EXPANSION AND EQUALITY IN ACCESS TO CHINESE HIGHER EDUCATION: A CULTURAL PERSPECTIVE

by

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Abstract

This study is a sequential multi-methods research effort which examines the issue of
equality in Chinese higher education after the recent expansion, and explores how
educational equality has been shaped by policies which reflected the shifting value
orientations of the government since 1949.

Quantitative methods were used to discover the current patterns of educational
equality. The dataset is derived from a survey carried out under a project supported by the
Social Sciences and Humanities Research Council of Canada. Logistic regressions were
conducted to discover the relations between students’ social background characteristics
and their likelihood of studying in different part of the differentiated higher education
system. The findings show that while overall access has increased greatly, advantaged
groups have maintained their advantage in gaining entry to higher status universities and
attractive disciplines.

The study went deeper to explore the changing patterns of educational equality
through historical analysis of policy using the lens of culture, since social phenomena are
context-based and culture is a deep yet decisive force which has previously been given
inadequate attention in relation to this issue. Applying a multidisciplinary approach, an
indigenous analytical framework was developed which identified six dimensions of
culture relating to educational equality, and Chinese cultural values were then organized
along these dimensions. This framework was used to explain the results of the quantitative
analysis at a deeper level. It was also used to construct ideal types of elitism and populism
as a means of analyzing the historical process of policy change.

The study found that policies regarding educational equality swung between these
two poles in post 1949 China, due to an internal tension in the Chinese cultural value system which was in turn stimulated or provoked by diverse external influences. Four major modes were identified: politically restrained elitism, politically restrained populism, inclusive elitism, and a tendency toward harmony.

This approach represents an original attempt to develop an indigenous framework to interpret educational equality through a cultural lens. The dissertation also seeks to contribute to knowledge and theory development in the comparative research on educational equality more widely, and to provide insights that may inform policy making.
Acknowledgement

I started the journey of my Ph.D study with uncertainty in my mind about my future. However, the journey of working on this project has turned out to be a transformative process of finding out what career I would love and commit to. I am the blessed one with an extraordinary supervisor and committee members who have guided me in writing this dissertation and helped me discover the wonderland of scholarly efforts.

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Abbreviation

CCP Chinese Communist Party
CCPCC Chinese Communist Party Central Committee
CMMHE China’s Move to Mass Higher Education
CPPCC National Committee of the Chinese People’s Political Consultative Conference
CR Cultural Revolution
EGP Erikson and Goldthorpe’s Class Categories
EMI Effectively Maintained Inequality
FA Factor Analysis
GDP Gross Domestic Product
GLF Great Leap Forward
GPA Grade Point Average
HE Higher Education
HEEEE Higher Education Entrance Examination
HEIs Higher Education Institutions
IALS International Adult Literacy Survey
ISCO International Standard Classification of Occupation
ISEI Gabzeboom et al’s International Socioeconomic Index of Occupational Status
MEXT The Ministry of Education, Culture, Sports, Science and Technology, Japan
MMI Maximum Maintained Inequality
MOE The Ministry of Education, China
OECD Organization for Economic Cooperation and Development
PCA Principle Component Analysis
PISA Program for International Student Assessment
PRC People’s Republic of China
SCI Social Cultural Index
SEC State Education Commission, China
SES Socioeconomic Status
SC State Council, China
SD Standard Deviation
SIOPS Standard International Occupational Prestige Scale
SPSS Statistical Package for Social Sciences
SSHRC Social Sciences and Humanities Research Council, Canada
USA The United States of America
UNESCO United Nations Educational, Scientific and Cultural Organization
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Chinese</th>
<th>English</th>
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<tr>
<td>Datong</td>
<td>大同世界</td>
<td>Great Unity, or Common World</td>
</tr>
<tr>
<td>Hukou</td>
<td>户口制度</td>
<td>Household registration system</td>
</tr>
<tr>
<td>Minban</td>
<td>民办</td>
<td>People-run, private</td>
</tr>
<tr>
<td>Minben</td>
<td>民本</td>
<td>People are essence and/or foundation of a state, people-oriented</td>
</tr>
<tr>
<td>Hexie</td>
<td>和谐</td>
<td>Harmony</td>
</tr>
<tr>
<td>Junzi</td>
<td>君子</td>
<td>Nobleman</td>
</tr>
<tr>
<td>Ren</td>
<td>仁</td>
<td>Benevolence</td>
</tr>
<tr>
<td>Renzheng</td>
<td>仁政</td>
<td>Benevolent governance</td>
</tr>
<tr>
<td>Shengxian</td>
<td>圣贤</td>
<td>Sageliness</td>
</tr>
<tr>
<td>Yi</td>
<td>义</td>
<td>Rightness</td>
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CHAPTER 1
INTRODUCTION

The past century has witnessed the rapid growth of enrollment in higher education and a change from higher education being a privilege of the elite to a right of ordinary people in industrialized countries (Bereday, 1973). In 1900, roughly 500,000 students were enrolled in higher education institutions worldwide, representing a tiny fraction (about 1%) of the college-age population. By 2000, the number of tertiary students had grown two hundredfold to approximately 100 million people, representing about 20% of the age cohort worldwide. The most significant expansion started during the 1960s in industrialized countries and spread throughout the entire world. Enrollment rates are rapidly increasing to 80% in some industrialized countries, foreshadowing the possibility of universal higher education (Schofer & Meyer, 2005).

As a developing country with the largest population in the world, China's move to mass higher education has lagged behind that of industrialized countries. However, starting in the 1990s, especially from 1999, higher education has experienced unprecedented expansion in China. The gross enrollment rate increased from 9.8% in 1998 to 23.3% in 2008, with the total enrollment reaching 29.07 million (China Educational Statistics Yearbook, 2008), making it the largest higher education system in the world. What are the implications of this dramatic expansion of higher education for China?

Education is regarded as one of the most powerful instruments for reducing poverty and inequality and for laying the foundation for economic growth, sound
governance, and effective institution-building (Hannum & Buchman, 2003). Thus the massification of higher education is seen to have a significant impact on political, economic, and cultural development, on social stratification and mobility, and also on the higher education system itself (Altbach, 1999; Trow, 1972, 2006).

1.1 Access to Higher Education and Social Equality

A central concern with the massification of higher education is whether the expansion has equalized learning opportunities, given that higher education credentials play an increasingly important role in an individual’s status in the emerging knowledge society. Sociologists state that when societies become technologically more complex and sophisticated, the level of formal education attained by individuals affects the nature of their occupational choices and future socioeconomic status (Anisef & Okihiro, 1982; Blau & Ducan, 1967; Treiman, 1970). Higher education is not only the gatekeeper to managerial and professional positions that provide a middle-class standard of living (Shavit et al, 2007), but also an important path to civic leadership. Some researchers even argue that in a developed country like the United States, if opportunity is broadly defined as the chance to participate fully in society, higher education has become the only road to opportunity for most people (Heller, 2001, p.85). Consequently, the issue of equality in access to higher education attracts even more attention at the universal stage than that at the elite stage, because higher education has come to be seen as a basic right for all citizens rather than a privilege for elite groups (Trow, 2006).

Access to higher education is, therefore, stated as a universal right in international
agreements as well as in national laws. The United Nations’ Universal Declaration of Human Rights states that “higher education shall be equally accessible to all on the basis of merit” in Article 26; and the principle of higher education for all is emphasized again in Article 13 of the International Convention on Economic, Social and Cultural Rights (1966). The Educational Law of the People’s Republic of China declares in Article 9 that “all citizens, regardless of ethnic group, race, gender, age, occupation, property status or religion, enjoy equal educational opportunities according to law”. All the principles underlying these agreements and laws indicate an effort to make higher education accessible to all people based on merit rather than on any other criteria.

Theoretically everybody has the right to have access to higher education, but in reality opportunities for access to higher education have been affected by many factors, such as individual learning ability, family affordability and personal will and choice, to name a few. Governments have the responsibility to take action to remove the cultural, social and financial restrictions on those who are willing to work in order to gain access to higher education. However, it is widely recognized that it is unrealistic to expect that any educational system can reach the point of having exactly the same proportion of each social group represented in its higher educational institutions as their original proportion in the society at large, even when talent is viewed as equally distributed among the population (Huang, 2005). There are many reasons for this situation.

Merit is still the single most important criterion restricting access to higher education in many countries. It is largely measured by scores in matriculation.

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1 Article 13 of the 1966 International Covenant on Economic, Social and Cultural Rights: “Higher education shall be made equally accessible to all, on the basis of capacity, by every appropriate means, and in particular by the progressive introduction of free education.”
examinations, high school grade point averages (GPA), or scores in academic aptitude tests. Examinations are regarded as a mechanism that ensures fair competition and they are supposed to safeguard the interests of people of modest origins (Musgrove, 1966). However, research shows that students from disadvantaged groups systematically underperform in examinations (Bowen & Bok, 1998; Zwick, 2002), and that substantial differences in IQ can be attributable to environmental differences (Bereiter, 1970; Husen, 1974). Children from wealthy families with higher parental educational attainment are better prepared in terms of family resources, better quality schools and more culturally enriching communities (Bourdieu & Passeron, 1977).

Because education systems are sequentially organized from primary to secondary and tertiary levels, many factors influence the decision of an individual to continue at each transitional point to a higher level of education. Financial problems are often the targets of government policy for improvement, while other restrictions have been regarded as matters of personal choice within a liberal conception of society. However, myriad studies indicate that personal choice is not an individual matter, but is structurally correlated with the individual's social origin in a stratified society. Socio-economic status, gender, race, ethnicity and geographic origin all play important roles in influencing the choices of individuals as well as shaping academic performance throughout their educational careers (The Educational Policy Institute, 2008; Wells et al, 2007).

This issue also highlights a fundamental dilemma of higher education, between its selective function and inherent norm of meritocracy on the one hand, and its mission of
serving the need for societal development and accommodating the social demand for higher learning on the other (Husen, 1974). Higher education is expected to reduce inequalities among social groups in the distribution of credentials, yet its gatekeeping function requires the system to be selective and to ration credentials (Ayalon & Shavit, 2004; Collins, 1979).

Objectively, an expanded higher education system has to compete for limited public resources as well as seek non-governmental resources to sustain its operation. At the same time, with the differentiation and sophistication of the labour market, and with the spread of the idea of students as consumers, higher education has also had to differentiate into various types of institutions, curricula and services to meet diversified demands (UNESCO, 2004). Some higher education institutions have kept their elite features, focusing on creating cutting-edge knowledge and cultivating an elite, while others have opened their doors wide to the masses, helping them acquire knowledge and skills for newly emerging occupational opportunities. For the former institutions, access is limited only to those who demonstrate substantial merit; for the latter institutions, access may be available for all. This institutional arrangement is rational yet also controversial.

Although education is regarded as the most effective instrument for overcoming social inequality, educational efforts at combating inequality have been shown to have failed to a large degree (UNESCO, 1983; Shavit & Blossfeld, 1993). Nevertheless, research on access to higher education has significantly contributed to an understanding of the relationships between education, social mobility, and social equality, and has
informed policy makers and practitioners in their endeavors to promote educational and social equality.

1.2 The Chinese Context of This Study

Chinese higher education has experienced a radical expansion with enrollment quadrupling since 1999, and this huge expansion has occurred within the context of a society that has been undergoing social and economic transformation. It is therefore important to examine who has entered into what kinds of higher education institutions and why. In order to answer these questions, some background knowledge about social stratification and the higher education system in the Chinese context is necessary.

1.2.1 A Cultural Tradition

In Chinese culture, the Confucian tradition has been dominant for two millennia, a tradition in which education carries high moral, political and socioeconomic value (Seeberg, 2000, p.29). For about 1400 years officials were selected through a civil service examination system (Hu, 1984), and this was the primary avenue of social mobility until it was abolished in 1905 (Elman, 1994). In imperial China, social status was defined in terms of four classes, descending from the literati, with scholar officials as part of this elite group, to farmers, artisans, and finally merchants (Eberhard, 1962). A unique Chinese mentality with regard to social status, mobility and meritocracy was moulded over this long history of implementing the civil service examination system, and was manifested in popular proverbs such as “he who excels in study can follow an official career” (学而优则仕), and “the pursuit of knowledge is superior to all other
walks of life” (万般皆下品，唯有读书高).

The institution of civil service examinations was revived in a modern way in the national Higher Education Entrance Examination (HEEE), established during the Nationalist period, and was strengthened after 1949 within the centrally planned socialist economy. Before the reforms of the early 1990s, an individual automatically gained cadre status when admitted into a higher education institution and was guaranteed a job by assignment upon graduation.

At the same time, the Chinese Communist Party had adopted various radical approaches to eliminating the traditional hierarchy of social status and promoting the participation of workers and peasants in higher education (Yang, 2006). The most radical measure with regard to higher education was to abolish the HEEE during the Cultural Revolution decade. Admission to university then was not based on academic merit but on political performance; however, this approach ended in failure. The HEEE was restored in 1977 after being discontinued for almost ten years, and once again became the most important path of social mobility. The competition in the HEEE became extremely intense before the massification of higher education, which is vividly described in the popular proverb “the examination for university entrance is like an army of a thousand men trying to cross a thin little log over a river” (千军万马过独木桥).

1.2.2 Expansion and Differentiation in Chinese Higher Education

Chinese higher education expanded steadily from 1977. However, the pace of growth was far from meeting the massive social demand until the decision to massify
the system in 1999. In 1977 when the Higher Education Entrance Examination was restored, about 270,000 students were admitted into higher education institutions. The number increased to 1,541,049 in 1998, and then reached 8,102,200 in 2008 (China Educational Statistics Yearbook).

Several factors have been identified as influencing this sudden move: a concern about easing the immediate pressure of secondary school graduates on the labor market; a willingness to cater to the huge public demand for higher education; and the intention of accumulating human capital for future development (China Education and Human Resource Research Group, 2003; Wan, 2006; Xie et al, 2007). However, the most immediate factor that led to this radical move was the hope of stimulating consumption after the Asian Financial Crisis of 1997. In December of 1998, the economist Min Tang from the Asian Development Bank submitted a proposal to the central government with the following title: Some Thoughts on Revitalizing the Chinese Economy: Double the Enrollment in Higher Education. He proposed that “higher education institutions double their enrollment in three to four years and charge full cost tuition fees to the new students”. The central government partially accepted this proposal and tentatively planned to increase recruitment. Hence, it appears that an economic rationale, rather than social equality considerations, led to the radical expansion, and this in turn set the tone for related policies of marketisation and privatization in higher education (Wang & Liu, 2010).

Higher education in China consists of formal programs (in regular and adult higher education institutions) and flexible modes of study (web-based studies and preparation
courses for examinations awarding formal qualifications). Regular higher education has expanded much faster than adult higher education and flexible modes of higher learning, and accommodated 70% of the total enrollment by 2008. Therefore, most research on Chinese higher education, including that of this thesis, focuses on the regular sector.

A central characteristic of mass higher education systems worldwide is differentiation (Altbach, 2002). This is also true in China's case. Along with the process of massification have come the processes of the decentralization, differentiation and privatization of higher education.

The huge expansion took place mostly in local higher education institutions (at provincial, prefectural and municipal levels) rather than national universities under the jurisdiction of ministries of the central government. In 1998, the undergraduate enrollment in local colleges and universities was 2.258 million; by 2008 it had increased to 14.578 million. By contrast, the enrollment in national universities only increased from 1.541 million to 1.705 million over the same period. This can be partly attributed to the implementation of decentralization and jurisdiction transfer at the end of the 1990s whereby 250 of a total of 367 colleges and universities under the jurisdiction of ministries of the central government were transferred to provincial jurisdiction.

The relatively “flat” structure of the higher education system became more vertically differentiated during the expansion. Most 2-year sub-degree programs in national universities were closed, whereas 2-year programs flourished in local

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institutions. At the same time, the prestige and capacity of national universities were further strengthened through the implementation of two earmarked projects: the Project 211 and the Project 985. The Project 211 selected 100 universities for priority investment beginning in 1996, and the Project 985 was launched to provide even more significant funding to 43 top universities and raise them to a “world class” level beginning in 1998. The disparity between national and local institutions has thus significantly widened.

Private higher education moved into a new stage of development during the expansion. After three decades in which private higher education was not allowed, the first Minban (people-run) college, a euphemism for private institutions, was established in 1982. By 1997, there were 20 private higher education institutions providing formal programs with an enrollment of 14,000 students, accounting for 0.4% of total enrollment. Under The Law for Promoting Minban Education, which was enacted in 2003, the number of private higher education institutions providing formal programs rapidly increased to 638 in 2008, about 28.2% of the nation’s total.

An interesting phenomenon is the establishment of second-tier independent colleges—colleges affiliated with public universities, but receiving little public funding, and largely depending on student fees. Student intake is at a lower academic level than in the public universities, but the affiliated public universities are expected to assure basic academic quality at these independent colleges. This experiment has caused lively debate over issues such as differential credentials, quality and equity. There were 322 such independent colleges in 2008. Private institutions and independent colleges
together enrolled 3.927 million students, accounting for 19.4% of the total enrollment in regular higher education in 2008. Notwithstanding the rapid development, the operation of private higher education institutions in China heavily depends on tuition and student fees in that little government subsidy is available and only a limited amount of funding has been raised through donations.

Figure 1.1 shows the increase of enrollment in each type of institution during the period of 1998 to 2008.

*Figure 1.1 Enrollment in the regular higher education (1998-2008)*

Following the expansion and restructuring, Chinese higher education has evolved into a hierarchical and diversified system: national universities remain at the top, ambitiously focused on attaining “world class” status and promoting national competitiveness; local public universities remain in the middle, acting as the major providers for higher education and contributing to local development; and private
institutions are largely at the bottom, mainly focusing on vocational programs (see Figure 1.2).

Figure 1.2 The structure of the Chinese higher education system (cited from Zha (2006), p.21)

Due to the inadequacy of educational resources and infrastructure, the disciplines that could expand immediately included the humanities, education, and management and administration. By 2008, statistics showed that engineering programs had remained stable and continued to host the largest percentage of the student body, with their share maintained at 40%; the percentage of enrollment in medicine programs had dropped slightly, while the percentages for basic sciences and agriculture had shrunk to nearly half of that in 1998. Enrollment in economics went through a huge increase with the rapid expansion of management and administration programs, from 14.9% of total
enrollment in 1998 to 24.7% in 2008. The percentages for education and humanities increased slightly in each case, while the percentages for law and social sciences dropped slightly.\(^3\)

1.2.3 Cost Sharing and Compensation in Chinese Higher Education

As a developing country with the largest population in the world, it is impossible for China to support its huge higher education system solely by government funding. This is especially true in a situation where its higher education system has transitioned from the elite to the mass stage. All Chinese higher education institutions began to charge tuition fees in 1997. The percentage of tuition and student fees as part of the total income in regular higher education increased from 14.4% in 1997 to 32.4% at its peak in 2005 and then decreased slightly to 29.2% in 2007 (China Educational Finance Statistical Yearbook).

Several studies (Bi, 2009; Chen, 2003; Li, 2004; Li, 2006; Xie & Chen, 2007; Zhong & Lu, 2003) have shown that cost sharing and compensation have increased the opportunities for disadvantaged students due to the effect of expansion; however, the tendency for tuition rates to increase continually is always a bitterly debated issue. The rate of tuition increase was higher than that of household income during the years immediately following the huge expansion. The tuition in private institutions was 1.5 to 3 times higher than in their public counterparts.

Student financial aid programs were established and multiple resources were accessible to students, such as awards, bursaries, work-study programs and loans,

\(^3\) Statistics in this subsection are all from the website of the Ministry of Education, China. http://www.moe.gov.cn/publicfiles/business/htmlfiles/moe/s4628/list.html
although the resources were generally insufficient and unevenly distributed among institutions. In 1999, China began to implement low-interest student loan programs; however, student loan programs are not available in all higher education institutions, especially private institutions (Gu & Li, 2005; Li, 2004; Li & Reynolds, 2005; Liu et al, 2006).

