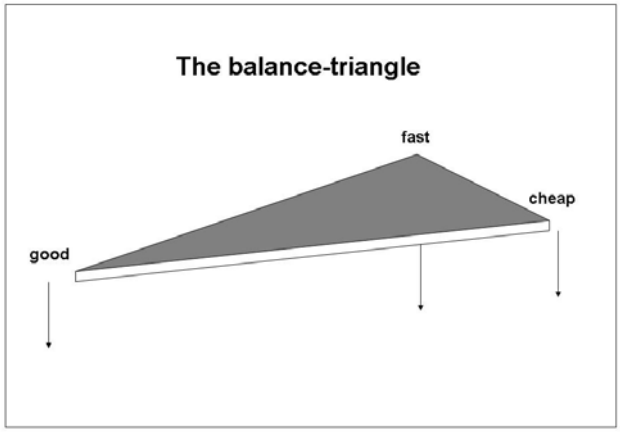
The government is clearly aware of the problem and looking for solutions. The 2003-2007 Action Plan includes under No.VI the “Project for Promoting the Employment of College and University Graduates.” It calls for start-up support schemes, support systems for job-hunting and the development of an “employment network” with a focus on online databases. It also emphasises the responsibility of the HEIs to provide adequate career services and to implement practical skill acquisition into the curricula. Special emphasis is laid upon the vocational training in adult learning institutions. Another initiative, based on the more ideological community-oriented fundament, is the calling to graduates to go to West China and invest their special skills in regions of greater need (MoE Action Plan 2005).

Liu also emphasised that the huge and fast investment in higher education had to lead to some side effects and that the market forces will to some extent – supported by measures as described in the action plan – solve the problem. As an example, because of the mentioned need for highly skilled workers, many graduates choose to receive a vocational education in addition to their university education in order to increase their chances of finding adequate jobs.

The combination of state-initiated and self-initiative is by some Chinese experts seen as a manageable approach which in the medium-term run will solve the problem. An additional aspect might be the orientation of top-educated Chinese graduates towards work abroad. However, up until now this remains one of the main problems of massification of higher education in China.

4.3. Quality

Massification is always directly related to the problem of quality. If you have to increase whatever output (cars, houses, students…) you are facing the dilemma of what the authors would call the balance-triangle. In increasing an output you are challenged to decide whether you want to opt for quality ("good"), speed ("fast") or low cost ("cheap"). Usually, you can only achieve two at a time. Either you work fast and for good quality, then it is expensive. Or you decide for quality and low costs, then you need time. Or you opt for low costs and a short timeline but at the expense of quality.



The problem for the Chinese revolution in higher education[26] is that the government aims at overcoming this perennial devil's circle. Some areas seem to be becoming increasingly more susceptible to quality issues, e.g. the issue of student-staff ratios:

Table 7: Student-Teacher Ratio in Regular Higher Education Institutions in %

Year	Total	University	Non-university Tertiary
1992	6.83	**6.63**	7.30
1993	8.00	7.82	8.61
1994	9.25	9.00	10.10
1995	9.83	9.71	10.16
1996	10.36	10.32	10.20
1997	10.87	10.80	10.85
1998	11.62	11.63	11.09
1999	13.37	13.67	12.23
2000	16.30	16.04	17.65
2001	18.22	18.47	17.15
2002	19.00	20.60	14.20
2003	17.00	**21.07**	14.75
2004	16.22	17.44	13.15

Source: MoE Pupil-Teacher Ratio 2004

One can observe that the ratio somewhat deteriorated over the last 12 years with a serious peak in 2003 for the university sector. 6.63 students per teacher in 1992 compared to 21.07 in 2003 translate into a rise of more than 300%. In addition, as

[26] Because it is certainly no evolution given the timeline and scale.

the tremendous pressure to produce more PhD degrees also seems to have infected the Chinese HEIs, more and more departments will face PhD-professor ratios which will make it increasingly doubtful whether the quality of the research work can be preserved. Still, one has to remark that this is a lamentable worldwide development which might be characterised as “inflation of degrees.” However, in the light of the massification initiative in China, this problem adds to the critical situation.

The quality differences between education in the cities and in the rural areas is another issue which the quality initiative will have to tackle. One administrator is quoted in the Jacob report as saying:

> *“Teacher education must be improved. Many teachers aim to help the poor... One of the results in the restriction of the teachers’ level of education is the low quality of teaching; therefore students in these areas are always at a disadvantage when applying for HEI.”* (Jacob 2006, p.166)

The government seems to be well aware of this challenge. Both Projects 211 and 985 grant the enhancement of quality as their highest priority. The 2003-2007 Action Plan also supports this approach by initiating the implementation of the “Qualities [sic]-Oriented Education Project for the New Century.” Among other aspects, the improvement of education in rural areas is also addressed. The “Project for reforming Teaching Practice and Enhancing the Quality of Teaching in Higher Education Institutions” stresses the importance of improvements in the teaching of English, the increase of teaching staff with practical experience, and particularly the reform of medical education (MoE Action Plan 2005).