1.2.4 A Transition in Chinese Society

The expansion and differentiation of the Chinese higher education system has occurred in the context of Chinese society undergoing a radical change in its stratification patterns: “China’s class structure and stratification patterns have been transformed from a rigid status hierarchy under Mao to an open, evolving class system in the post-Mao period. The state redistributive inequalities of the past are giving way to patterns increasingly generated by the way in which individuals and groups succeed in a growing market-oriented economy” (Bian, 2002, p.91).

To a great degree, Mao’s egalitarian approach had reduced socioeconomic inequalities (Parish, 1984). However, variations in income and welfare existed and could be explained by rural/urban identity, work unit sector, occupation and political power. There were two notable distinctions in Mao’s China. One was the rural and urban divide, governed by a rigid household registration system (hukou) that restricted all Chinese to their place of birth. Peasants were completely cut off from many urban privileges, such as free basic education, health care, public housing and social insurance (Bian, 2002; Cheng & Selden, 1994; Unger, 1984, 1994). Higher education was the most important avenue to urban residency for those who were born in rural areas. The
other was the distinction between “cadre” and “worker” status. Individuals in the “cadre” category enjoyed better compensation packages and had more opportunity to be promoted into leadership positions (Bian, 1994; Davis, 2000; Walder, 1995). The acquisition of “cadre” status came about through earning higher education credentials and/or the accumulation of political capital.

The post-Mao period saw the making of new strata of household business owners and capitalist entrepreneurs; administrative and managerial cadres gained executive control and income rights (So, 2001), and some of them became successful members of the bourgeoisie (Nee, 1996); the working class became differentiated, with large numbers of workers laid off (Whyte, 1999); some peasants became business owners or managers in township enterprises, and some migrated to cities and worked in the informal labor market (Lu, 2002, 2004).

The relatively equal distribution of wealth in the Mao era has drastically changed, and the differentiation of social strata has been greatly enhanced, resulting in radically widened gaps between the haves and the have-nots (Sun, 2005). The Gini coefficient, a measurement of income inequality, has continued to increase and reached 0.496 in 2006, passing the alert line (0.4). Income gaps represent the increasing disparities between the rich and the poor, between rural and urban residents, different regions, and among occupations. The income gap between the wealthiest 10% and the poorest 10% of society widened from 7 times in 1988 to 23 times in 2007 (Jiu-san Society, 2007).

Reform introduced an open system of markets and competition. Educational attainment became increasingly important to occupational status, income and
opportunity for promotion. The cultural capital represented by higher education credentials became the paramount determinant in social mobility (Lu, 2002, 2004). Consequently, equality in access to higher education has become a central concern in Chinese society.

However, both the international and Chinese literature on the issues concerning equality in access to Chinese higher education are insufficient and fragmented. The following section briefly summarizes past research studies and identifies the gaps that need to be addressed.

1.3 Past Research and the Rationale of This Study

1.3.1 Individual Level Determinants and Gaps

A myriad of studies have been carried out over the past several decades to address the issue of educational equality worldwide. Many of them examine the relationship between students’ social background characteristics, learning environments and educational equality based on conflict assumptions. Factors such as gender, race (or ethnicity), socioeconomic status, community type (rural/urban), region, and others have been identified as determinants that influence accessibility to higher education.

Studies found that opportunity in access to higher education has expanded after massification for all social groups. However, inequality has not been seen to decline as much, and in some cases has clearly persisted, when the type of institution and field of study are taken into account (Ambler & Neathery, 1999; Halsey, 1993; Karen, 2002; Shavit & Blossfeld, 1993; Shavit et al, 2007, etc). Women have made substantial
progress in participation in higher education; however, they are more likely to study at non-elite institutions (Amano, 1997; Davies & Guppy, 1997; Hearn, 1990; Jacobs, 1999), and the segregation of the fields of study by gender lines has declined little (Gerber & Schaefer, 2004; Jacobs, 1999; Kelly, 1990). This of course varies in different societies. The impact of socioeconomic status on equality in higher education participation is surprisingly persistent in most societies compared with the progress made by women and minorities (Shavit & Blossfeld, 1993). Students from socioeconomically disadvantaged groups are more likely to study at less prestigious institutions and in vocational programs (Ayalon & Shavit, 2004; Clancy & Goastellec, 2007; Davies & Guppy, 1997; Egerton & Halsey, 1993; Rumberger & Thomas, 1993).

Since every person in a given society possesses multiple social identities, some of the literature (Beattie, 2002; Jacobs, 1999; Karen, 2002) has examined the relationship between the interacting identities of students and their opportunities in higher education, such as girls from different socioeconomic backgrounds. Using more sophisticated techniques, these research studies yield detailed and complex accounts of educational equality.

The English language literature on developing countries in terms of educational equality in access to higher education is fragmented, especially when it comes to empirical studies. China is a case in point. It is a country that is receiving increasing global attention, and has seen unprecedented expansion in higher education over the past decade, yet only a handful of English language studies have examined the issue of equality of access to higher education in the Chinese context over the past decade (Ding,
Quite a few Chinese language studies have addressed this issue. The major finding is that gender has become the least influential factor affecting equality in access to higher education in China after the huge expansion (Yang, 2006). Nonetheless, gender segregation by field of study persists (Li, 2009; Wen, 2005b; Xie & Wang, 2008). Women are also underrepresented in elite universities (Liu & Wang, 2009). The gap between rural and urban residents has decreased rapidly during the expansion (Gou, 2006; Yang, 2006), yet rural students tend to enroll in non-elite universities. Socioeconomic factors have become increasingly important to educational equality due to the economic reforms and the kinds of social transition taking place (Xie & Li, 2000; Ding, 2006; Liu, 2008; Min, 2006; Wen, 2005a; Xie & Wang, 2005a, 2005b; Zhang, 2005).

Most studies published in Chinese examine a single factor (e.g., father’s occupational status) by using a descriptive method. Very few apply inferential statistical procedures to explore multiple factors simultaneously and to consider the interactions among predictors. Some factors, such as the influence of a mother’s education on a child’s accessibility to higher education, are barely examined.

1.3.2 Contextual Factors and the Need for Developing an Indigenous Framework

The impact of contextual factors has also been examined in research on educational equality. Studies indicate that educational equality is related to the structure of the education system (Boudon, 1974; Green et al, 2006), and the stage of educational equality. In the Chinese literature, researchers tend to use the ratio between the percentage of students from a certain group (e.g., worker) and the percentage of this group of people in the adult population.
expansion (Kaneko, 1997; Paterson & Iannelli, 2007; Xie et al, 2008).

Economic levels and developmental contexts are hypothesized to be related to educational equality. Treiman (1970) proposed the Industrialization Hypothesis which creates a research arena to explore the relationship between the degree of economic development and social mobility. It is assumed that the higher the level of economic development, the lower the influence of social background on an individual’s opportunity. The findings of empirical studies on the industrialization hypothesis are mixed (Buchmann & Hannum, 2001). Cross-national comparative studies have also shown that even at the same economic and societal development level, educational equality varies systematically by factors other than economic ones, such as heritage and cultural value orientation (Green et al, 2006; Ulubasoglu & Cardak, 2007).

Although in many studies findings are discussed using culture as a dimension, either deliberately or unconsciously, little attempt has been made to develop an indigenous framework from a cultural perspective. Nevertheless, the experience of higher education expansion in developing countries such as China can provide an opportunity for extending the theoretical perspectives that have emerged from the research on industrialized countries (Buchmann & Hannum, 2001), and for developing new perspectives based on distinct social and cultural contexts.

1.4 Research Questions

The purpose of this study is twofold: first, to examine whether the opportunity in access to Chinese higher education has been equalized after the huge expansion; and
second, to explore how cultural values shape the patterns of educational equality within the Chinese context.

Respectively, two major research questions guide this study:

**Research Question 1:** Is there a relationship between students’ social backgrounds and their likelihood of studying in different parts of a differentiated higher education system in China? If the relationship exists, which factors have significant effects?

The national statistics discussed in subsections 1.2.2 and 1.2.4 above show the following: the Chinese higher education system has been differentiated into an increasingly hierarchical structure during the expansion, the status of institutions and fields of study also have become differentiated; at the same time the individual return on different fields of study is different. Therefore, it is important to ask questions about who studies at what kinds of institutions and in which disciplines. This study therefore tries to answer three sub-questions within the first major research question:

1.1 Is there a relationship between students’ social backgrounds and their opportunities in access to different sectors, namely, public and private? If a relationship exists, which factors have significant effects?

1.2 Is there a relationship between students’ social backgrounds and their opportunities in access to public universities of differing status, namely, elite and non-elite? If a relationship exists, which factors have significant effects?

1.3 Is there a relationship between students’ social backgrounds and their opportunities in access to different fields of study? If a relationship exists, which factors have significant effects? The field of study is defined in terms of the three broad
categories of natural sciences and technologies, social sciences, and humanities due to the availability of data.

Research Question 2 arises from a second interest of this study: how do cultural values shape educational equality? This question can be explored at two levels: At the individual level, students’ aspirations and choices, and their parents’ expectations and decisions about investment in their children’s education, are all influenced by cultural values. At the macro-level, cultural values influence the government’s educational policies, which in turn shape patterns of educational equality.

The historical sociologist Andy Green pointed out that “The formation of the state accelerated the development of education, and in return, education provided a powerful vehicle for the construction and integration of the new nation state and became one of its chief institutional supports” (Green, 1997, p.1). Although new global trends have reduced some aspects of state sovereignty and authority, national governments will continue to see education as an important vehicle of national development, both economic and social, and seek to direct it towards these ends (Green, 1997, p.4). Since government is the crucial stakeholder in higher education, it is possible to analyze how cultural values shape patterns of educational equality through analyzing their influence on the formulation and implementation of government policies of educational development. This study is more interested in exploring the cultural influence at the macro-level, and will therefore leave the individual level to be the focus of future research. This leads into the second main

5In a broad sense,”‘state formation’ encompasses the achievement and maintenance of national/state sovereignty; the construction of national public institutions and economic infrastructures; and also the popularization of the notions of citizenship, statehood and national identity which bind it together (Green, 1997, p.31).
research question,

**Research Question 2:** How do cultural values influence government policies on educational development and, in consequence, shape the patterns of educational equality?

### 1.5 Methodology

#### 1.5.1 Methods for the First Research Question

Quantitative methods were used to answer the first research question by examining the relationships between students’ social background variables and their opportunities to access different types of higher education institutions.

The data were drawn from a student survey questionnaire dataset of a project supported by the Social Sciences Research Council (SSHRC) of Canada exploring China’s move to mass higher education. The data were collected from six classes of third year students in each of twelve Chinese universities in 2007. A two-stage purposive and convenient sampling strategy was used in collecting this data due to considerations of feasibility. Self-administered paper-pencil survey questionnaires were distributed, with roughly 200 questionnaires from each university, equally covering the three broad disciplinary areas of the natural sciences and engineering, social sciences, and humanities at each university. About 2,332 questionnaires were distributed, and a total number of 2,321 copies were returned with valid responses.

This study employed descriptive statistical techniques as well as logistic regression models to find out possible patterns of opportunity in the process of expansion in
Chinese higher education. The predictors included gender, geographic origin (rural/urban), both father’s and mother’s educational attainment and occupational status, and family income. The criterion variables were studying at public/private universities, studying at elite/non-elite universities, and field of study.

**1.5.2 Developing an Indigenous Framework**

In order to answer the second research question, this study adopted a cultural analysis model rather than seeking universal and “scientific” explanations assumed by rational action theory. Based on a literature review that identified various fundamental approaches to examining and interpreting culture (Gullestrup, 2007; Hall, 1989; Hofstede, 1997, 2001; Inkeles & Levinson, 1969; Parson & Shils, 1951), this study developed a tailored cultural analytical model specific to the research of education equality. In this model, core culture (beliefs and values) determines institutions, structure, and actions, and therefore determines the pattern of educational equality. In turn, institution, structure and collective action reciprocally impact cultural values. Six dimensions of core culture were identified in this model: human nature, attitude to education, status and advancement in society, relation between community and individual, power distribution, and gender roles. Chinese cultural values related to educational equality were extracted and organized along these six dimensions.

Based on this indigenous value framework, this study then adopted the Weberian method of using ideal types in sociological research (Weber, 1994). Two ideal types, elitism and populism, were formulated to analyze how the counterbalanced culture value orientations dynamically influence government policies, thereby shaping the
changing patterns of educational equality in the Chinese context since the foundation of the socialist regime in 1949. Government documents, national statistics, research literature, and reports from official newspapers and magazines were collected and analyzed.

1.6 Significance of the Study

Educational equality has been a key research area for decades because it is an important aspect of social equality as well as a vital factor that shapes patterns of social mobility and stratification.

China is a valuable case for examining the relationships between expansion and educational equality for a number of reasons. The Chinese higher education system, the largest in the world, has become an extremely hierarchical structure. Moreover, its rapid expansion has occurred in a unique context. China has a 1400-year history of selecting officials through imperial civil service examinations, and over this period meritocracy became a core value of society (Taylor, 1981; Weber, 1958b). Furthermore, China is currently undergoing social transformation through experimenting with a market system, and the ideology of egalitarianism from the era of socialist construction has been eroded. Therefore, China serves as an interesting case for exploring the impact of cultural beliefs and values about populism and elitism, interwoven with other forces, on policy-making.

On one level, this study of expansion and educational equality may serve to inform policy-making in China. On another level, the Chinese experience can be a reference for
other developing countries that hope to emulate China's approach and expand their higher education. Last but not least, given the positive impact of higher education expansion on democratization through promoting the new social values of democratic participation and new sources of political power such as civil organization (Benavot, 1996), this drastic expansion and the inquiry into “who benefits from the expansion of higher education and why” may have implications for the democratization of Chinese society and for the ways in which it takes up future leadership in the global community.

This research will make some distinctive contributions to knowledge and understanding in the research area of educational equality. First, by using inference statistical procedures, this study reveals the reality of the impact of the inextricably interlocked social identity of students and their opportunities, and links equality in access with the diversification process in higher education. Second, its explanation of the changing patterns of educational equality is based on a cultural perspective grounded in an indigenous framework. Finally, the study seeks to contribute more widely to theoretical and methodological development in comparative research on educational equality.

1.7 Organization of the Dissertation

The remainder of this dissertation is organized into six chapters. A review of the literature concerning the concept of educational equality, theoretical frameworks within which it is studied, determinants, and general research findings makes up Chapter 2. A conflict perspective is adopted to identify determinants and to analyze the relationship
between expansion and equality in higher education. Both the international and Chinese
literature are reviewed and evaluated, the gaps in the existing literature are identified,
and hypotheses are developed.

Chapter 3 presents an indigenous analytical framework which was developed by
applying a multidisciplinary approach. This framework is used to explain the results of
the quantitative part of the study at a deeper level. Since government policy is to some
degree a manifestation of culture, it is also used to construct ideal types as a means to
analyse the historical process of policy change.

The research methodology is explained and justified in Chapter 4. In response to
the first research question, a quantitative descriptive method, chi-square tests, and
logistic regression models are employed to examine the relationship between students’
social background and their opportunities in access to Chinese higher education. To
answer the second research question, the Weberian sociological approach of ideal type
and historical document analysis are employed.

Chapter 5 presents a snapshot of the current situation of equality of opportunity in
Chinese higher education measured by gender, geographic origin, family income, and
socioeconomic status in the 12 case study universities. A detailed analysis of patterns of
equality of opportunity in access to different sectors, types of institutions, and study
fields is presented in this chapter through quantitative exploration of the student survey
data CMMHE.

Chapter 6 explores how counterbalanced Chinese cultural beliefs and values
interdependently and dynamically shape the changing patterns of equality in Chinese
higher education through analyzing the shifting philosophies and priorities of government policies on educational development.

In Chapter 7, the findings are interpreted, conclusions are drawn based on the findings, and the implications of this dissertation both for knowledge and practice are articulated. The limitations of this study are also discussed and future research is suggested.
CHAPTER 2
LITERATURE REVIEW

In this chapter, I first introduce the concept of educational equality in higher education and clarify its definition with respect to this study. I then review the theoretical frameworks that will be used in guiding the research to address the first research question. Next, I selectively review the literature examining the effects of three micro-level factors on educational equality, gender, socioeconomic status, and geographic origin. These are important determinants of educational equality, and information about these factors is also available in my dataset. A review of the effects of macro-contextual factors such as political and social institutions, and education systems follows. Finally, gaps are identified, and hypotheses are proposed based on an evaluation of the existing literature and the availability of data.

Status attainment theory states that the amount of education attained significantly mediates the effects of students’ social background characteristics on their status attainment (Blau & Duncan, 1967). Since higher education credentials have become the most important avenue to participating fully in the emerging knowledge society, an area of concern is whether the expansion of higher education, or even universal access, has equalized learning opportunity. Numerous studies carried out over past decades have examined this issue worldwide. The results are mixed, depending on time, context, data sources and methods applied. In this chapter I will show how my study seeks to contribute to an understanding of this issue.
2.1 The Concept of Educational Equality in Higher Education

Before discussing the issue of educational equality, the concept should first be clarified. The concept of educational equality evolves with the development of a society rather than being fixed, and it has several levels that relate to the goals of education.

Anisef and associates (1985) have distinguished between two types of access: Type I and Type II. Type I focuses on “how many”, the number of people attending/participating in higher education, while Type II concerns “who”, the composition of the participants and their relationship with the overall population. Higher education expansion will increase Type I participation, but will not necessarily promote Type II accessibility, because the enlarged opportunities might not be equally distributed among the population. Much research on educational equality is concerned with the latter, and in this study I use the term “access” to refer to Type II accessibility.

A widely cited work about the concept of educational equality is the definition proposed by Coleman (1968). Coleman identified four stages in an evolutionary overview of the concept: 1) In pre-industrial society, the concept had little relevance to a system of formal education as education primarily occurred within an extended family system; 2) In industrial society, children became more occupationally mobile and schools came into prominence, but educational resources were segregated by social origins; 3) The concept of equal (initial) opportunity became prominent as society evolved to the post-industrial phase. Society was supposed to provide individuals with abundant opportunities to access educational resources according to their merit rather than on the basis of gender, ethnicity, socioeconomic status, or other criteria. The
Emphasizing the learning process rather than chronicling stages, Farrell (1982) divided the concept into four types: equality of access to schooling, equality of educational process (treatment), equality of educational outcome, and equality of social, economic and political outcomes. Equality of educational process and outcome share a similar meaning to that of Coleman's fourth stage.


The natural equality principle assumes that social origin determines the entitlement to social rights, including access to a segregated school system. This principle coincides with Coleman’s second stage. It is frowned upon nowadays as democratic ideas are widely accepted and influential. Equality of access is based on the recognition that individuals have different talents and potentials. Under this principle, it is ‘merit’, typically measured by grades or test scores, which guides the progress of individuals through the educational system. This principle parallels the third stage in Coleman’s definition. Equality of treatment or process argues that all people are able to learn and
should benefit from education. Students can choose the same quality and types of education and should be treated equally. The equality of achievement or outcome principle echoes Coleman’s highest stage of educational equality, and stresses the responsibility of a society to help all citizens acquire core skills. Equality of social, economic, and political outcomes links equality of educational outcome to equality of income and status attainment.

The post-modern principle is revolutionary and abandons universal educational ideals. It questions the traditional construct of knowledge, the definition of learning and of success. The European Group for Research on Equity in Educational Systems (2005) adapted Grisay’s fifth principle to ‘equality of social fulfillment’. It assumes that individuals have different motivational and cultural characteristics (but no hierarchy among them); hence, there is no single standard for excellence. Individuals should be instructed according to their natural aptitudes. Howe (1997) proposes participatory educational equality, which advocates the development of some educational ideals that, though universal, are sufficiently open to cultural differences.

Although there are many definitions of educational equality in the literature, the most common understanding of this term refers to whether the educational opportunities for access and for success are equally distributed among people from different social backgrounds. The major measurements of educational equality include, but are not restricted to, equal opportunities in access, attainment and achievement in education systems.

In my analysis of both quantitative and qualitative data in this study, educational
equality refers to equality of access and equality of treatment (or process). Translating these two terms into concepts in the higher education domain, ‘equality of access’ refers to opportunity in access to higher education in general; ‘equality of treatment’ distinguishes the differences in access: 1) between levels of higher education (two-year short-cycle and four-year degree programs); 2) between institutions at the same level but with differentiated prestige in a hierarchical higher education system (elite versus non-elite universities; and 3) across fields of study. I use ‘equality of access’ but differentiate it into three sub-categories in: 1) equality in access to higher education in general; 2) its ‘vertical dimension’, referring to access to different types of institutions (elite/non-elite, and public/private); and 3) its ‘horizontal dimension’, referring to equality across fields of study.

2.2 Theoretical Frameworks in the Studies of Educational Equality

Two major research paradigms applied in the studies of educational equality are functionalism/modernization theory and conflict/reproduction theory.

2.2.1 Functionalism and Modernization Theory

Functionalism emphasizes the function of each part in a society. The key assumption of functionalism is that society is a system composed of integrated, interdependent parts, each of which contributes to the maintenance and equilibrium of the whole (Murphy, 1979). Educational systems are secular national institutions that serve economic growth and political stability by a) fostering citizenship; b) sorting and selecting people for the workforce in meritocratic and rational ways; and c) enhancing
individual mobility (Mickelson et al, 2001, p.3). The labor market for skilled manpower is seen as a competitive free market where an individual’s placement depends on his/her own qualities, mainly cognitive skills and training, rather than ascribed characteristics such as birth or wealth (Collins, 1971). The underlying idea is equality as meritocracy in a society where individualism is the predominant ethical mode. Education is conceived as a path to access better occupations, higher income and improved social status in a stratified society (Parsons, 1970).

Modernization theorists build their ideas upon the above assumptions but emphasize the changing relationship between society and education concurrent with the processes of industrialization, urbanization and democratization. They regard educational expansion as an institutional response to the needs of the modernization process for an upward trend in occupational structure, which requires more and better educated human resources (Treiman, 1970).

One crucial rationale for the massification of higher education in the 1960s and 1970s in Western countries can be attributed to the widespread idea of Human Capital Theory (Becker, 1964; Schutz, 1963), which underscores the relationship between economic gain and educational investment. Human capital theory maintains that educational investment can, on one level, increase an individual’s productivity and thus augment his/her return in the labor market, and, on another level, promote economic growth and enhance the competitiveness of a nation in a globally competitive world. According to modernization theorists, educational expansion provides more opportunities for people from all backgrounds.
In addition to addressing its implications for economic development, some modernization theorists have also analyzed the effects of modernization on educational change from a sociopolitical stand. They stress the transformative power of the process of modernization. Their core idea is that societal development both requires and facilitates the rise of new social norms, such as equal opportunities among citizens and between two genders (Gerber & Schaefer, 2004; Ramirez & Wotipka, 2001).

Although functionalism/modernization theory is often criticized in most of the literature (Schofer & Meyer, 2005), it cannot be denied that, if measured over the long term, educational equality has been greatly promoted worldwide as functionalism/modernization theory anticipated. The participation of women, minority groups and the working class has made substantial progress in the past century in higher education both in developed and developing countries.

2.2.2 Conflict and Social Reproduction Theory

Functionalism/modernization theory was challenged by those who endorsed Marxist or Weberian conflict views of societal development. The basic assumption of this cluster of theories is that society is composed of groups that have competing interests, and social behavior can be understood as a process of conflict: the attempt to dominate and to avoid being dominated. Marx focused primarily on the struggle among economic classes, while other conflict theorists have included other determinants in their analytical frameworks. Weber (1968) postulated that a stratified society is categorized by status groups, or groups that share common cultures. He held that status groups may be derived from economic status (i.e., class), political power, or differences
in life situation stemming from cultural conditions, geographic origin, ethnicity, religion, educational attainment, or intellectual or aesthetic cultures. The status group, rather than the individual, is the primary focus of struggle in society. Collins (1971) proposed that the struggle for wealth and power is carried out primarily through organizations such as education systems.

Reproduction theorists have centred their arguments on the relationship between a stratified society and education as a national institution in a society. They have asserted that education is a central tool for reproducing and legitimatizing the existing stratification system in a society — schooling is a sorter rather than an equalizer (Bernstein, 1977; Boudieu & Passeron, 1977; Boudon, 1974; Bowles & Gintis, 1976). As Collins (1979) stated, school is the place to teach a particular status culture and provide credentials to ensure recruits have or respect the elite culture of the dominant group.

**Cultural capital theory**

From a conflict perspective, cultural capital theory (Bourdieu & Passeron, 1977) contends that school systems reward the attitudes and values of dominant groups. Children from families with a low level of parental education are likely to lack those abilities and skills normally valued in schools as they lack the opportunity to be exposed to resources such as dominant societal values, attitudes, language skills, and styles of interaction. These resources are termed cultural capital.

In *The Forms of Capital*, Bourdieu (1997) differentiated among three types of cultural capital: 1) An embodied state, referring to cultural capital as inherited
(bestowed rather than genetic) or acquired properties of one’s self (character and way of thinking) gained through socialization in the family, such as linguistic skills and lifestyle; 2) An objectified state, pertaining to possessions, such as books, writing, paintings and instruments; 3) An institutionalized state, concerned with institutional recognition of the cultural capital held by an individual, mostly understood as academic credentials or qualifications.

*Habitus* is an important concept that Bourdieu created to explain how cultural capital works: “Habitus is a body which has incorporated the immanent structures of a world…and which structures the perception of that world as well as action in that world” (Bourdieu, 1998, p.81). Habitus is embodied in certain ways that an individual thinks and behaves, but simultaneously enables the individual reflectively to draw on transformative or constraining courses of action.

Habitus can be understood as a compilation of collective and individual life histories. In educational settings, the concept of habitus examines how contexts such as familial, peer group, institutional and class cultures subtly but pervasively influence student educational choice and behaviour. This concept is also extended to *institutional habitus*, to examine the influence of context and the normative values of groups on the behaviour of an institution (Reay et al, 2005).

*Social capital theory*

Social capital theory is widely accepted in a range of disciplines in the social sciences. There are multiple definitions of social capital in the literature but they share the common theme of an emphasis on *relations*. Most often social capital refers to the
individual or organization’s benefits derived from connections within and between social networks (Halpern, 2005; Putnam, 1995).

Bourdieu (1997) defined social capital as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (p.51).
Specifically, Bourdieu saw social capital as having three forms: group membership, a common name (the name of a family, a class, or a school, etc.), or a whole set of instituting acts designed simultaneously to form and inform those who undergo them (in this case, they are more or less really enacted and so maintained and reinforced in exchanges) (p.51). The amount of social capital possessed by a given agent depends on the size of the networks and on the amount of capital each person has that the agent is connected with.

Coleman (1988) focused his argument mainly on the importance of social capital embedded in the parent-children interaction in the formation of human capital. He argued that social capital exists in these relationships and facilitates rational or purposive action of the individual or collective. Social capital is generated by networks of relationships, reciprocity, trust and social norms. Coleman identified three forms of social capital: obligation and expectations, information flow capacity of the social structure, and social norms. According to Coleman, meaningful interactions between adults and children in a family provide the children with access to the adults’ human capital, and it is this access that influences their educational outcomes.

6 Apparently, some parts of Coleman's definition of social capital overlap with Bourdieu's concept of cultural capital.
Maximum maintained inequality and effectively maintained inequality

Worldwide expansion of higher education is mainly achieved through the process of differentiation and diversification: establishing second-tier higher education institutions, such as polytechnic or vocationally-oriented short-cycle colleges, and upgrading certain programs such as teacher’s colleges or health-related training programs. Collins (1979) categorized education into two types: status-oriented and survival-oriented. Applying this classification to higher education settings, the first category pertains to degree (including professional) and general education programs at traditional universities which aim at cultivating leaders, scholars, thinkers and innovators. The second category pertains to vocational programs in colleges through which students gain techniques and skills to join an upgraded workforce. The future individual return of the two different types of higher education (including income, career development, status and prestige) are distinctly different (Brewer, 1996; Daniel et al, 1995; Davies & Guppy, 1997; Monks, 2000).

Linking higher education expansion and equality specifically, two influential hypotheses are Maximum Maintained Inequality (MMI) and Effectively Maintained Inequality (EMI). Raftery and Hout (1993) postulated the hypothesis of MMI after carefully examining the expansion and inequality in educational attainment for students from different social origins at the secondary education level in Ireland. They stated that only when the demand for a given level of education is saturated for the upper classes or, in other words, has reached its maximal point, is the association between social origin and educational opportunity weakened and the inequality in access to certain
levels of education thus decreased.

MMI has been modified by researchers such as Lucas. Lucas (2001) argued that without considering differences in education quality and type, MMI cannot show the deep level relationship between socioeconomic background and educational opportunity. He proposed the theory of *effectively maintained inequality* (EMI). EMI posits that,

Socioeconomically advantaged actors secure for themselves and their children some degree of advantage wherever advantages are commonly possible. On the one hand, if quantitative differences are common, the socioeconomically advantaged will obtain quantitative advantages; on the other hand, if qualitative differences are common, the socioeconomically advantaged will obtain qualitative advantage (p.1652).

Thus, the importance of qualitative differences in educational attainment will increase while that of quantitative differences will decline.

In summary, conflict theorists recognize that there is an inherent conflict between the socialization role of education and its selective function. On the one hand, education is an institution by which children from subordinate groups are socialized into the dominant value system of the society. Therefore, the dominant groups may push the system to expand education. This is also consistent with the demands of the subordinate groups themselves for more education. On the other hand, the dominant groups will try to maintain their privileges in a stratified system through retaining their advantage in the attainment of higher or better educational qualifications.

Two major assumptions can be made from the theories reviewed above:
**Assumption 1:** Social background factors influence the educational attainment of the individual, who is an entity with interlocked multiple identities in a society. Some factors directly impact an individual’s opportunity, such as financial affordability, while other factors, such as parental educational attainment and occupational status, function indirectly through habitus and interactions between parents and their children.

**Assumption 2:** Educational expansion does not necessarily eliminate educational inequality. The inequality might shift from a quantitative form to a qualitative one. Therefore, disparities will decline in terms of access to higher education in general, but will be maintained or even augmented in terms of access to a differentiated higher education system.

### 2.3 A Brief Overview of the Factors Influencing Educational Equality

At the micro-level (individual level), research on the topic of educational equality has shown that various social factors contribute to educational equality which is mainly measured by educational access attainment, or achievement.

As shown in Figure 2.1 below, the individual social background factors which have been extensively examined include the following: 1) socioeconomic status, usually measured by family income and wealth, parents’ educational attainment, cultural possessions (books, instruments, etc.), parents’ occupational status, involvement of parents in students’ academic performance or school choice (expectations, tutoring, type of communication and interaction among family members, role model effect, availability of information about education and the labour market, knowledge about
schooling and selection process, etc.); 2) gender, race/ethnicity, religion; 3) family structure; 4) environmental factors, such as geographic origin (rural/urban/suburban), region, and community type (wealthy/middle-class/poor neighborhood); and 5) school effects (school inputs and organizations, public/private, resources, infrastructure, quality of teaching, relations among peers, interactions between schools and parents).

Figure 2.1 Factors influencing educational equality (adapted from Buchmann & Hannum (2001), p.79)

7 In Figure 2, I include "geographic origin" in the "individual social background" category. This is in consideration of a particular aspect of the Chinese context, a rigid system of household registration called hukou.
Studies have acknowledged that the result of educational equality is context dependent and culture specific. Micro-level factors may exert different influences on educational equality in different societies. Comparative studies have found that some factors have a strong impact in some societies while having only moderate to weak influence in other societies. For example, while parental socioeconomic status is an important determinant in Western developed societies, school resources have less influence on a student’s educational achievement (Coleman, 1966). On the other hand, evidence collected from some developing countries shows that in these societies school resources have a stronger influence than parental socioeconomic status (Heyneman & Loxley, 1982, 1983; Husen, 1987). Therefore, to better understand educational equality in a given context, attention should be paid to macro-level factors. However, studies on the impact of macro-level factors are controversial and fragmented, especially in the case of developing countries. This review provides a brief outline of selected macro-level factors.

Macro-level factors explored in the literature include global forces (Apple, 2009), the degree of economic development (industrialization) (Trienman, 1970), and the political system (socialist/capitalist, neo-liberal/social market/ social democratic) (Green et al, 2006) of a country, national policies (Vincent-Lancrin, 2008a), and other more specific factors related to education such as structure of the education system (Pfeffer, 2008; Shavit et al, 2007), and the stage of educational expansion (Kaneko, 1997; Paterson & Iannelli, 2007).

In the following two sections, I review the literature examining the effects of
micro-level individual social background factors and macro-level contextual factors on educational equality.

2.4 Micro-Level Social Background Factors

2.4.1 The Impact of Socioeconomic Status (SES)

In research on educational equality, socioeconomic status is the most intensively studied factor and one that has a strong influence on and accounts for a large proportion of the variance in students’ educational attainment and expectations (Heller, 2001; McDonough, 1997; Swell & Shah, 1968; The Educational Policy Institute, 2008). ‘Social class’ and ‘social strata’ are also used to express the same idea in some of the literature (Halsey, 1993). At the operational level, socioeconomic status is usually composed of some or all of the following indicators: parental occupational status, parental educational attainment, family income, and in fewer cases, family property or assets.

How SES matters

Wealth is the most obvious determinant of educational equality and is measured by family income or assets. Wealthy families not only can afford the tuition and fees for their children’s higher education, but also have the financial capacity to help their less able children to improve their academic performance through hiring private tutors and paying for coaching programs (Devine, 2004; McDonough, 1994, 1997).

Research shows that students from wealthy families tend to choose elite
universities and prestigious fields of study, most of which are associated with higher levels of investment and programs of longer duration with higher economic and social returns. By contrast, students from economically less advantaged families are more likely to choose less prestigious and local institutions, with programs of shorter duration, in fields with a practical orientation and close links to the labour market, and a high probability of success—even though they are aware that they might be in a lower income or lower status category in the longer term (Ayalon, 2007; Devine, 2004; Pugsley, 1998; Reay & Ball, 1997; Reimer & Pollak, 2005). Less prestigious institutions usually require less tuition and lower fees. Studying in local institutions can save money on travel and accommodation. Programs of shorter duration mean that the students will have less money to pay and the opportunity to earn sooner. Practical study fields imply that students can more easily find a job with perceived security, which is important for students who lack both financial support and social networks. A high probability of success implies that students can complete their higher education instead of dropping out (failure in educational investment), which reflects the risk aversion of the students due to their financial constraints as well as their lower confidence in dealing with difficulties in study.

Parental educational attainment and occupational status are generally highly correlated. They are clear indicators of both cultural capital and social capital. Students with parents who have the experience of higher education themselves are more familiar with university culture (Bourdieu & Passeron, 1977), have a sense of educational entitlement and are ambitious to get into higher education (Ayalon, 2007; Ayalon and
Shavit, 2004), and are strongly encouraged and academically supported by their parents in the pre-collegiate preparation process (Spender & Featherman, 1978; Tierney, 2002; Tierney & Auerbach, 2005).

Students’ choices of higher education are profoundly influenced by the educational experiences of their parents (Reay et al., 2005). Students who have parents with a highly prestigious occupational status (generally requiring higher education credentials) not only know more about the operation of the differentiated higher education system and hence are capable of decoding its signals, but also have more information about the labour market, so that they can make more informed decisions about which institutions to apply to and which disciplines to study (Ayalon, 2007; Hutchings, 2003; Pfeffer, 2008). The degree of difficulty in studying at an institution or a discipline does not discourage these students much because their parents can help them assess the challenges and risks (Reimer & Pollak, 2005).

Even when parents have middle class jobs, if they have little or no experience of higher education, they are more insecurely positioned within the field of higher education and have less ability to distinguish the subtle differences among institutions than families whose members have the experience of university (Ball, 2003; Reay et al., 2005). Reay and associates (2005) explored intra-working class differences, arguing that there are different working class factions with different priorities in relationship to risk, challenge and fitting in (p.81).

In some research, the effects of parental educational attainment surpass those of their occupational status on their children’s educational attainment (Rahona Lopez,
Some research indicates that parent’s educational attainment has a stronger effect than family income (Mora, 1997). Interestingly, in contrast to the conventional knowledge that fathers’ education has a higher impact than mothers’ education on children’s demand for higher education, one study found that mothers’ education is more important than fathers’ in a Spanish context (Albert, 2000).

**SES and access to higher education**

Studies worldwide have demonstrated that the absolute scale of enrollment for socioeconomically disadvantaged people has increased due to the massive expansion of higher education in the past decades. However, most empirical studies from a broad range of countries suggest that mass higher education fails to eliminate socioeconomic inequality (Ambler & Neathery, 1999; Halsey, 1993; Park, 2002; Shavit & Blossfeld, 1993; Shavit et al, 2004; Tsai & Shavit, 2003;). Trow (2006, p.246) even claimed that everywhere the proportion of students from the upper and middle classes are still significantly higher than those from the industrial working class or agricultural labour, despite half a century of efforts to close that gap.

An international study (including thirteen countries) in Shavit & Blossfeld’s (1993) book showed that social class differences in opportunities to participate in higher education did not significantly change during the twentieth century, except in the case of Sweden and to a lesser extent the Netherlands. The explanation of the decreased educational inequality in Sweden is that this is the result of a general reduction in inequalities between social classes in society, not the result of educational expansion. Ambler and Neathery (1999) examined four European countries (France, Britain, and
Germany as well as Sweden) with similar results. In another international survey, Carabana (2002) concluded that the influence of the father’s social class and both parents’ levels of education on students’ opportunity to access higher education has been growing over the generations, despite the massive expansion of higher education.

Examining the relation between expansion and equality, Raftery and Hout (1993) found that only when the demand for a given level of education is saturated for the upper classes does inequality decline. Other research studies (Ayalon & Shavit, 2004; Lucas, 2001; Shavit et al, 2007; Tsai & Shavit, 2003) have amended this conclusion. They found that inequality was weakened even though the demand of the upper class for a given level of education was not saturated if higher education became differentiated.

It has been observed in many countries that much of the growth in enrollment is absorbed by non-elite and second-tier institutions. Research has shown that the expansion of higher education enrollment contributed to a modest decline in the effect of social origin in North America as well as in many European countries from the 1960s to the 1990s (Ambler and Neathery, 1999; Clancy & Goastellec, 2007; Egerton & Halsey, 1993; Shavit & Blossfeld, 1993; Shavit et al, 2007), but this was largely offset by continuing social selection within the increasingly diverse structure of post-secondary education. Expanding access to universities is socially controlled by institutional differentiation so that more prestigious institutions remain the cultural possession of traditionally advantaged groups (Ayalon & Shavit, 2004), because the graduates from elite universities earn higher incomes, enter higher-status occupations and enjoy the best opportunities to cultivate advantageous ties with benefits that may
accrue later in life. By contrast, entrance into second-tier colleges depreciates the occupational returns (Davies & Guppy, 1997; Rumberger & Thomas, 1993): “The advantages of elite institutions are so overwhelming that they create what is for them a kind of ‘virtuous circle’ in which advantage begets advantage” (Trow, 1984, p.149). Therefore, students from working-class backgrounds have not shifted their relative position within the higher educational hierarchy following the expansion (Karen, 2002, p.193); rather, the expansion and diversification of higher education has shifted the focus of social inequality from attendance rates to attendance patterns (Ayalon, 2007; Hearn, 1991).