It will have to be seen whether the quality issues will be solved satisfactorily in the near future.

4.4. Demographic change

By 2050, 31% of the Chinese population are expected to be 60 and older (United Nations 2004, pp. 53-54). The Chinese universities will have to deal with a changing society. The same problem awaits the German HEIs, if on a much smaller scale. How does China intend to deal with such a dramatic shift in society? Are there plans in line for the period after the large student wave?

According to Liu, the Chinese government has started with reforms. The gaokao is no longer age restricted and adult learning as we have seen above is considered to be of utmost importance and has consequently been enlarged. China is focusing its activities for the national population, trying to increase the participation rate and devoting its educational policy to life-long learning. It is believed that the solution lies within its own borders and people rather than in importing international students on a large scale to fill empty student places. Thus, international student recruitment is not felt to be of considerable importance to solve the demographic challenge.

Regarding the still low participation rate and the high number of high school graduates who can not yet enter higher education (due to a lack of student places), plus the enormous efforts taken to educate the still undereducated masses outside the core regions, this approach to the demographic challenge is understandable.

However, despite all the problems mentioned, one should not forget that no country so far has had to face challenges of this scale and thus China is very much left alone in finding solutions. Any Western arrogance in the sense of “well we could do it better” therefore seems to be rather misplaced. At best, cooperation on different levels might be helpful for both sides.

Clearly, some issues, such as the rural population education topic, illiteracy, and similar problems with which China is struggling are not interesting in the German issue setting nor do they carry solutions for German HE problems. But are there lessons to be learned? Are there some suggestions for action to be drawn from the Chinese experience? Are there options for new cooperation? There are five areas which shall be highlighted.

5. Lessons learned?!

5.1. Private education and foreign investments

China considers private providers of HE as an acceptable means to increase options for their students. The overall number of institutions seems to be considerable, with nearly 1,200. In other words, nearly a third of the HEIs are private, according to official data (MoE Number of HEIs 2004).

China's policy towards foreign investments is also interesting for Germany. No foreign HEI can work independently but always needs the connection with a local HEI. This attitude is somewhat different from the actual debate in Germany where independent foreign institutions are increasingly discussed to establish campuses, particularly in the upcoming years of high student numbers. Again, there might be a mutual benefit in using this Chinese approach as a bi-national initiative, linking a German HEI with a Chinese HEI both of comparable quality as the Chinese regulations will not - for the foreseeable future - allow foreign institutions to start investments and campuses on their own. In this context, the DAAD offshore programme would be a useful tool both to establish more of these initiatives and to explore the difficulties and challenges. Therefore, it would be recommendable also for larger German HEIs to use this programme to its full capacity. In any case, the cooperative approach in combination with selecting partners of comparable standing has taken ground with the initiative of the Humboldt-Universität zu Berlin which initiated the "nine+nine" meeting of nine top Chinese universities and nine top German universities on October 3-6, 2007. [27] These included:

1	Fudan University	Freie Universität Berlin
2	Nanjing University	Humboldt-Universität zu Berlin
3	Peking University	Ludwig-Maximilians Universität München
4	Shanghai Jiaotong University	RWTH Aachen
5	Tongji University	Technische Universität München
6	Tsinghua University	Universität Freiburg
7	University of Science and Technology Xi´an	Universität Heidelberg
8	Jiaotong University	Universität Karlsruhe
9	Zhejiang University	Universität Tübingen

[27] Humboldt 2007

5.2. Student Recruitment

China can not be provisioned to be able to provide 100% coverage of student places for its student population in the upcoming decade or thereafter. Thus, China should be a possibility for off-shore educational investments from Germany, be it private or public, in addition to increased recruitment of Chinese students to Germany. However, the German institutions will have to have a clear marketing strategy plus the fitting products to attract Chinese students. And it should be understood that competing for the best is not always the wisest option. First, the best Chinese HEIs can easily compete with the best German institutions – so that the best Chinese students increasingly tend to prefer their own HEIs – and second, the market of scale is elsewhere: in the sector of the good students who cannot enter HE after the gaokao. As mentioned in the beginning, in some German Länder (States), student numbers are decreasing now rather than in 10 or 15 years. Therefore, for HEIs in these states, it would be recommendable to develop strategies for attracting more Chinese students to their campuses, particularly given the fact, that today the number of Chinese students in Germany is decreasing rather than increasing.[28]

5.3. Quality

Due to the tremendously fast massification of higher education, China is struggling with the issue of quality in education. Thus in the quality sector, close cooperation between quality assurance and quality management experts from Germany and China would certainly be beneficial for both sides. Germany has some expertise to offer and China has a declared interest to invest into this activity.