Apart from inequality in access to different levels and ranks of higher education institutions, another recessive inequality in higher education is observed in the association between students’ social backgrounds and their fields of study. Beyond the vertical inter-institutional differentiation, there is also remarkable horizontal differentiation within institutions, because higher education is organized primarily by fields of study, and these fields are unequal with respect to prestige and economic payoff (Clark, 1983; Rumberger & Thomas, 1993). For example, in the United States, the average annual salary for elementary teachers was $36,216, while for physicians or surgeons it was $124,125 in 2000 (U.S. Census Bureau). The effect of this horizontal differentiation is interwoven with vertical stratification within higher education systems by prestige and ranking.

Ayalon and Yogev (2005) found that in Israel during expansion disadvantaged groups increased their relative odds of studying in less selective fields, or of studying in
selective fields but at colleges with less prestigious curricula and academic degrees. They concluded that the expansion of higher education in Israel “reduces inequality in enrollment mainly in the fields that carry limited social advantages” (p.227). A relatively socially homogeneous university system in Germany has produced a differentiation between fields of study such as law and medicine (which are mainly composed of students of high socioeconomic status) and education (where the majority of students are from lower socioeconomic backgrounds) (Reimer & Pollak, 2005; Windolf, 1995). Nevertheless, if learning ability is taken into account, the picture becomes more complicated. Dar and Getz (2007) categorized students into four groups in their study of college placement in Israeli higher education: high ability high SES, low ability high SES, high ability low SES, and low ability low SES. They concluded that the unique effect of SES on educational placement is rather small, and most of this effect is mediated by learning ability as measured by matriculation scores. Talented students are placed in universities regardless of their SES, study prestigious professions and sciences and find their way to graduate studies. Less able but high SES students enroll in lucrative fields of study in less prestigious institutions, while “weaker students, both academically and socially, are placed in regional colleges and teachers’ colleges, studying education, social sciences and vocational oriented technology, which grant degrees of lower academic and social value than the parallel university degrees” (p.56). Similar results have been found in the United States by Davies and Guppy (1997), but the effect of vertical stratification on students’ choice seems stronger than the
horizontal differentiation among fields of study. They reported that there is no significant effect of SES on students’ fields of study, net of academic ability. However, able students from high socioeconomic households and those with more cultural resources are more likely to enter lucrative programs in selective universities, while less able but high SES students place their priority on selecting prestigious universities rather than lucrative fields.

Both studies stressed the link between the patterns of students’ placement in higher education and the contexts in which they are embedded. Israeli higher education is a public system in a society with a fairly egalitarian heritage, while the higher education system in the United States is more diversified, and in a society with a tradition of fostering elites and legacy admission.

The theme of persistent socioeconomic inequality in education is not without challenge. Some researchers draw a different conclusion, that socioeconomic inequality is declining along with the expansion in Germany (Jonsson et al, 1996), France (Vallet, 2004), Italy (Shavit & Westerbeek, 1998), and Australia (Marks & McMillan, 2003). As Breen and Jonsson (2005) observed, equalization typically has occurred at lower transition points. This is true for low SES students who may have been excluded before but now have more opportunities.

Nonetheless, it cannot be denied that SES inequality can be translated into differentiated academic achievement for students with the same cognitive ability. Advantaged groups are educated in better high schools (often in prestigious private schools with high tuition fees), have more extracurricular advantages such as tutoring,
and thus have a better academic performance (Alexander at el, 1987; Conley, 1998). In addition to these visible advantages, there are invisible advantages that facilitate high SES students benefiting more from higher education. At the same academic achievement level, they are more strategic in making ‘right’ choices than their low SES counterparts.

Interestingly, Rosado and David (2006) have pointed out the subtle relationship of inequality among various previously disadvantaged groups in the United Kingdom. They claim that the expansion of higher education relied upon the new middle classes, especially women (and to a lesser degree, certain minority groups), rather than the working classes and agricultural workers. A similar trend is also evident in Japan (Kaneko, 2002).

2.4.2 The Effects of Gender

How gender matters

Several factors are quoted as contributing to gender differences in educational investment. An interesting finding is that young women’s enrollment is significantly more influenced by both college costs and their families’ socioeconomic status than that of young men in the United States (Beattie, 2002; Jacob, 1999). Family income and parents’ occupation status is more important for less able women to get into higher education in Japan (Kaneko, 1997). Employment opportunities for women are a serious concern when deciding to invest in a daughter’s education in developing countries, while it is less important in developed countries (Knight & Shi, 1996; Rahona Lopez, 2009). Similarly, poorer families are often willing to invest in their son’s education
(Alderman & King, 1998; Kingdon, 2002), while for wealthier families there is less
differentiation between sons and daughters in terms of sponsoring their education
(Buchmann & Diprete, 2006). In the context of the United States, families persist in
investing more heavily in their sons’ educations than in their daughters’ in terms of
applying for elite universities (Jacobs, 1999). Because of declining gender stereotypes,
the growth of occupational opportunities for postsecondary graduates, and the
increasing instability of marriage, parents increasingly hold more equal attitudes in
providing financial support for their daughters’ education now (Diprete & Buchmann,
2006).

Having parents with higher education experience has a positive effect on girls’
aspirations for higher education (Karen, 2002; Tierney & Auerbach, 2005), but the
effects of parental educational attainment have lessened in magnitude in recent study
cohorts (Goyette, 2008). Mothers’ education attainment has a greater influence on
daughters’ educational expectation and attainment, and the level of fathers’ education
has a greater influence on the sons’ (Buchmann & DiPrete, 2006; Wells et al, 2007).
Some research has found that mothers’ education is as influential for sons as for
daughters (Korupp et al, 2002).

In explaining women’s choice of fields of study, an interpretation using the concept
of *habitus* is an alternative to rational choice theory that is based on the calculation of
risk and return of educational investment. Women are less influenced by the economic
returns of higher education. They apparently make educational decisions with future
family responsibilities in mind, and place a higher priority on the social rewards of
future careers, such as education, social work, nursing, etc. (Marini et al., 1996). They also tend to favor “bureaucratic” types of employment that have a higher degree of stability rather than “entrepreneurial” types of jobs (Halaby, 2003), even though there are increasing numbers of women choosing traditionally ‘masculine’ disciplines. A lack of role models in science and engineering programs is also a reason for fewer girls choosing to study in these programs (Leslie, McClure & Oaxaca, 1998; Mellwee & Robinson, 1992).

**Gender and access to higher education**

Women’s participation rate has increased worldwide to varying degrees with the massive expansion of higher education (Kelly, 1990; Howe, 1997; Ambler & Neathery, 1999; Jacobs, 1996, 1999; Tsai & Shavit, 2003; Vincent-Lancrin, 2008b, etc.). In some countries the gender gap in higher education has been closed or even reversed in terms of enrollment rate. For example, the comparable average percentage of women in higher education in OECD countries increased from 46% in 1985 to 55% in 2005, and this trend is predicted to continue and will reach 59% in 2025 (Vincent-Lancrin, 2008b, p.267).

The situation is not as bright as it seems if the distribution of women within hierarchical higher education systems and across horizontal differentiated fields of study is closely scrutinized. On the one hand, both the overall enrollment rate of women in the age cohort population and the share of women in total enrollment in higher education have increased (Jacobs, 1999). On the other hand, women are reported as more likely than their male counterparts to enroll in second-tier colleges and less prestigious
universities (Amano, 1997; Davies & Guppy, 1997; Hearn, 1990; Jacobs, 1999).

Research has found that women have gradually decreased their concentration in the two-year colleges and have increased their share in four-year degree-granting institutions in the United States. Since the late 1970s, women have continued to increase their representation in universities, yet the trend slowed down beginning in 1980, and women are still underrepresented at elite universities (Karen, 2002). In Japan, women’s participation rate in higher education surpassed that of men by the mid-1980s. However, they are concentrated in particular segments of the system, such as women’s colleges (Amano, 1997). Women comprised 87% of the junior college enrollment compared with 39% at the university level by 2005 (MEXT, 2006).

Jacobs (1999) attributed the underrepresentation of women in selective universities to the gendered segregation of fields of study. The concentration of male-dominated engineering programs at selective institutions is one major reason for the gender gap in these types of institutions. A second important factor is the concentration of part-time students; they are mostly women older than traditional college students in lower-ranking institutions. A high percentage of part-time women students is also the reason for the continued gendered segregation of fields of study, because most part-time students enroll in humanities and social science programs (Gerber & Schaefer, 2004; Jacobs, 1999; Reay et al, 2005).

Cross-national studies (Kelly, 1990; Vander Voet, 1986) have indicated that the horizontal segregation of fields of study by gender has declined surprisingly little worldwide. Some researchers have even stated that as equality of access occurs,
gender-based segregation in fields of study at the higher education level tends to be intensified. This happens in high-income as well as low-income nations, in socialist as well as non-socialist countries, and on all continents (Gerber & Schaefer, 2004; Kelly, 1990). Women are overrepresented in the fields of the humanities and social sciences worldwide, regardless of whether the nation enrolls more female than male members in universities (as in Canada, the United States, and most OECD countries), or enrolls mostly males (as in Korea where males account for 75% of all university-level enrollments) (Kelly, 1990; Vander Voet, 1986; Vincent-Lancrin, 2008b).

Some scholars are more optimistic about this issue. Using the terms “slowly but surely”, Ramirez & Wotipka (2001) have suggested that greater overall participation by women in postsecondary education itself will eventually lead to greater integration of fields of study. The sense of empowerment that women have gained will embolden them to pursue traditional male majors when their overall numbers in higher education grow.

2.4.3 The Influence of Geographic Origin (Rural/Urban)

Some studies show that place of residence is also an important factor for explaining the differences in educational opportunities. Although there are debates on the definition of “rural”, the shared understanding of what is rural includes less density of population, concentration of few categories of occupations, a certain ambiance and life style, etc. (Rios, 1988). Schooling attainment is generally lower in rural locations in developing countries (Knight & Shi, 1996). Family background characteristics matter more to rural students’ educational aspirations and attainment, especially to rural girls in North America (Blackwell & McLaughlin, 1999). In developing countries, many rural parents
tend to invest more in their sons because they expect that their daughters will get married and leave home (Shaphiro & Tambashe, 2001). Chinese rural parents tend to believe that boys have greater aptitude, although girls are more dedicated (Hannum, Kong & Zhang, 2009).

Looker and Andres (2001) found that rural students are more likely to have lower educational expectations and attainment compared with other students, even when parental background, gender and academic program in high school are controlled in the Canadian context. They also found that the characteristics of the higher education system influence rural youths' aspiration. In the province of British Columbia where there is an articulation between colleges and universities, a higher proportion of rural students intend to pursue higher education than in those provinces that lack such articulation.

The lower educational aspiration and attainment of rural students may also be the result of the lower quality of secondary education. Rural students are prepared in rural schools with fewer educational resources and less qualified teachers; therefore, even though they have the same level of educational aspiration, they are academically disadvantaged in matriculation examinations due to the lower quality of their high school education in developing countries (Knight & Shi, 1996; Hannum, 1999). One of the reasons for this may be the public policies that deliberately provide better access to subsidized services to citizens that are located in urban regions (Fesselmeyer, 2010; Hannum, 1999; Rahona Lopez, 2009).
2.5 Macro-Level Contextual Factors

The micro-level factors function in different ways in different contexts; therefore, the effects of macro-level factors, such as economic, political, and social factors, on educational equality also need to be examined. Macro-level factors function through shaping both the demand and the provision sides of education, and consequently shaping the patterns of educational equality. Some of the research studies have used large-scale cross-national quantitative data and sophisticated statistics, while others, mostly policy studies, have applied qualitative methods.

2.5.1 Economic and Political Factors and Unexplained Gaps

The Industrialization Hypothesis put forward by Treiman (1970) set out a research agenda that explores the relationships between economic and social development and educational equality. The main ideas of the hypothesis follow: the more industrialized a society, the smaller the direct influence of a father’s occupational status on children’s occupational status, the greater the direct influence of educational attainment on occupational status, and the smaller the influence of parental status on their children’s educational attainment.

Although some attempts have been made to test the Industrialization Hypothesis, the findings are mixed. This suggests the need to revisit theories about the impact of industrialization on social inequality (Buchmann & Hannum, 2001, p.93). Fathers’ education and occupation in industrialized societies have less direct influence on children’s occupational status; however, they indirectly influence children’s occupational status through children’s educational attainment, as indicated by the
literature reviewed in the above section. Recent studies have reported the strong effects of parental educational attainment and occupational status, and the weak effect of schooling on children’s educational attainment/achievement in some developing countries, which approximates the Western patterns, and is opposite to the findings of two decades earlier (Devine, 2004; Heller, 2001).

Contrary to what modernization theorists hypothesized, that more equal participation for women in higher education happens in economically developed countries, a cross-national study (Bradley, 2000) has found that when the countries are sorted by level of economic development, countries in the lower two-thirds of the distribution exhibited lower levels of sex segregation by fields of study than the more industrialized and wealthier countries. The explanation for this phenomenon may be that when the enrollment rate is relatively low, socioeconomically advantaged women enjoy more opportunities than socioeconomically disadvantaged men in lucrative fields of study in developing countries.

Another surprising finding is that sex segregation in fields of study is more pronounced in Scandinavian countries, which is different from the pattern of educational equality measured by socioeconomic status which shows that Scandinavian countries enjoy a higher level of educational equality for socioeconomically disadvantaged people. Scandinavian countries rank surprisingly high by this indicator, even higher than Japan, a country characterized along a number of dimensions as having more gender-differentiated spheres and whose popular attitudes are less supportive of gender parity than in Scandinavia (Charles & Bradley, 2002). Research has also found
that the relative rankings of the countries in terms of overrepresentation of men in
science and engineering programs are remarkably similar to those found for
occupational sex segregation (Charles, 1992). Value orientation and culture patterns
may be factors influencing this result.

Political factors, examined by the classification of societies as socialist or
non-socialist, represent another area of research interest. Research on socialist countries
resulted in the *Socialist Transformation Hypothesis*. These studies have shown that
although the ideology of egalitarianism in socialist societies emphasizes educational
equality for the working class, despite initial efforts to demonstrate the advantages of
the socialist system (e.g., the experiment to increase the participation of the lower social
strata through the “quota system”), the new socialist elite soon managed to ensure
advantages in attaining higher education for their own children. The only significant
change that took place during socialist regimes was the decrease in gender inequality.
The differences in access to higher education for individuals with different social origins
remained unchanged throughout the entire socialist period (Heyns & Biatecki, 1993;
Mateju, 1993; Szelenyi & Aschaffenburg, 1993). Research has showed that inequalities
in access to higher education in the post-socialist countries have intensified, mainly due
to the substantial decrease in opportunities for children from manual workers’ families,
such as in the Czech Republic (Mateju et al, 2007), Hungary, the Slovak Republic,
Romania (Iannelli, 2003, cited from Vincent-Lancrin, 2008a), and Russia (Breen &
Jonsson, 2005). Gender inequality in terms of fields of study tends to increase in
post-socialist countries (Gerber & Schaefer, 2004). It seems that the socialist regimes in
Eastern European contexts did not remove educational inequality but changed the beneficiaries from the old elite group to the new socialist elite group, while the post-socialist transition has intensified socioeconomic and gender inequality in higher education. Do these patterns also exist in other non-Soviet block socialist or post-socialist countries? Very little literature can be found that addresses this issue.

Being capitalist and at a similar level of industrialization does not necessarily mean that countries have the same level of educational equality. In one study, Green and associates (2006) clustered Western capitalist countries into three types of societal models according to their sociopolitical features: 1) the neo-liberal or market model of the USA; 2) the social market model of countries in what de Mooij and Tang (2003) called ‘core Europe’; and 3) the social democratic model of the Nordic states. Correlations between the type of society, inequality in the society at large, school systems and educational inequality were found in this comparative study through a quantitative analysis of two datasets of the PISA (Program for International Student Assessment) and IALS (International Adult Literacy Survey) collected from OECD countries. The educational equality levels in the cluster of countries varied consistently according to patterns of social inequality and cultural differences. Countries of the neo-liberal model and the social market model had a relatively higher degree of social inequality and low social cohesion in comparison with that of countries of the social democratic model. Their study suggested that historical heritage and value orientations have an important effect on educational equality.

Echoing the theme of cultural influence, another cross-national comparative study
examining rural-urban educational attainment in 56 countries (Ulubasoglu & Cardak, 2007) found that a colonial heritage and legal system have a systematic effect on the rural-urban gap in educational attainment. British colonial heritage and a British-model legal system are associated with relatively lower rural-urban educational inequality than those of French origin. This study also revealed that when economic development levels increased, the negative relationship between French legal systems and rural-urban educational inequality was reversed, while the opposite happened with the relationship between British legal systems and educational inequality.

Based on the above review, a tentative hypothesis is proposed that cultural patterns may be a factor in shaping educational equality. Based on the limited number of studies, it seems that cultural factors exert an influence mainly through the design of the structure and operation of the education system, as well as through policy-making regarding educational development.

2.5.2 Education Systems

Structure of educational systems

Education systems not only reflect the patterns of social stratification as social institutions, but are also an important factor that has a direct impact on educational equality. In a widely read work, Boudon (1974) argued that systems which provide more and earlier “branching points” allow more social class differences to assert themselves through the early educational career choices made by students which affect their later achievement (p.139).

The findings of Green and associates (2006) echoed Boudon’s argument that
clusters of countries consistently correlate with types of educational systems. East Asian and Nordic states with comprehensive schooling systems tend to be more education-equal countries. Anglo-Saxon countries and countries in the region close to Germany tend to be the most unequal. Among the unequal group, five of the ten systems are selective at the secondary level, and four are highly marketized comprehensive systems (e.g., England). In other words, those countries with the most developed forms of non-selective or comprehensive schooling tend also to be the countries which achieve most equal educational outcomes, and the countries where social background has the least impact on attainment. On the other hand, the countries with the most selective schools, also the most tracking and curricula differentiation, tend to be the most unequal in terms of both outcomes and social inheritance (p.184).

Research has also shown the effects of system differentiation on equality in access to higher education. As some scholars (Altbach, 2002; Shavit et al, 2007; Trow, 1973, 2006) have asserted, the massification of higher education in most countries is mainly achieved by differentiation and diversification. The specific rates of expansion and forms of differentiation vary among countries: some countries, like the United States and Canada, have found community or vocational colleges to meet the demand for manpower in terms of economic development as well as the social demand for participation; in East Asian societies, such as Japan and Korea, most of the expanded provision of higher education has occurred in a large private sector. In Japan, the private sector enrolls about 75% of university students, and more than 90% of second-tier college students (MEXT, 2006). Some countries, like Sweden, have expanded their
higher education systems through incorporating teaching and health care programs into the higher education system (Jonsson, 1993), while others have followed the British model and upgraded the polytechnics to universities, introducing hierarchies of prestige among them at the same time (Halsey, 1993).

Shavit and associates (2007) tested the relationships between differentiation and inequality in three types of higher education systems in fifteen societies, namely, the unified system, the binary system, and the diversified system. Their results suggest that the cohort proportions attending the first-tier in diversified and unified systems are similar. By contrast, in binary systems first-tier attendance rates are very low. Diversified systems exhibit lower socioeconomic inequality in higher education enrollment as a whole than do unified systems, although they exhibit higher rates of first-tier enrollment inequality. Thus, the differentiation of higher education may come at some cost to socioeconomic inequality in first-tier enrollment. They concluded that diversified systems are more inclusive than both binary and unified systems, because they provide more opportunities for a larger proportion of the population to access higher education. The contrast between diversified and binary systems is particularly compelling in favor of diversified systems, since they demonstrate both more expansion and less socioeconomic inequality. Their studies also concluded that the privatization of higher education can be beneficial up to a point: “In so far as it contributes to the

8 In unified systems, university is the only form of higher education; it is predominantly academically oriented and is designed to train researchers and high-skill professions. Binary systems are composed of degree-granting universities and second-tier occupationally oriented colleges, although occupationally oriented programs vary greatly in length and prestige across countries. Most unified and binary systems are predominantly publicly funded. In most diversified systems, second-tier education includes both occupationally oriented programs and academic programs preparing students to enter universities, and universities are further differentiated into sub-categories based on the weight of research and graduate studies in these universities, e.g., the classification of the Carnegie Commission. Another distinctive feature of diversified systems is that they have relatively large private sectors (Shavit et al, 2007; UNESCO, 2004).
expansion of higher education, it reduces inequality. Controlling for expansion, privatization enhances inequality of access; taken as a whole, however, privatization associated with larger higher education systems has similar aggregate levels of inequality overall” (Shavit et al, 2007, p.25).

**Stages of educational expansion**

Research has also shown that the patterns of equality in access to a certain level of education are closely linked to the stage of educational expansion. For example, during the expansion of higher education in the early 1970s in Japan, the participation rate grew for all income classes. Nonetheless, the greatest growth was found in the highest income class. Consequently, the gap between the highest and other income classes increased in absolute terms. The reason for this phenomenon is that the expansion happened mainly around the large cities, and high-income families in those areas exploited the opportunities. Since the mid-1970s, the trend has distinctly shifted. Further increased demand led to greater competition for admission even at less selective institutions. Consequently, academically marginal males from high-income families lost ground to academically competitive males from lower-income families, especially those from rural areas, and females in cities (Kaneko, 1997). Research found that during the expansion, family income did not constitute a major obstacle for those students with high academic competence due to a high return on the higher education; but for those of less ability, family income became a more significant factor, especially for women (Kaneko, 1997; Machin & Vignoles, 2004).

The effect of expansion was highlighted in the conclusion of a recent research
study (Paterson & Iannelli, 2007) that compared the inequality in access to upper-secondary level education among three countries in the United Kingdom—England, Scotland, and Wales—through examining the changing participation rates in terms of social class across five age cohorts. The authors identified four stages of expansion, each of which has different features of educational inequality. The first stage, *Elite Education*, is characterized by low levels of average attainment and high levels of inequality. The second stage, *Tracked Merit Selection*, shows less inequality than the elite stage because able members of disadvantaged classes are selected into academic tracks, but at the same time middle-class groups more effectively use the selective system. Therefore, the basic feature of this stage is moderately high levels of average attainment accompanied by moderate inequality. The next stage is called *Untracked Merit Selection*. True merit-based selection is implemented through widening access or through the extension of certification to wider groups. This stage yields a large rise in overall attainment, as well as relatively high inequality. Last is the *Universal* stage, not reached by these three societies yet.

It is necessary, therefore, to be cautious about concluding that there is a causal relationship between expansion and educational equality, especially when differentiation within a higher education system is taken into account (Vincent-Lancrin, 2008a).

### 2.6 Empirical Studies on Access to Chinese Higher Education

An unprecedented expansion in higher education has been taking place in China since 1998. Participation rates of all groups have increased with the rapid increase of the
gross enrollment rate. A study based on data from the National Statistics Bureau collected in 1991 and 2000 (Min & Wang, 2006) indicates that the proportion of students from middle- and low-income families significantly increased in this decade. However, learning opportunities at the tertiary education level are far from being equalized. Educational inequality in access to Chinese higher education has turned out to be more recessive than conspicuous, as is the general trend observed in developed countries.

Among the factors influencing educational inequality in China, the dominant one was the difference between residents in urban and rural areas, with the second one being the difference between different regions, followed by difference between ethnic groups. Gender was the least influential factor. The gaps increased along with higher levels of education. Thus the gaps at the tertiary level were the most notable (Yang, 2006). Other studies have found that social stratum has become a more important factor than ever before, affecting students’ opportunities in access to higher education since the 1990s, especially in elite universities (Li, 2004a; Wen, 2005a).

One study that surveyed 37 higher education institutions in 1998 (Xie, 2000) revealed that the higher the prestige of the institution, the higher the percentage of its students from urban areas and from high strata (professional, cadre and manager). Students from low strata mainly clustered at the bottom of the hierarchical system of Chinese higher education. After 5 years of massive expansion, the inequality had barely changed or had even intensified. Similar conclusions were drawn in a study conducted in 2004 in 34 institutions (Wang & Xie, 2005a). Instead of using a percentage of
students from certain groups, the researchers employed an odds ratio to measure educational equality. The newly emerged advantaged group of private business owners and the traditionally advantaged groups of cadre families have fully exploited the benefits of the expansion, while children of farmers and workers have benefited less. As to access to elite universities, the same patterns were found in Wang and Xie’s study as in the 1998 research.

Similar results were also found in Ding’s research (2006), which employed a logistic regression model based on a data collected from 15 institutions. Ding found that the opportunity in accessing different types of institutions had a significant correlation with residency (urban and rural areas), families’ income, fathers’ occupation and father’s education. Fathers’ occupational index in elite universities was obviously higher than that in non-elite universities, and this showed a tendency to increase annually from 2000 to 2003. In other words, students from high strata were even more advantaged in elite universities after the massive expansion. Fathers’ educational index demonstrated the same trend as the occupational index. Therefore, Ding claimed that non-elite institutions play a major role in equalizing the opportunity for the disadvantaged to access higher education. Other studies (Du & Du, 2006; Hu & Zhang, 2006; Wang & Xie, 2005b; Zhang & Liu, 2005) confirmed these patterns. Wang and Xie (2005b) found that mothers’ educational attainment had the same level of impact on their children’s opportunities as that of fathers’; however, college-educated mothers had an even stronger influence than college-educated fathers on their children’s opportunities to attain higher education.
Research on private higher education (Min & Wang, 2006; Shen & Yan, 2006) has shown that students from small business owner, farmer and worker backgrounds constitute the majority of the student body in private institutions, and a significantly lower percentage of fathers of students in private than in public universities have higher education. They thus argued that private institutions provide more opportunities for students from socially and culturally non-privileged groups. Partially contesting the two studies above, a study based on data collected from 32 universities found that the odds ratios of fathers’ educational attainment were higher in associate degree-granting private institutions and independent colleges than in non-elite public degree-granting universities and vocational colleges. (Wang & Xie, 2005b)

During the process of expansion, the gap in access to higher education between urban and rural residents tended to decrease if only considering the participation rate; however, rural students were more likely to study at less prestigious universities (Yang et al, 2005). Also more rural students took the College Entrance Examination twice in order to be admitted to a university than their urban counterparts due to the lower quality of rural secondary education (Gou, 2005).

Research on the relationship between students’ background and their fields of study is similar to what has been found in the developed world—advantaged groups are more likely to enroll in selective fields while the disadvantaged are more likely to enroll in less selective programs, such as history, education, and agriculture (Jiang, 2007).

Gender inequality in access to higher education has been less studied in the past decade in China. Although gender is seen to be the least influential factor affecting
opportunities in access to higher education (Yang, 2006), one study has revealed that there are notable inequalities in both accessibility to higher education and in graduates’ employment situations between male and female students (Wen, 2005b). Wen compared three aspects of women’s participation during the years 1998 and 2003. He found that in 2003, compared with 1998, there was no significant difference between the share of women in higher education, but the percentage of women in short cycle programs was 10% higher than that in degree programs. Urban girls gained an equal share with boys, while rural girls were the losers as indicated by Game Theory, and were significantly underrepresented. Two studies found that rural girls were even more disadvantaged in elite universities (Jiang, 2007; Liu & Wang, 2008). Girls were more likely to study in the social sciences and humanities than in science and engineering programs, and this remained after the massive expansion (Wen, 2005b).

There are also some research studies in China that have examined the regional disparities at the tertiary level, either by looking at the imbalanced distribution of higher education institutions, finances, and other resources (Chen, 2005; Liu, 2007; Wang, 2005), or by comparing the unequal quotas and unequal entrance scores among provinces (Zheng, 2001).

2.7 Summary

A wide range of studies have been conducted in the past decades on the topic of educational equality: they have contested theories, proposed hypotheses, found correlations between various social factors and educational equality, portrayed the
patterns of educational equality in a specific context, compared cases across nations, explored explanations, criticized policies, and recommended solutions for improvement.

In this chapter, I have selectively reviewed literature relevant to this study. First, I reviewed the definitions of educational equality, compared the similarities and differences among them, and defined the concepts of equality in access to higher education that will be used in this dissertation. One key conclusion is that the meaning of educational equality is not fixed; rather, it depends on the socio-political-cultural context, and evolves with time, the democratization of a society, and the expansion of an education system. I then introduced two paradigms or theoretical frameworks, and chose conflict theories to serve as an analytical framework in this dissertation to study the relationships between these characteristics and educational equality. In the third step, I classified two categories of micro-level and macro-level factors in order to organize the broad range of literature.

At the micro-level, the effects of socioeconomic status, gender, and geographic origin are chosen as the foci of this study, because these three variables are available in my dataset. Findings from the literature are mixed, depending on the time, contexts, data resources and methods applied. Most of the empirical studies draw conclusions that point to a persisting inequality; evidence of somewhat reduced inequality can be found in some research but this is fairly rare in relation to the volume of literature. The general trend is that educational inequality has declined in quantitative terms with the increasing participation rates for all groups of people in the process of expansion globally; however, this has not changed the relative positions of disadvantaged groups since there
is a persisting qualitative inequality expressed through differentiated accessibility to degree programs, elite universities, and lucrative fields of study. This trend is observed mainly on the basis of the experience of developed countries. English language literature from developing countries on the subject is inadequate and fragmented, China being a case in point. Therefore, more research based on the experience of developing countries such as China is necessary.

Of the empirical studies conducted in China that examine inequality in access to higher education that are published in either English or Chinese, most tend to examine the effect of social factors separately, and most research stops at the stage of presenting the educational inequality rather than going on to do an in-depth analysis. At one level, comprehensively studying the relationships among social transformation and stratification, educational expansion and differentiation, and equality in access to higher education is highly desirable. At another level, longitudinal research and a national database are badly needed to monitor educational inequality in China.

Macro-level factors studied are economic, political, and social impacts on educational equality. There are two streams of literature in terms of research methods. One stream is cross-national large scale quantitative research, studying the relationship between macro-level factors and educational equality, such as the economic development level of a set of countries and the participation patterns of women. The other stream is historical or policy analysis.

Economic and political factors are mainly studied under the Industrialization Hypothesis and the Socialist Transformation Hypothesis. However, some interesting
findings from cross-national studies cannot be fully explained by economic or political factors, or a combination of both. This gives rise to attention to culture, a deeper level force which is difficult to discern, as a factor in educational equality.

In most literature, the influence of culture has been discussed implicitly as a part of the context in which the case is studied. Only a handful of studies have tried to incorporate culture explicitly as a factor in their analysis. Green and associates (2006) identified three types of societal models (neo-liberal or market/social market/social democratic) in which cultural patterns are underlined; Ulubasoglu and Cardak (2007) used cultural heritage and legal systems (British/French) as indicators. As yet no effort has been made to develop a general cultural analytical framework for studies of educational equality.

In summary, this review helps to identify several gaps in past research, some of which this dissertation will attempt to address:

This study intends to present a relatively comprehensive examination of the relationship between differentiation and educational equality in present-day China by using inferential statistics so that several variables, as well as their interactions, can be examined simultaneously. Based on the literature review and also the availability of data, the following three hypotheses are proposed for testing in Chapter 5:

Hypothesis 1. There is a relationship between students’ social background characteristics and their opportunities in access to different sectors of higher education (public or private). If this hypothesis is supported, who is more likely to study at private universities?
Hypothesis 2. There is a relationship between students’ social background characteristics and their opportunities in access to different types of higher education (elite/non-elite). If this hypothesis is supported, who is more likely to study at elite universities?

Hypothesis 3. There is a relationship between students’ social background characteristics and their opportunities in access to different fields of study in higher education (natural sciences and technology/social sciences/humanities). If this hypothesis is supported, who is more likely to choose which discipline to study?

In addition, this study intends to investigate in depth how cultural beliefs and value orientations shape educational equality in China. In order to do so, in the next chapter I will develop a cultural analysis model regarding educational equality, with an indigenous framework at its core. The indigenous framework will then be used in policy analysis in Chapter 6 to reveal the impact of culture on educational equality in the Chinese context.
CHAPTER 3

DEVELOPMENT OF A CULTURAL ANALYTICAL MODEL FOR RESEARCH ON EDUCATIONAL EQUALITY

In this chapter an indigenous framework is developed to explore educational equality from a cultural perspective. In the first section, I justify my choice of a cultural perspective. I then develop a tailored model for the cultural analysis of educational equality based on a review and synthesis of the literature on cultural studies from multiple disciplines, in which I identify six dimensions of the core culture (beliefs and values) relating to educational equality. In the third section, I organize Chinese cultural beliefs and values along the six dimensions in the cultural analysis model. This indigenous framework will be used to discuss the results of a quantitative data analysis (Chapter 5) for the first research question; it will be also used to construct two ideal types in the qualitative research design section in Chapter 4, Research Design and Methods. These two ideal types will be used in Chapter 6 to answer the second research question about how cultural values have an impact on government policies of educational development and equality in China.

In the mainstream research on the issues of educational equality, economic and political factors are the two most widely studied at both the micro- and macro-levels. At the micro-level, the rational action theory of student choice is primarily based on the calculation of the investment in and return on education. At the macro-level, the two main hypotheses explaining the correlations between economic or political factors and
educational equality are those of industrialization\(^9\) (Treiman, 1970) and socialist transformation\(^10\) (Shavit, & Blossfeld, 1993). Although cultural factors are sometimes included as one element of social context, insufficient attention has been given to them in their own right, and this is a particular concern for research in the Chinese context.

3.1 Cultural Analysis as a Research Approach

The field of educational research, as in other social science disciplines, was previously dominated by the attempt to seek universal and “scientific” explanations for social development and social change, such as those by “devotees of material self-interest among economists, of ‘rational choice’ among political scientists, and of neo-realism among scholars of international relations” (Huntington, 2000, p.xiv). However, cultural factors have been revisited by an increasing number of scholars in the new century. More scholars have recognized that culture constitutes the contextual feature with the deepest historical roots, and that cultural analysis could yield a better understanding of the subject even in an increasingly globalized world.

In terms of a micro-level study on culture and an individual’s behaviour, Bourdieu (1983) pioneered a cultural analysis with his cultural capital theory, in which he revealed how the imperceptible cultural existence of a “habitus” affects an individual’s action, as well as the collective behaviour of certain groups of people. Cultural capital theory has been widely accepted within academia, especially in research on educational equality.

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\(^9\) The effects of social origins on educational equality decline along with the process of industrialization and modernization.

\(^10\) Socialist transformations brought an initial reduction in inequality in education for less privileged strata; however, the new elite establish privilege that enable them to secure educational advantages for their own children.
In terms of macro-level analysis, the precursors of those researchers exploring how culture shapes economic and political institutions, as well as collective social behavior, are thinkers such as Alexis de Tocqueville and Max Weber, to name a few. In his classic work *Democracy in America*, Tocqueville (1840) examined the political system of the United States through analyzing how ideas of liberty could be channeled by widespread participation in public life. He concluded that what made the American political system work was a culture congenial to democracy. Weber’s well-acknowledged examination of this issue is found in *The Protestant Ethic and the Spirit of Capitalism* (1905). He argued that Calvinism provided an important stimulus for the development of capitalism. Weber also analyzed the relationships between other religions and the development of capitalism. Later scholars tested Weber’s ideas by examining other cultural contexts (Banfield, 1958; Bellah, 1957; Greif, 1994). In the same vein, Harrison and his associates (2000) explored how cultural values influence human progress across countries.

The number of studies that regarded culture as a crucial factor in understanding a society and explaining societal development grew rapidly in the 1940s and through the 1950s, then waned in the following decades. Since the 1990s, after nearly three decades of stagnation, research interest in cultural analysis across disciplines has been revived (Huntington, 2000; Ross, 2009).

### 3.1.1 Diverse Definitions of Culture

Although cultural analysis has gained increasing attention within academia, there is no unified definition of “culture”. The word “culture” has been defined in a wide variety of ways in different disciplines and different contexts. To some scholars, culture refers to
all aspects of life, including its mental, social, linguistic, and physical forms, such as social organization, core values, specific beliefs, social actions, institutions, or ways of life. Other scholars view culture more as a fundamental and deep-level conception or mental program, a worldview that includes both cognitive and affective beliefs about social reality (Greetz, 1973; Kroeber and Kluckholn, 1952; Masemann, 2002). Culture provides a framework for organizing people’s daily worlds and interpreting motives and actions through meaning and meaning-making, defining identity, structuring collective actions, and imposing a normative order on politics and social life (Chabal & Daloz, 2006; Hofstede, 2001; Ross, 2009; Schweder & LeVine, 1984).

Lichbach (2009) distinguished between two levels of how culture is viewed: the subjective and inter-subjective levels. The subjective emphasizes how individuals make meaning of life and internalize values, while the inter-subjective focuses on collectively shared meanings and identities that constitute the symbolic, expressive and interpretive parts of social life. What is worth noting in cultural studies is that different individuals do not hold their shared values with equal intensity, and the process of globalization in the contemporary world has resulted in an increasing diversity of beliefs for people who share a cultural identity (Ortner, 1977).

3.1.2 Seminal Cultural Analysis Models

*Horizontal dimensions and vertical layers*

Cultural analysis is a multi-disciplinary inquiry—research methods are just as diverse as the definitions drawn from disciplines such as anthropology, psychology, sociology, political science, economics, or a combination thereof. A myriad of studies
have tried to identify fundamental dimensions for examining and interpreting culture (Gullestrup, 2006; Hofstede, 2001; Inkeles & Levinson, 1997; Naroll, 1970; Parson & Shils, 1951). There are two general approaches to identifying essential elements in the framework of cultural analysis: the first one pertains to horizontal dimensions of culture, in which culture is examined from the deeper level of norms, values, and beliefs, rather than the manifest level of process and structure; the second one pertains to the combination of horizontal dimensions with vertical layers of culture, which corresponds to the broader definition of culture that refers to all aspects of life.

Among those works in which the horizontal dimensions of culture have been explored, I will focus on three studies which have been widely cited. Each research project has identified several essential elements for classifying culture.

The first study was conducted by Kluckhohn and Strodtbeck (1961). They identified the range of value systems of cultures by answering five basic questions common to all human beings:

1) What is the innate tendency of human nature? (good—humans are basically good and can act in a reasonable and responsible manner; evil—humans are basically evil and are not to be trusted; mixed—humans are a mixture of good and evil);

2) What is the relationship of human beings to nature? (subjugation—the environment determines human activities; harmony—humans live in harmony with the environment; domination—humans can dominate over the environment and control their own destinies);

3) What is the temporal focus of human life? (past—history determines present
actions; present—the current situation determines what people do; future—actions should concentrate on future goals);

4) What is the valued modality of human activity? (being—life is about living and understanding; doing—life is doing, being involved, and accomplishing goals);

5) What is the relationships among people (individualistic—the primary responsibility of an individual is to himself/herself; group orientation—the most important responsibility is to family and group; hierarchical order—group orientation and distinct differences in status are preeminent).

The answers to these five questions form the underlying assumptions of any system of socialization or education in any society.