5.4. Excellence

China invests per year approximately 3.7 billion RMB in Project 211 and another 2.8 billion RMB in Project 985 compared to an overall annual investment in the higher education institutions of slightly less than 101 billion RMB (China Statistical Yearbook 2006, Table 21-37). In other words, 6.4% of the overall funding is put *additionally* into elite education. In comparison, the German government invests 1.9 billion € over 5

[28] Deutsche Welle 2007

years, equalling less than 400 million per year in the Initiative for Excellence which is aimed at supporting excellence in German HEIs (Wissenschaftsrat 2007). [29] Comparing this to an overall annual investment of 22.8 billion € for the HE system in Germany (DESTATIS 2007, 1.4.1) leaves Germany with a 1.7% investment for the invigoration of excellence. In other words, China is willing to invest nearly 4 times additionally for elite education compared to its overall annual HE investment than Germany.

If there is one lesson to be learned, it is that the Chinese way of thinking seems to be: "you can only get excellence if you are willing to invest excellently."[30]

5.5. Demography

Obviously, China is focusing its efforts to deal with the demographic challenge of its own population rather than approaches to foreign student recruitment. Taking into account the size of the Chinese population and the still huge percentage of people excluded from higher education due to either lack of student places or differentiation of educational levels between core and fringe groups, China's situation is anything but comparable to Germany's. However, two aspects are relevant in this context. The first aspect is the willingness of the Chinese government to take life-long learning serious together with the visible results of such willingness in the excellence-sector, leading to the prediction that China will invest heavily in further and adult education in the upcoming years. However, as Dahlman et al. state in their extremely helpful and broad analysis of the challenges, potentials and strategies for a Chinese life-long learning initiative, China has a tremendous potential but up until now lacks any coherent strategies to use this potential adequately. They also confirm that it is a challenge of dimensions unknown to any European country.[31] Thus, it might be advisable to form joint partnerships on the issue of life-long learning in order to learn from each other. The second aspect of interest in the German context is the sheer amount of target groups in the Chinese adult-learning population, which suggests

[29] Details may be also found under: http://www.blk-info.de/fileadmin/Papers/exzellenzvereinbarung.pdf

[30] Also the OECD comes to the conclusion that China's willingness to invest in innovation and research is quite outstanding in global comparison (OECD 2007).

[31] Dahlman 2007

that German service providers in this field might want to consider entering the Chinese educational market.

6. Conclusion

The Chinese development, both of the society as such and the higher education in particular, is unique in its character concerning size, speed and repercussions for other countries. Many social problems are yet unsolved but there are some interesting areas of cooperation and mutual interest in the area of higher education to be explored. Increased recruitment of Chinese students to German HEIs with a strongly decreasing student population, offshore activities in China for both economic and academic purposes, joint initiatives in life-long learning and a vast market for adult education are among the most obvious examples.

In various aspects, China can and will be of paramount importance for German higher education, whether we become actively involved or not.

7. Annex

7.1. Netbig Ranking 2006-07

Indicator I	Weight	Indicator II	Indicator Weight (%)
Prestige	15	based on the results of a survey sent out to academics, well-known scholars and university presidents	15.0
Academic resources	20	number of doctoral programmes (according to the number of bachelor programmes);	4.4
		number of master's programmes (according to the number of bachelor programmes);	2.4
		national key programmes(according to the number of bachelor programmes);	4.6
		national labs and centres (according to the number of bachelor programmes);	4.2
		national centres in social sciences (according to the number of bachelor programmes);	4.4
Research output	22	number of SCI and per person	8.1
		number of EI and per person	5.5
		number of SSCI and per person	6.2
		number of CSSCI and per person	2.2
Student academic achievement	12	entrance examination scores	5.9
		percentage of graduate students	6.1
Faculty	19	percentage of faculty with doctorates	8.0
		number of Chinese Academy of Science	5.0
		number of Changjiang fellows	4.0
		Teacher -Student Ratio	2.0
Infrastructure	12	amount of research funding and per faculty member	6.0
		number of books and per student	3.0
		campus and facility size and per student	3.0

Source: Netbig(2007) & WENR(2006)

7.2. Guangdong Institute of Management Science (GIMS) Ranking 2006

Indicator	Subgroup	Data basis	Indicator Weight (%)
Research Performance	Sciences	research output and citations in a range of high-profile journals and indexes; also considered are patents and national and provincial awards	43%
	Social Sciences	paper indexes and citations are counted, as are national and provincial awards	
Education Performance	Graduate	number of master's and doctoral graduates	57%
Student academic achievement	Undergraduate	number of bachelor graduates	

Source: WENR(2006)

8. Sources

(The family name is always stated first, regardless of the different customs in China and Germany)

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