The second study is based on an extensive review of the literature and an analysis of the data of several cross-national surveys collected from 50 countries around the world by Hofstede (2001). He identified five dimensions of culture and validated them through his research:

1) Power distance (the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally. This is related to different solutions to the basic problem of human inequality);

2) Uncertainty avoidance (the level of stress in a society in the face of an unknown future. This deals with a society's tolerance for uncertainty and ambiguity, and ultimately refers to the human search for Truth);

3) Individualism versus collectivism (the degree of integration of individuals into primary groups);
4) Masculinity versus femininity (the division of emotional roles between men and women);

5) Long-term versus short-term orientation (the choice of focus for people’s efforts: the future or the present. Values associated with long-term orientation are ones such as thrift and perseverance).

The third study is a collective effort. In the book *Culture Matters: How Values Shape Human Progress*, Harrison (2000) summarized 10 determinants of values to distinguish progressive cultures from static cultures (progress was measured roughly by the degree of economic prosperity and the degree of democracy). These ten dimensions are as follows:

1) Time orientation (emphasis on past, present, or future);

2) Approach to work (a burden or the source of a good life);

3) Frugality (a threat to egalitarianism or the mother of investment);

4) Value of education (of marginal importance or a key to progress);

5) Advancement (dependent on family network or individual merit);

6) Community and trust (circumscribed by family or beyond the family);

7) Ethical code (relatively weak or rigorous);

8) Justice and fair play (dependent on networks and money or universal impersonal expectations);

9) Authority (concentration or dispersion);

10) Secularism (a substantial or a minor religious influence).

A semi-static model of culture including horizontal dimensions and vertical layers developed by Gullestrup (2006) is especially illuminating for the present study, although
the model's classification system may be somewhat arbitrary. Gullestrup proposed and illustrated the notion that culture is a complex entity consisting of horizontal segments and vertical layers. He distinguished two vertical levels of manifest culture and core culture. The manifest level has three layers:

1) The immediately perceivable process layer and its resultant outcome, including process elements (e.g., process, activities, rituals), material productions (e.g., tools), and immaterial productions (e.g., knowledge, literature and artefacts);
2) The difficult-to-perceive structural layer (reflected in economic, political, social, and language structures);
3) The formalized layer of norms and rules.

There are three layers within the core culture level:

1) Non-perceivable existence (for example, habitus, a concept developed by Bourdieu, is one such non-perceivable presence);
2) The basic value layer (value refers to the emotions and attitudes in the mental program which determine, or legitimate, which behaviours, structures or morals are better than others);
3) The fundamental world conception.

Regardless of whether scholars believe the manifest level should be taken into account when looking at culture, they tend to have convergent opinions about how culture matters.

Dynamics and change

Posner (2004) stated that culture functions to provide context and structure.
Masemann (2002) regarded values as structured orientations that are patterned in relation to the structures of the society in which people play out their roles. All behaviour and all information carry their own form of cultural knowledge, whether it is overt or hidden. Hofstede (2001) argued that people carry “mental programs” that are developed in the family in early childhood and reinforced in schools and organizations, and these programs contain components of national culture. Hofstede illustrated the stability and dynamics of culture patterns (see Figure 3.1).

In Hofstede’s model, ecological factors determine the value system, and the value system shapes what Hofstede termed “consequences” (manifest culture)—the structure and functioning of institutions, including family patterns, social stratification, educational and political systems, etc. In turn, structure and institutions reinforce the value systems as
well as the ecological factors. According to Hofstede, changes in the focal culture are the results of changes occurring in the environment (e.g., climate change) or forces generated by human beings (e.g., trade, conquest, scientific discoveries).

Gullestrup (2006) argued that the immediately perceivable cultural elements are symbols of the deeper layers of culture (p.83). Changes in a given culture layer may give rise to changes in other culture layers. Forces of change in different layers dynamically and mutually interact, but often asymmetrically. Paralleling Hofstede’s (2001) model, Gullestrup argued that the values people hold determine their subjective definitions of rationality. Differing from Hofstede’s idea that changes originate from outside, Gullestrup distinguished between initiating and determining factors of change. Initiating factors refer to factors in or around the focal culture which influence it in such a way that the actual impact can, but does not necessarily, lead to culture changes. Determining factors are factors in the observed culture that are instrumental in whether a change actually occurs as a result of the impact of the initiating factors (p.104).

3.2 A Cultural Analytical Model Tailored to Educational Equality

I formulated my cultural analytical model (figure 3.2) based on a review of the aforementioned literature by drawing out and synthesizing horizontal dimensions and vertical layers of culture relevant to educational equality. I narrowed the scope of culture to what Gullestrup termed “the core culture layers” rather than spreading it out to cover all aspects of human life. My model includes the non-perceivable layer, such as “habitus”, and the core culture, namely, values, beliefs, and worldviews. I have focused my analysis
on the following dimensions of culture which I have identified as being the most relevant to educational equality in the core of the model:

1) Human nature. Can humans realize their values in the temporal world by themselves or can this only take place if they are helped by a supernatural power (God or the equivalent)?

2) Attitude to education. Is education important to the development of an individual as well as a society or not?

3) Relationships between community and individual. Does the society have an individualistic orientation or a collective orientation?

4) Status and advancement in society. Are humans born equal or not? What determines one’s status and advancement in a society? Is it based on ascribed origin or individual merit?

5) Power distribution. How and in what way is power distributed among members in a society? How are equality and justice perceived and acted upon?

6) Role of gender. What is the social relation between men and women—equal, subordinate, or different but complementary to each other?

In my model of cultural analysis tailored to educational equality (see Figure 3.2), the core culture layer of values and beliefs determines structures (e.g., education system, labor market), institutions (e.g., laws, rules), and actions (e.g., policy-making and implementation, individual educational choice), and therefore shapes the extent and pattern of educational equality. In turn, institution, structure and collective action have a reciprocal impact on cultural values. Environment exerts an influence on every layer in
the model. Actual change is the result of the effect of internal factors rather than external forces. External forces are initiating factors and function through the action of internal determining factors.

**Figure 3.2 A cultural analytical model**

The pattern of educational equality (who studies at which level and in what type of institutions), as a social phenomenon, is not only constrained by the environment (economic and political conditions), but also fundamentally shaped by cultural values mediated by structure (the education system), institutions (laws and regulations), and individual and collective behaviour and processes (e.g., educational choice, policy-making and implementation). Therefore, in order to understand and interpret the actual patterns of educational equality in China, in the next subsection I organize Chinese
cultural values relevant to education and equality alongside the six dimensions in the core culture level in the model that I have developed.

3.3 An Indigenous Framework for Research on Educational Equality

3.3.1 Chinese Culture in Brief

It is very difficult to define contemporary Chinese culture since it is constituted out of such a complexity of components derived from its own profound traditions, from Marxism, and from other Western schools of thoughts such as liberalism and pragmatism. Chinese traditional culture is also not a monolithic intellectual tradition; however, it is beyond dispute that its essential cultural assumptions are by and large informed by Confucianism.

Although it was the orthodoxy that dominated generation after generation of imperial rulers for more than two thousand years, Confucianism was radically rejected by both democratic activists and communists; they regarded it as the root of China’s inferiority in the late Qing and early republican periods. Nevertheless, despite all the ambiguity and complexity of history, Confucianism has consistently been perceived as the backbone of Chinese high culture, and also as a kind of grand synthesis of that culture (Rosenlee, 2006). As Moore (1967) keenly observed, one must know something about China’s traditional thought to even understand Chinese communist theory. Scholars have argued that Chinese-style Marxism (Maoism, theories of Deng Xiaoping and of other Chinese Communist Party leaders) was actually a continuation of China’s tradition and a hybrid of that tradition and Marxism-Leninism (Li, Jin, cited in Bell, 2008).
With the fading inspiration of communism, accumulated evidence has shown that traditional culture in China is being revived alongside the nation’s economic take-off and the rise of its soft power (Louie, 2008; Bell, 2010). The Communist Party announced *The Decision on Several Critical Issues Related to Building A Harmonious Socialist Society* in October 2006, which constituted a clear signal of the conscious revival of tradition since the very notion of a harmonious society was a goal pursued by Confucians. A growing interest in Confucianism has been shown not only among Chinese intellectuals but also among the common Chinese people in the new century (Bell, 2007, 2008, 2010).

I intend to explore and highlight the impact of unique Chinese cultural values on the pattern of educational equality because the essential aspects of the traditional cultural values discussed in the following subsection are strongly imbedded in the minds of Chinese people and inform their way of life to the extent that Dr. Hu Shih, one of China’s most influential 20th century philosophers, has called them the life blood of China and the Chinese people (cited from Hall and Ames, 1998).

### 3.3.2 Chinese Cultural Values Regarding Education and Equality

In this subsection, the basic elements of Chinese cultural values will be introduced in the order of the six dimensions I identified in the previous section: human nature, attitude to education, relationships among people, status and advancement in society, power distribution, and the role of gender.

*Human nature*

As many scholars have pointed out, the Confucian ethic is essentially one of
humanism. Humanism is unquestionably more pervasive and significant in China than in any other philosophical tradition (Moore, 1967, p.5). Confucians insist that people begin their journey of self-realization with the acknowledgment that they are concrete living human beings embedded in the world here and now (Tu, 1997, 2003), a very different conception from that of most of religions around the world, where there is a God or the equivalent who is both the creator and the savior of human beings.

One predominant feature of Confucianism is ethical consciousness as the essence of all human living and as the highest goal for humanity. Confucians believe in the innate goodness of human beings, and that human beings are born equal and the “divine spark” is found in all, so that theoretically all persons can develop their ethical character to the fullest and can reach sageliness (shengxian, 圣贤) (Tu, 1993).

**Attitude to education**

For Confucians, any human being can be correctly moulded by education regardless of his or her social origin (Taylor, 1973, 1981). The belief in the malleability of humankind led to the appraisal of the importance of education. According to Confucians, the primary function of education is to provide the proper way of training noblemen (junzi, 君子), a process that involves constant self-improvement and continuous social interaction (Tu, 1993). Also, the individual student should be instructed according to his or her traits and aptitude. Confucius himself carried out these ideas during his life-long experience as a great educator. The majority of his students were from low-status families (Kuang, 1985).
**Relationship between community and individual**

Differing from Western culture, which is underpinned by individualism, Chinese civilization does not ascribe the ultimate value to the individual (Tu, 2002). Confucians view the individual as a social being who is part of a relationship with others and gives primacy to the family and society. As scholars have observed, part of the orthodoxy of the Chinese social code was an unremitting, vigorous attention to others within the family. The bonds among family and kinship are the resources of communal support upon which members can draw.

The relationships among people are based on reciprocal responsibilities restrained by an internalized consensus and commitment to self-examination within given ethical and moral guidelines, rather than on contract or law as in the Western world. Therefore, duty-consciousness is more pronounced than rights-consciousness in the Confucian tradition, and priority in society is given to harmony and the public good rather than just the fair treatment of individuals (Lee, 1996). The pursuit of the public good is closely connected with the elitist idea that those who are talented should rule.

**Status advancement and social mobility**

The combination of the above-mentioned essential ideas—that everyone is educable and good rulers are well-educated men of virtue—led to the creation of the civil service examination system. On the one hand, the capacity of the individual had to be developed to its fullest, not for the person's own sake but for the contribution he could render to the community. On the other hand, governance could not be left to the accidents of either birth or wealth, but to people who had attained knowledge and virtue through education.
Based on these ideas, the civil service examination system was institutionalized as a mechanism for selecting officials. All men had the chance to take the examinations. Therefore, at least in theory, the highest positions in officialdom could be reached by every man, whatever his social origin. Social rank in China has been determined more by qualification for office than by wealth and birth (Weber, 1968). This qualification, in turn, has been determined by education, especially by performance in examinations. As a consequence, spiritually, education has been the way of constant self-improvement to become a virtuous human being; functionally, education was the most important avenue of social mobility in ancient China.

The Chinese tend to believe that although inherited differences in learning abilities exist, the learning achievement of an individual is largely determined by his degree of willingness, engagement and assiduity. Examinations are viewed as an indispensable and fair selector and sorter based on the individual’s merit in terms of both cognitive ability and moral virtue (Miyazaki, 1981). The same stories have been told repeatedly about a son from the humblest origin reaching the highest officialdom as a prime minister of the empire through proving his ability in the civil service examinations.

**Power distribution**

Elitism, as measured by individual merit, is the mainstream value in Chinese society that has been fostered and reinforced through the long history of the civil service examinations. Scholar officials were both the beneficiaries and vindicators of the civil service examination system. For this reason, this institution lasted for over 1400 years
until 1905. It could also be said that, in practical terms, the institution of selecting the elite through examination has not died out but has been revived in the modern education system in China—through the Higher Education Entrance Examination system begun in the nationalist era, and continued through much of the Communist era, and also through the institution of a new form of civil service examinations enacted in 1993.

One of the legacies of state Confucian ethics as a political instrument for maintaining social order is the cardinal rule of the so-called *Three Bonds*, namely, the authority of the ruler over the minister, the father over the son, and the husband over the wife. The origin of the Three Bonds is Confucius’ perception of governance whereby lords lord, ministers minister, fathers father and sons son. The idea of the Three Bonds was developed by Dong Zhongshu, a scholar-official of the Han dynasty, and became an orthodoxy that ensured a kind of symbolic control through ordering society into a hierarchy of superior and subordinate roles (Tu, 1998). Therefore, theoretically, the main concerns of Confucianism were that authority and superiority should be consigned to those who demonstrated a trustworthy self-discipline, and that common people should learn self-regulation and to be fully human. Hence, Confucian society was inevitably bureaucratic and hierarchical, with the state being stronger than civil society, and inclined to rule by virtue rather than by law.

However, at the same time, the pole of bureaucracy and hierarchy was counter-balanced by an idea that emphasized the importance of people over the state. This idea appeared in *Shangshu* (an ancient book which can be traced back about 3000 years); it stated that “Heaven sees as my people see; Heaven hears as my people hear” (*Taishi* in *Zhoushu*, translated by Legge, 1861), which can be interpreted as the people’s will
represents Heaven’s will. This idea was further developed to people are the foundation of
the state by the eminent Confucians Mencius, Xunzi and others. According to Mencius,
the relationship between the state and the people is that “the people rank the highest, the
land and grain comes next, and the ruler counts the least”. Mindful of the potent idea of
the Mandate of Heaven in which he believed, Mencius maintained that Heaven oversees a
kind of overarching moral order in which it is given to rulers to rule for the sake of the
common people, with the object of achieving their well-being and prosperity (De Bary,
1999, p.115).

According to these cultural values, rulers should gain consent from the governed. If a
ruler acts against the will of Heaven—reflected in the will of common people—he will be
overturned (Dao, 1996). These ideas are rooted deeply in Chinese tradition and formed a
powerful counterforce to hierarchy and autarchy. In order to form a benevolent
government which follows the will of Heaven, officials should be selected according to
their ability and virtue. It is a part of the tradition that scholar officials regarded
themselves as the representatives of the people. In Chinese history, countless stories have
been told about scholar officials who embraced the virtues of “ren” (benevolence, 仁)
and “yi” (rightness, 义) and criticized tyrannical emperors with no fear of losing their
lives by so doing. Also folk heroes have been extolled for rebelling against a tyrant—a
peasant might even rise to the imperial throne. In fact, the founding emperors of the Han
and Song dynasties were both descendants of commoners. Interestingly, the civil service
examination system was first institutionalized in the Han dynasty, and formalized and
made more sophisticated in the Song dynasty.
The goal of Confucianism is to build a moral and harmonious society, and the ultimate ideal is to realize a world of Great Unity (*datong*) (*Liji* or *Record of Rites*). Essentially, the Great Unity of Confucians shares similar ideals with Utopian Communism. Equality and justice are the intrinsic characteristics of such a society. However, differing from Western ideas that emphasize the protection of individual rights, Confucians stressed the pursuit of the common good for all people as a community of humans rather than as separate individuals (Xia, 2004).

*The role of gender*

The relationship between men and women is obviously one important value area that is related to equality. Confucianism has been accused of attempting to sustain the patrilineal family structure and the roots of oppression and victimization of Chinese women since the May Fourth Movement of 1919, which called for liberalization and modernization in early 20th century China. The frequently-cited proof of the degradation of women in Confucianism is Confucius' statement: “It is only women and morally retarded men that are difficult to raise and provide for. Drawing them close, they are immodest, and keeping them at a distance, they complain”\(^{11}\).

Gender in the human world signifies strictly social roles and relations (Hall and Ames, 1998). It is through occupying different familial and kinship roles that a “woman” as a gendered being is made. The Chinese gender system, informed by Confucianism, must be understood within the hierarchical structure of the kinship system (Rosenlee, 2006, p.5). As articulated in the neo-Confucian code of ethics, women were in a

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\(^{11}\) Some scholars have argued that the woman Confucius referred to here was Nanzi, the wife of a lord, who treated Confucius inappropriately when he was invited to the Wei kingdom, not women in general.
subordinate position to men. As social beings, women were not only oppressed by men, but were also participants in sustaining sexist practices as they strived for cultural ideals through the means that were available to them (Rosenlee, 2006). Nonetheless, disenchanted women, especially those from wealthy families and those who were well-educated, were not merely victims of enslavement; many were active agents strategically resisting oppression (Ko, 1994).

Philosophically, Daoism provided a source of counter-cultural values to the subordination of women in society. Another traditional school of philosophy as ancient as Confucianism, Daoism theorizes the dialectic binary of yin-yang, termed Chinese correlative cosmology by Western scholars. According to the yin-yang binary, male and female are inextricably connected in an organically holistic universe, each assigned a dignified and respectable role, and each expected to interact in co-operation and harmony (Guisso, 1981). The yin-yang cosmology provides a metaphysical view of the world that presents an understanding of human nature and the moral life conducive to gender equality and human flourishing (Wang, 2005b).

3.4 Summary

In this chapter, I proposed a cultural perspective for exploring the second research question about how cultural values impact the pattern of educational equality through policy-making and implementation. I first demonstrated that the cultural perspective is a valid research approach in the social sciences by reviewing classic works.

I then justified my definition of culture as values and beliefs in light of the wide
range of variance in definitions, and developed a cultural analytical model tailored to the research of educational equality. I contended that culture is a dynamic entity where deep layers of values and beliefs determine the layers of structures, processes and behaviours that are seen on the surface. An intensive review of the scholarly literature helped in formulating six dimensions as indicators for analyzing the pattern of educational equality in this model: human nature, attitude to education, social relations, status and advancement, power distribution, and the role of gender.

In the next step, I developed an indigenous framework at the core of this cultural analysis model through drawing on essential values from China's unique culture, and organizing them within the six dimensions of the tailored model I had developed. As the undisputed high culture of China, Confucianism is the major source of cultural values and beliefs. These values and beliefs were presented: the belief in the basic goodness of human nature, the importance of education, the importance of merit in social advancement, the collectivist orientation, the hierarchical and bureaucratic structure of society, counterbalanced by the idea of people being more important than the state, and unequal gender roles (see Table 3.1).

Table 3.1

*Summary of Traditional Chinese Cultural Values Regarding Education and Equality Based on Six Dimensions*

<table>
<thead>
<tr>
<th>Cultural dimensions</th>
<th>Major points about Chinese traditional values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human nature</td>
<td>People are concrete living human beings embedded in the world here and now.</td>
</tr>
<tr>
<td></td>
<td>Human beings are born good and are equal, so that every</td>
</tr>
</tbody>
</table>
person has the possibility of developing his or her ethical character to the fullest.

<table>
<thead>
<tr>
<th>Attitude to education</th>
<th>Education is important in social life, and is a life-long ceaseless process of self-improvement and self-realization.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship between community and individual</td>
<td>The individual is a social being in a relationship with others and primacy is given to family and society. There is a duty-based altruistic (other-concerned) and collectivistic tendency. Reciprocal responsibilities and self-examination within an ethical and moral consensus are important.</td>
</tr>
<tr>
<td>Status and advancement in society</td>
<td>Meritocracy: The civil service examination is the most important avenue to elite social status. Elite social status cannot be automatically inherited but has to be based on individual merit.</td>
</tr>
<tr>
<td>Power distribution</td>
<td>Mainstream: hierarchy and bureaucracy; the state is stronger than civil society; rule by elite with virtue. This is counter-balanced by the idea of minben (people as the essence). Rulers rule for the sake of the well-being of the common people.</td>
</tr>
<tr>
<td>Gender roles</td>
<td>Patriarchy: Women are oppressed. However, some women become active agents strategically resisting oppression. The dialectic binary of Yin-Yang theorized by Daoism also provides a source for an egalitarian approach to gender.</td>
</tr>
</tbody>
</table>

In Chapter 7, I will use these cultural values to discuss the results of the quantitative data analysis (Chapter 5). In Chapter 4, on the design of my research, I will abstract two ideal types from this set of cultural values. These ideal types will be used in the historical analysis found in Chapter 6, which explores how shifting cultural values have made an impact on government policy in educational development and hence have shaped the
changing patterns of educational equality.
CHAPTER 4
RESEARCH DESIGN AND METHODS

In this chapter, the research design and methods used to conduct this study will be presented. First, I will explain why I chose a sequential multi-method research design. I will then discuss the quantitative and qualitative research design and methods. Quantitative research methods were used to answer the first research question about the relationship between students’ social backgrounds and the different sectors, types of institutions, and fields in which they are currently studying. In this section, I will reiterate the hypotheses and explain statistical procedures. Qualitative research methods, specifically the Weberian sociological approach of using ideal types, and a historical approach to policy analysis, with particular attention given to analysis of government discourses at different time periods, were used to answer the second research question about how cultural values shape educational equality. This approach is particularly suitable for scrutinizing the impact of shifting value orientations on government educational policies. I will justify the use of these techniques, explain the procedures, and discuss their limitations in this section as well. I will also construct two ideal types based on the indigenous framework I developed in Chapter 3. The substantive policy analysis will be developed and organized using these ideal types in Chapter 6.

4.1 A Multi-Methods Approach

Except for studies focusing on theoretical and methodological aspects of research on educational equality, empirical studies on this topic are predominantly quantitative, carried
out using increasingly sophisticated statistical techniques, especially in the United States. However, in recent years there have been an increasing number of qualitative studies seeking to interpret the reality of educational equality at both the levels of individual educational choice and policy-making.

Generally speaking, quantitative studies, either using large second-hand cross-national or national data, or first-hand data collected through surveys, are robust in terms of empirical testing and able to answer the question of which factors contribute to measurable results of educational equality, or indeed inequality. However, this strength also leads to the limitation: the reduction of a complex reality to a set of measurable variables. Descriptive in nature, quantitative research lacks the capacity to answer the questions “why” and “how”. By contrast, qualitative studies are often strong with respect to exploring and explaining causation and processes, but tend to be ambiguous in terms of the measurement of particular factors, not well able to demonstrate the extent and degree of changes, and rarely generalizable beyond the group from which data were collected (Eisner, 1990, 1991; Neuman, 2003).

Social phenomena are so complex that a variety of research methods are needed to answer different questions. Because all methods have their advantages and limitations, and provide unique insights that other methods are unable to furnish, the use of multiple methods can overcome the disadvantages and combine the strengths of each approach. This enables the researcher to answer confirmatory and exploratory questions at the same time, and consequently to provide a more well-rounded understanding of the complexities of social phenomena (Byrne, 2006; Eisner, 1991; Neuman, 2003). For these reasons, some
scholars have argued that the best research often combines the features of each (quantitative and qualitative research methods) (Thomas, 2003, p.7).

Many terms have been used to define and classify the research designs using multiple methods (Creswell et al, 2003). Different forms of multiple methods research design serve different purposes. Simply put, there are two main categories for these designs: mixed methods design and multi-method design. Mixed methods design involves qualitative and quantitative projects being mixed in more than one stage of the study (e.g., data collection, analysis, and interpretation); multi-method design involves qualitative and quantitative projects that are relatively complete on their own, and are then used together to form essential components of one research program. Thus, in a multi-method design, each study is planned and conducted to answer a particular sub-question, or the results from the first method are used to inform the use of the second method, or the second method is used to explain the outcomes of the first method. Finally, the results of the two are integrated to form a comprehensive whole (Creswell et al, 2003; Creswell & Clark, 2007; Seifert et al, 2010; Tashakkori & Teddlie, 2003). The disadvantage of multi-method design is that the reader may not discern the connection between the two phases (Greene et al, 1989).

I attempted to combine the strengths of qualitative and quantitative research methods so as to answer my two major research questions by using a sequential multi-method design. Quantitative methods were applied first to examine the relationship between students’ social background characteristics and their opportunities to study in the differentiated higher education system in China after the massive expansion of recent years. Qualitative methods were then used to explain the changing patterns of equality in higher
education through analyzing the impact of cultural factors on policy-making concerning educational equality, because government has a strong capacity to intervene in the public arena, and is the primary stakeholder in higher education in the Chinese context. In other words, my intention was to portray the current situation in the first phase, and then place it in a historical flow in the second phase, to show changes in educational equality in Chinese higher education over time, and analyze why and how these changes have occurred.

Creswell and associates (2003) identified four design criteria in a research design using multiple methods: 1) the implementation of data collection, 2) the priority given to one method over another, 3) the stage of the research process in which the multiple methods are integrated, and 4) the theoretical perspective used to ground the study and situate the findings. In the present study, data (survey questionnaire in the first phase, and documents in the second phase) were collected separately; the two phases enjoyed equal weight, and the results of the quantitative method informed the interpretation of the qualitative method, and the qualitative analysis provided historical and contextual explanations for the outcomes of the quantitative analysis. The two phases are integrated in Chapter 7 under the indigenous cultural analysis model I developed in Chapter 3 (see figure 3.2 in Chapter 3). In this model, core culture (e.g., beliefs and values) strongly shapes structure (e.g., education system), institution (e.g., educational laws), and action (including individual behaviour such as educational choice, and collective action such as policy making), and consequently shapes the social phenomena (e.g., patterns of educational equality). In turn, social phenomena provide the rational for change in structure, institution and action, and eventually penetrate to and initiate change at the core culture level.
4.2 Quantitative Research Design and Methods

The quantitative data were drawn from student survey data collected for a larger project entitled *China’s Move to Mass Higher Education (CMMHE): Implications for Civil Society and Global Culture Dialogue*, funded by the Social Sciences and Humanities Research Council of Canada (SSHRC).

4.2.1 Sampling of the CMMHE Student Survey

Quantitative data from the CMMHE project were collected through a paper-pencil self-administrated student survey questionnaire in twelve case study universities in China. This was a two-stage sampling process: sample universities in the first stage, and sample classes in the second stage.

A convenient and purposive non-probability sampling strategy was applied rather than random probability sampling. There were two reasons for this strategy. First, the administrators of Chinese universities are cautious about allowing researchers from foreign universities to collect data on their campuses; therefore, convenient sampling through networks with collaborative insiders at each university was a feasible way to collect data. Second, among the higher education institutions interested in participating, a purposive sampling strategy was then employed in order to better serve the objectives of the CMMHE study. Nine public and three private universities were chosen. The CMMHE project aimed to examine the development of the leading public universities and the newly emerging private universities, to explore their creation of “public spheres”, and to examine their struggle for autonomy and political participation. All of the nine public universities are supported by the Project 211, and seven of them are the Project 985 member universities.
A convenience cluster sampling was employed in the second stage for reasons of feasibility and efficiency. Two classes from each of the three major fields, i.e., natural sciences and technology, social sciences, and humanities were selected at each institution. Students in the sampled classrooms were then invited to complete questionnaires.

4.2.2 Instruments, Participants and Procedures of the CMMHE Survey

A specific set of survey questionnaires was developed which contained two major sections measuring students’ views on citizenship and civil society and on the expansion of higher education respectively. Information about students’ social backgrounds, fields of study, and institutions from the CMMHE dataset were used by this study. The social background information included gender, geographic origin (rural/urban areas), parents’ educational attainment and occupational status, and family income.

Most participants in this survey were third year undergraduate students. There were some second year students due to the unavailability of qualified samples in two universities. The student survey was conducted in 2007. The total number of questionnaires distributed was 2,332, and a total of 2,321 valid copies were returned.

The data entry work with SPSS format was completed and verified by a procedure of cross-random checking. The dataset was again verified, cleaned and validated with the validation procedure available in SPSS.

Missing data were then deleted for three reasons: 1) as the data was not obtained using random sampling, there would be no negative results from deleting missing data, except for reducing the size of the dataset; 2) missing data only accounted for about 6.5% of the total sample, so the size of the data set after deletion was 2,170 cases, large enough for
performing a statistical analysis\textsuperscript{12} (Gall et al, 2003); and 3) it was difficult to compute missing data with such variables as gender, geographic origin, etc.

4.2.3 Hypotheses

Based on the aims of this study and the review of the literature, the following hypotheses were proposed:

Hypothesis 1. There is a relationship between students’ social background characteristics and the sector of higher education in which they study (public or private). If this hypothesis is supported, who is more likely to study at private universities?

Hypothesis 2. There is a relationship between students’ social background characteristics and the type of higher education institution in which they study (elite or non-elite). If this hypothesis is supported, who is more likely to study at elite universities?

Hypothesis 3. There is a relationship between students’ social background characteristics and their fields of study (natural sciences and technology/ social sciences/ humanities). If this hypothesis is supported, who is more likely to choose natural sciences and technology?

4.2.4 Variables

Dependent variables

Based on the hypotheses, I constructed three dependent variables. Two of them were dichotomous variables for the first and second hypothesis, and the third was a nominal variable with three categories for the third hypotheses:

\textsuperscript{12} Gall et al. (2003) suggested that about 30 observations, at least 15 per variable, are required for correlational and multiple regression analyses, respectively.
Sector (0 = public, and 1 = private).

University status (0 = non-elite, and 1 = elite).

The sub-dataset for hypothesis 2 was restricted to public universities, since private higher education institutions are basically located at the bottom of the hierarchy of the Chinese higher education system in terms of prestige and admission criteria. All of the nine public universities in the CMMHE data are the Project 211 supported universities and seven are the Project 985 universities. This means they are all a type of elite university. However, their prestige and status are different. Therefore, I selected two more elite universities and two less elite universities from these nine universities to compose a sub-dataset for hypothesis 2. One less elite university was a university affiliated with the Ministry of Education, but located in a remote southwestern region; it was a merger between a normal university and an agricultural university. The other less elite university was a provincial university located in a remote minority autonomous prefecture in northeast China. Neither are the Project 985 supported universities.

Field of study (a categorical variable, with 1 = natural sciences and technology; 2 = social sciences, 3 = humanities. In the statistical analysis, the likelihood of studying social sciences and humanities will be compared with studying natural sciences/technology separately, with natural sciences/technology as the reference category)

Independent variables

Based on the literature review and the availability of information in the CMMHE data, I identified the following independent variables:

Gender (0 = male, and 1 = female).
Geographic origin (0= urban, 1= rural).

This classification is somewhat oversimplified, but it basically reflects the dual structure of rural and urban residence, which is clearly distinguished in Chinese society.

Family income (1= less than 8,000 yuan, 2= 8,000 to 25,000 yuan, 3= 25,000 to 45,000 yuan, 4=45,000 to 60,000 yuan, and 5= above 60,000 yuan in the original data).

This variable was converted to four dummy variables: “low” refers to “less than 8,000”, “middle-low” refers to “8,000 to 25,000”, “middle” refers to “25,000 to 45,000”, and “middle-high” refers to “45,000 to 60,000”, all with “above 60,000” as their reference.

According to national statistics, the net income for rural residents was 3,587 yuan per person in 2007, the disposable income for urban residents was 11,760 yuan per person, and the average family size was 4.05 in rural areas and 3.97 in urban areas. Therefore, the estimates of average family income are 14,500 yuan for rural families and 34,900 yuan for urban families. A report submitted to the 2007 National Committee of the Chinese People's Political Consultative Conference (CPPCC) by the Jiu-San Society\(^\text{13}\) claimed that the average income per person was 25,411 yuan for the highest 20% (which means 100,881 yuan per family if calculated based on the average size of an urban family) and 4,567 yuan for the lowest 20% of the urban population, while the respective numbers for the rural population were 8,475 yuan and 1,183 yuan. Accordingly, it is reasonable to set the criterion for a high income family as above 60,000 yuan, and a low income family as below 8,000 yuan.

Father’s educational attainment and mother’s educational attainment (1=...
illiterate, 2= primary school, 3= junior high school, 4= senior high school, 5= some college, 6= university degree, and 7= graduate school in the original dataset).

Since most discussion in the literature focuses on the difference between parents with postsecondary education and those without, I combined these data into three categories: primary education or less, secondary education, and some college education or above.

**Father’s occupational status** and **mother’s occupational status** (in the original data, these two variables were categorical variables with 1= job hunter/laid-off/retired, 2= farmer, 3= worker, 4= service industry employee, 5= office worker, 6= professional, 7= administrator/manager, 8= other).

In order to be consistent with other studies, and for convenience in creating other variables based on occupational status, I recoded it into an ordinal variable with ascending values that indicated the increasing occupational status: 1= job hunter/laid-off/retired, 2= farmer, 3= worker, service industry employee and others, 4= office worker, 5= professional, and 6= administrator/manager.

This classification and value assignment corresponds with international measures as well the research on social status in China. There are four internationally comparable measures of occupational status: the International Standard Classification of Occupations (ISCO), Treiman’s Standard International Occupational Status (SIOPS), the International Socio-Economic Index of Occupational Status (ISEI) (Ganzeboom et al, 1992), and Erikson and Goldthorpe’s (1992) Class Categories (EGP) (see Table 4.2). Ganzeboom and Treiman (1996) have created a comparison table of scale scores for the three cross-national standardized measures of occupational status with the scales of ISCO88. Treiman has
admitted that his occupational prestige index is most applicable to industrialized societies, and might not be suitable for non-industrialized countries and societies undergoing radical social transition (cited from Huang, 2005, p.75).

Table 4.1

**Scale Scores for Four Measures of Occupational Status**

<table>
<thead>
<tr>
<th>Occupation titles</th>
<th>ISCO88</th>
<th>SIOPS</th>
<th>ISEI</th>
<th>EGP(^{14})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary occupations</td>
<td>1</td>
<td>21</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>Plant and machine operators and assemblers</td>
<td>2</td>
<td>34</td>
<td>31</td>
<td>9</td>
</tr>
<tr>
<td>Craft and related trades workers</td>
<td>3</td>
<td>38</td>
<td>34</td>
<td>8</td>
</tr>
<tr>
<td>Skilled agricultural and fishery workers</td>
<td>4</td>
<td>37</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Clerks, service and market sales workers</td>
<td>5</td>
<td>35</td>
<td>42</td>
<td>3</td>
</tr>
<tr>
<td>Technicians and associate professionals</td>
<td>6</td>
<td>48</td>
<td>54</td>
<td>2</td>
</tr>
<tr>
<td>Professionals</td>
<td>7</td>
<td>62</td>
<td>70</td>
<td>1</td>
</tr>
<tr>
<td>Legislators, senior officials and managers</td>
<td>8</td>
<td>51</td>
<td>55</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: this table is cited from Huang (2005), p.76

Since China is a developing country and has been undergoing a radical transition over the past three decades, occupational status there is somewhat different from the above-mentioned classifications based on the experience of industrialized societies. A widely cited study on stratification in contemporary China (Lu, 2002) categorized occupations into ten social strata: jobless/laid-off/half laid-off, farmer, worker, service industry worker, small business owner, office worker, professional, private business owner, manager, and administrator. These ten social strata were further classified into five strata: low, middle-low, middle, middle-high, and high. Each occupation might appear in more than one stratum, such as “farmer” being assigned to two strata: low and middle-low (p.9).

Based on a review of the literature on social stratification in contemporary China and

\(^{14}\) This scale is reverse coded with higher numbers indicating lower status jobs.
the availability of my data, I recoded the occupational status variable (a categorical variable) into an ordinal variable according to prestige and status. For this new variable, the lowest category is job-hunting/laid-off/retired; the second lowest is farmer. Two reasons led to this arrangement: first, the historically formed rural and urban binary system discriminated against rural residents, most of whom were farmers; second, currently rural residents’ average income is significantly lower than that of urban residents. The third category contains workers, service industry employees, and others (most of whom are small business owners). Most people in these three occupations are urban residents, and their status and income tend to be at the same level. The next category is office workers, followed by professionals, and the last category is managers and administrators.

**SCI (Social and Cultural Index).** This is a continuous variable I created by combining parents’ educational attainment and parents’ occupational status variables.

Conventional wisdom says that the independent variables in my data will correlate with each other. For example, the person who has a higher level of educational attainment tends to enjoy higher occupational status. If variables are highly correlated with one another, it is probably because they all are influenced by the same underlying dimension (factor). In this case, these variables needed to be grouped together in a new variable so as to measure the underlying dimension by a linear combination of the variables that contributed most heavily to the factor. The result of collinearity diagnostics showed that the VIF values of the occupational status and educational attainment variables were all greater than 2.5, which is the suggested value for concern in weak regression models such as logistic regression (Allison, 1999). I then used factor analysis (FA) to discover and
summarize the pattern of intercorrelations among the variables of parents’ educational attainment and occupational status. Table 4.2 summarizes the mean, standard deviation, and minimum and maximum values of each variable in FA.

Table 4.2

*Description of the Four Continuous Variables in Factor Analysis*

<table>
<thead>
<tr>
<th></th>
<th>Sub-dataset 1</th>
<th>Sub-dataset 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Fathers’ edu</td>
<td>3.7396</td>
<td>1.2116</td>
</tr>
<tr>
<td>Mothers’ edu</td>
<td>3.2704</td>
<td>1.2663</td>
</tr>
<tr>
<td>Fathers’ occup</td>
<td>3.2686</td>
<td>1.5392</td>
</tr>
<tr>
<td>Mothers’ occup</td>
<td>2.7260</td>
<td>1.4217</td>
</tr>
</tbody>
</table>

Principle component analysis (PCA) was then conducted. The MSA was .74, a middling result. I found only one component that had an initial eigenvalue greater than 1.0. I termed this component the social and cultural index (SCI).

\[
SCI = B_1 \text{ father’s education} + B_2 \text{ mother’s education} + B_3 \text{ father’s occupation} + B_4 \text{ mother’s occupation}
\]

Table 4.3 shows the coefficient \(B_i\) of each variable.

The reliability of the items for the factor (SCI) was calculated using Cronbach’s alpha. For SCI in sub-dataset 1 (sectors), Cronbach’s alpha based on standardized items is .834; for SCI in sub-dataset 2 (types of institutions), Cronbach’s alpha based on standardized items is .856. Both of these values are greater than .75, indicating a high reliability according to Hinton and associates (2004).
Table 4.3  
Component Matrix

<table>
<thead>
<tr>
<th></th>
<th>( B_i ) (Sub-dataset 1)</th>
<th>( B_i ) (Sub-dataset 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fathers’ education</td>
<td>.851</td>
<td>.874</td>
</tr>
<tr>
<td>Mothers’ education</td>
<td>.831</td>
<td>.847</td>
</tr>
<tr>
<td>Fathers’ occupation</td>
<td>.806</td>
<td>.821</td>
</tr>
<tr>
<td>Mothers’ occupation</td>
<td>.780</td>
<td>.798</td>
</tr>
</tbody>
</table>

4.2.5 Analytical Procedures

Statistical Package for the Social Sciences software SPSS 17.0.1 was used to analyze the CMMHE data. Descriptive statistics were first calculated to summarize the frequencies for variables of interest. The distributions of each student’s social background variable (gender, geographic origin, parents’ educational attainment and occupational status, and family income) were then compared with that of national level data. The purpose of this comparison was to determine the difference between students’ social backgrounds and those in the age cohort population, from which a general pattern of educational equality in Chinese higher education could be found. I then conducted chi-square tests with paired variables for gender and others (geographic origin, father and mother’s educational attainment and occupational status, family income), and for geographic origin and parents’ educational attainment and family income, to determine the relationships between these paired variables.

Inferential statistical procedures designed to predict the membership in groups from a set of independent variables were considered. My hypotheses sought to predict “membership” in different sectors (public or private), types of university (elite or non-elite),
and fields of study (natural sciences and technology, social sciences, and humanities) from students’ social background variables. Discriminant analysis, logit regression, and logistic regression are designed to accomplish this type of prediction. This study employed logistic regression because 1) it requires fewer assumptions than discriminant analysis, and performs better even when assumptions are met for both analyses; 2) it has the capacity to analyze a mixture of all types of predictors (continuous, discrete, and dichotomous, compared with which a logit regression only allows analysis of discrete predictors; and 3) it also allows the evaluation of the odds of membership in one of the groups based on the combination of values of the independent variables (Norusis, 2007; Tabachnick & Fidell, 2007).

The logistic regression model is

\[ P = \frac{\lambda^Z}{1 + \lambda^Z} \]

\[ Z = B_0 + B_1X_1 + B_2X_2 + \cdots + B_pX_p \]

where \( P \) is the probability of being in one of the categories in the dependent variable (probability of “membership in one group”), \( \lambda \) is the exponentiated value of \( Z \), \( Z \) is the linear combination of all independent variables, \( X_i \) is the \( i \)th independent variable, and \( B_i \) is the coefficient of the \( i \)th independent variable.

**4.2.6 Limitations**

As the student survey of CMMHE did not use random sampling in collecting data, the dataset is not representative of the student population in Chinese higher education; therefore, it is dangerous to generalize from the results of the CMMHE dataset to the whole
student population. Hence, this study aims to provide a “snapshot” of educational equality in Chinese higher education, an approach that is valuable since only a few empirical studies on this issue have been found in the published literature.

The way of measuring the construct and the method of data collection all may cause measurement errors (Groves, et al, 2009). Errors occur when the construct is not clearly defined or communicated. In the CMMHE survey, the classification of parents’ occupation might cause misunderstanding or wrong categorization. For example, the “other” category is unclear for students, and grouping “retired” with “job-hunting” and “laid-off” makes it difficult to compare this study with other studies and to draw sound conclusions about the effect of occupational status. It is obvious that the influence of a retired administrator father should be different from that of a laid-off father. The self-reporting method of the CMMHE survey may also bring errors to the analysis. Students may simply not have had accurate information about their family income, and may have had difficulty categorizing their parents’ occupations.

4.3 Qualitative Research Design and Methods

Qualitative methods were used to answer the second research question about how cultural values shape educational equality at the macro-level. Given the dominant position the government holds in higher education in the Chinese context, analyzing the impact of cultural values on policy formation and implementation regarding educational development and equality is a good approach. In order to do this, I applied the Weberian sociological research method of ideal types to set up a framework, and used a historical approach to
policy analysis to illustrate and interpret how shifting cultural values have shaped the government policies, and consequently shaped the patterns of educational equality in different periods of time since 1949. In this analysis, particular attention was paid to the dominant government discourses at different periods of time.

4.3.1 The Weberian Ideal Type

“An ideal type is formed by the one-sided accentuation of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete individual phenomena, which are arranged according to those one-sidedly emphasized viewpoints into a unified analytical construct” (Weber, 1994, p.266). An ideal type is formed by abstracting essential and overt characteristics and elements of the given phenomena rather than covering all idiosyncrasies. According to Weber, an ideal type should be constructed with a high degree of logical integration for adequacy of meaning, but it "has no connection at all with value judgments and it has nothing to do with any type of perfection other than a purely logical one” (cited from Hayhoe, 2007, p.192).

The reason I decided to employ the Weberian ideal type to conduct my qualitative research is that it is a method that uses an idea-construct to help bring order to complex and even chaotic social reality, and the normative ideal typical model can “give substantive attention to distinctive value complexes in analysis” (Hayhoe, 2007, p.190). Although some social science researchers think Weber’s concept of ideal types lacks philosophical sophistication (Watkins, 1952), and tend to dismiss it as an obsolete concept with little contemporary relevance (Burger, 1976), I agree with its advocates’ arguments about the strength of this method. The concept of the ideal type is methodologically sound and
logically consistent, inasmuch as it offers a link for the analysis of subjective meaning and structural forms, which may provide a corrective to the present methodological disarray in social theory (Hekman, 1983, p.119). Moreover, the method of using ideal types can direct the scientist towards an ‘economic’ system in that it can be summarized in a simple functional relationship, and there is a possibility that it may lead to the elaboration of a framework of empirically confirmed generalizations (Papineau, 1976).

In this study, two ideal types were constructed based on the Chinese cultural values selected and organized in the indigenous framework I developed in Chapter 3. One pole was characterized as an elitist approach to educational development, and the other pole was a populist approach.

This study defines elitism as the belief that society depends on a particular group in order to flourish (the particular group might include intellectual, social, or cultural categories), and the attitude or belief that views this particular group of people should carry the most weight by virtue of their superiority, and society should be governed by them due to their extraordinary skills, abilities or wisdom which render them especially fit to govern. This study adopts a definition of populism from the Cambridge Dictionary as simply “political ideas and activities that are intended to represent ordinary people’s needs and wishes” (Cambridge Dictionary), rather than definitions from the Russian Populism movement or from other ideological labels associated with various social movements.

As I have explained in Chapter 3, section 3.3.2, some basic elements of populism can

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15 This definition is a synthesis of definitions from multiple sources, such as Cambridge Advanced Learner’s Dictionary, Oxford Advanced Learner’s Dictionary, wordnetweb.princeton.edu/perl/webwn, http://en.wikipedia.org/wiki/Elitism, etc.
16 http://dictionary.cambridge.org/dictionary/british/populism
be found in the traditional Chinese idea of minben (people are the essence and foundation of a state) found in Shangshu and developed by Confucian scholars. Minben thought has been evolving by adopting new elements, such as Western democratic ideas introduced by Chinese enlightenment thinkers in the Ming and Qing dynasties (Xia, 2004). It has been further developed into populism by Chinese Communists through integrating it with Marxist-Leninist ideas. Mao Zedong spent his lifetime advocating and practicing populism in Chinese society (Townsend, 1977). More recently, the minben idea has become part of the discourse of the current Hu Jintao and Wen Jiabao government by being integrated with democratic ideas in the alternate term “people-oriented” (以人为本) in the new guiding theory of the CCP—the Concept of Scientific Development\(^\text{17}\) (科学发展观).

Linking these two terms to education and educational equality, the elitist approach basically has the following features: over-emphasis on the function of education as a tool for nation building, selecting and cultivating political and technical elites, and concentration of resources on higher education, especially elite universities, in order to achieve excellence and competitiveness through government control, an approach inherited from institutionalized Confucianism. The opposite pole, the populist approach, regards education as a way to facilitate individual development, especially for people from disadvantaged groups, and to achieve well being and social justice for all. It gives priority to equality and justice over excellence and efficiency in society. Table 4.5 summarizes the basic elements in these two ideal types.

\(^{17}\) The Concept of Scientific Development was brought forward in the Decision of a Number of Issues on Improving Socialist Market Economy, at the Third Plenary Session of the 16th Central Committee of the Communist Party of China at October 4th, 2003.
### Table 4.4

**Summary of Elitism and Populism as Approaches in Education**

<table>
<thead>
<tr>
<th>Cultural dimensions</th>
<th>Elitism</th>
<th>Populism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitude to education</strong></td>
<td>Important way to cultivate elites; people with talent should have a better education for the sake of the nation rather than for themselves</td>
<td>Important path to wellbeing for all; people should be provided with the opportunity to learn regardless of their origin or ability</td>
</tr>
<tr>
<td><strong>Advancement in society</strong></td>
<td>Based on merit; education is a sorter to select elites and allocate people according to their performance on examination ladders</td>
<td>Emphasis on providing opportunity to disadvantaged people; diverse ways of self-cultivation and self-realization</td>
</tr>
<tr>
<td><strong>Relationship between state and individual</strong></td>
<td>State should be ruled by an elite so as to guarantee and enlarge the public good; nation building is the priority; resources should be concentrated so as to be used efficiently</td>
<td>State should be run by and for people; people’s wellbeing is the primary goal of the state; resources should be allocated equally</td>
</tr>
<tr>
<td><strong>Power distribution</strong></td>
<td>Hierarchical; top down and controlling</td>
<td>Communicative coordination between different levels; emphasis on equal participation</td>
</tr>
<tr>
<td><strong>Government approach to education</strong></td>
<td>Emphasis on the function of education as serving national development; selectivity in recruiting students and allocating resources; normative curricula; quality control by education professionals, etc.</td>
<td>mass education; open access for disadvantaged groups of people; interaction and mutual shaping between teacher and student; equality in allocating resources; diversified curricula and evaluation criteria, etc.</td>
</tr>
</tbody>
</table>

It should be noted that an ideal type is the abstract of key characteristics of given
phenomena, but it is not necessarily meant to correspond to the characteristics of a particular case. At the same time, an ideal type does not attempt to claim its validity in terms of correspondence with social reality. It is an abstract construct helpful in analyzing the reality.

In the Chinese reality, the two seemingly contradictory value orientations of elitism and populism are dialectically and dynamically interrelated, counterbalancing and complementing each other and composing an intrinsic entity. This reflects the holistic and dialectic ways of thinking in Chinese epistemology, which is illumined by traditional philosophy, especially Daoism.

4.3.2 A Historical Approach to Policy Analysis

This study has applied a historical approach to policy analysis so as to gain insight into the question of how dynamically interacting and interwoven cultural values have shaped the changing patterns of educational equality in China, because knowledge of the past is essential to understanding and judging current events and participating in current debates (Stricker, 1992), as well as to shedding light on or anticipating future patterns.

Historical research is a systematic process of searching for facts and then seeking to describe, analyze and interpret the past. This is valuable for identifying past trends that may lie behind current and future patterns (Weirsma & Jurs, 2005). This study is not strictly historical research in its proper sense, but an attempt has been made to use historical sensitivity in observing and analyzing changes over time, and to provide historically grounded explanations of phenomena.

The time period on which this study is focused begins in 1949, the foundation of the
socialist regime. However, some literature addressing related issues from earlier times, especially concerning the civil service examination system and the formation of China’s modern higher education system, was also briefly reviewed.

This study pays particular attention to government discourses in policy analysis, since “political activity does not exist without the use of language” (Chilton & Schaffner, 2002, p.3), and “micro-level behaviors (such as conflicts of interest, threats and power/dominance struggles)…are kinds of linguistic action—that is, discourse” (p.5). Building upon the assumption that the social world is constructed and maintained, and language is constitutive of social reality rather than a simple reflection of reality (Geertz, 1973), discourse is regarded as a sense- and meaning-making practice consisting of linguistic and non-linguistic components (Blanchard, 2006). Discourse can be found in an interrelated set of texts, and the practices of their production, dissemination, and reception; it is this practice that brings an object into being (Parker, 1992; Phillips & Hardy, 2002).

Discourse analysis (DA) is an umbrella term for a number of approaches to analyzing the use of written and spoken language or any significant semiotic event. It has been taken up in a variety of social science disciplines, each of which is subject to its own assumptions, dimensions of analysis, and methodologies, such as ethnography of communication, conversation analysis, and critical discourse analysis. The strength of the discourse approach to policy analysis, as argued by MacLure (1994), lies in its ability to deconstruct policy texts and identify the meanings in them, to highlight the power of acts, and to understand the technology of power exercised in discursive practices.

Following some scholars’ works (e.g., Ball, 1990, 1997; Lingard et al, 2005; Williams,
1997), I adopted an informal approach to discourse analysis rather than the one based on the theories of semiology or linguistics. I sought to explain the causes, processes and effects of culturally constructed educational policies by identifying the key themes and dominant discourses during a certain time period so as to portray a picture of the meanings that constituted the cultural world of which the textual material was an example (Perakyla, 2005). I examined government policies about the issues related to educational equality, such as expansion, diversification, and financing of higher education, through analyzing the rationale and process of the formulation of these discourses, how they were circulated, and how they functioned as an exercise of power to legitimize the discursive practice, and implicitly direct collective actions towards achieving the government's goals. Texts such as government documents, professional reports and research literature related to the topic were selectively collected and analyzed.

4.3.3 Source Materials and Their Limitations

A basic rule of a historical approach is to use primary sources whenever it is possible to locate them. However, secondary sources are also used based on availability. Sources for historical analysis are subjected to an evaluation of their external and internal validity before use. First of all, the documents should be genuine and authentic. For the evaluation of external validity, where, when and by whom the document was produced are important criteria; for internal validity, the meaning, accuracy and trustworthiness of the content of the document should be assessed (Creswell, 1994; Wiersma & Jurs, 2005; Singleton & Straits, 2010; Babbie, 2007).

For the present research, government documents were collected from the website of
the Ministry of Education (China), and the *China Educational Yearbook*, an official record of important events and documents in each year. Numerical data were drawn from the *China Educational Statistics Yearbook* and the *China Educational Finance Statistics Yearbook*. Texts were also derived from published research literature and professional reports. Professional reports, including news reports on events and interviews with influential officials, were collected from official newspapers and magazines such as the *China Education Daily*, *People’s Daily*, and the *Journal of Chinese Higher Education*, etc.

There can be problems with the external validity of government documents. For example, some documents are deliberately removed from or revised later in public records due to political transitions in some time periods.

The internal validity of the source of professional reports relies on the fact that the contents of these publications are under rigorous censorship in China so as to guarantee that the tone of these reports reflects the government’s will. This was especially true in Mao’s era. However, the reliability of numerical data was difficult to establish at times because, as Seeberg (2000) argued, “an ideologically bi-polar twentieth century was but the latest environment not conducive to the objective collection and interpretation of data on the Chinese experience” (p.450).

It is difficult for a doctoral student to access Chinese documents from the distance of a Canadian university, especially those from decades ago. The limited time available to complete a dissertation also influences the effort to find authentic materials. For these reasons, this study has had to rely heavily on the research literature instead of original historical documents and records; this weakens the rigor of the study somewhat due to the
possibilities of bias introduced by the authors of that literature.

Because “decoding the terminology used in China between 1949 and 1979 requires a working knowledge of Marxism, Chinese tradition, 20th century socialist practice, and a thorough understanding of the Chinese ideological polemics advanced by the Chinese Communist Party on everything as well as education” (Seeberg, 2000, p.470), there may be some misreading and misinterpreting of textual materials in this study. However, I have tried to exercise vigilance with regard to each of these limitations.
CHAPTER 5
QUANTITATIVE DATA ANALYSIS

This chapter presents the results of the analysis of the empirical findings from the CMMHE data. Firstly, I checked whether students’ social backgrounds in the CMMHE data were different from the general age-cohort population of China by comparing the frequency of each social background variable in the CMMHE data with that in national statistics; from this it could be seen if the sample differed from the population on a certain characteristic. Secondly, I conducted chi-square tests to establish the relationship between each variable of the students’ social backgrounds and their learning opportunities. Binary logistic regressions were performed to predict the likelihood of the sector and the type of university that students would study in; a multi-nominal logistic regression was used to predict the likelihood of field of study that students would choose. Finally I summarized these findings by reviewing the effect of the social background variables on educational equality.

5.1 Description of the CMMHE Data

The CMMHE data were collected in the summer of 2007. The majority of the student participants were in their third year of university study; only a few were in their second year. The total number of questionnaires distributed was 2,332, and a total of 2,321 valid copies were returned. After deleting the missing data, a total of 2,170 cases reamined. Table 5.1 summarizes the distribution of each social background characteristic of the CMMHE data (the number of valid cases is 2170).
Table 5.1

Description of Students’ Background Information in the CMMHE Data

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1167</td>
<td>53.8</td>
</tr>
<tr>
<td>Male</td>
<td>1003</td>
<td>46.2</td>
</tr>
<tr>
<td>Geographic origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>1155</td>
<td>53.2</td>
</tr>
<tr>
<td>Urban</td>
<td>1015</td>
<td>46.8</td>
</tr>
<tr>
<td>Parents’ educational attainment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>557</td>
<td>12.8</td>
</tr>
<tr>
<td>Secondary</td>
<td>2579</td>
<td>59.4</td>
</tr>
<tr>
<td>Tertiary</td>
<td>889</td>
<td>20.5</td>
</tr>
<tr>
<td>Family income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 8,000</td>
<td>487</td>
<td>22.4</td>
</tr>
<tr>
<td>8,000-25,000</td>
<td>879</td>
<td>40.5</td>
</tr>
<tr>
<td>25,000-45,000</td>
<td>409</td>
<td>18.8</td>
</tr>
<tr>
<td>45,000-60,000</td>
<td>166</td>
<td>7.6</td>
</tr>
<tr>
<td>Above 60,000</td>
<td>229</td>
<td>10.6</td>
</tr>
<tr>
<td>Parents’ occupational status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job hunter/laid-off/retired</td>
<td>577</td>
<td>13.3</td>
</tr>
<tr>
<td>Farmer</td>
<td>1314</td>
<td>30.3</td>
</tr>
<tr>
<td>Worker</td>
<td>551</td>
<td>12.7</td>
</tr>
<tr>
<td>Service industry employee</td>
<td>466</td>
<td>10.7</td>
</tr>
<tr>
<td>Other</td>
<td>163</td>
<td>3.8</td>
</tr>
<tr>
<td>Office worker</td>
<td>158</td>
<td>3.6</td>
</tr>
<tr>
<td>Professional</td>
<td>689</td>
<td>15.9</td>
</tr>
<tr>
<td>Administrator/manager</td>
<td>422</td>
<td>9.7</td>
</tr>
</tbody>
</table>

The following section reports on my verification of whether the social backgrounds of students in the CMMHE dataset are different from those of the general population in China.

National statistics on higher education enrollment show that women accounted for 48.8% of the total, slightly lower than the age-cohort of females in the population (51.1%), indicating that women’s participation rate was lower but close to that of men in Chinese higher education. In the CMMHE data, female students accounted for 53.8% of the total sample, higher than the national statistic. Over-sampling of normal universities may be the reason for the over-representation of women in this data.

Research based on national statistics of enrollment in higher education indicates that
rural students accounted for 53.0% of the total enrollment in 2005 (Gou, 2006). The percentage of rural residents in the total population was 56.1 in the same year, and it can be estimated that the percentage of age-cohort (20-22) of rural residents should be lower because of the process of urbanization that has occurred in recent years in China. Therefore, the difference between the enrollment of rural students in Chinese higher education and the age-cohort rural population should be small. Rural students made up 53.2% of the total in the CMMHE dataset, almost the same as that of national statistics of higher education enrollment.

This study did not find national statistics about the tertiary education attainment rate in the age-cohorts of parents (40 to 60 years), but it can be roughly estimated. The percentage of people completing tertiary education in the 25- to 64-year-old population was 5% in the One Percent Population Sample Survey in 2006. The tertiary participation rate of the 40-60 year age cohorts should be even less than the average of 5% because younger generations should have higher participation rates. The percentage of parents having a tertiary education in the CMMHE dataset (20.5%) is substantially higher than the age cohorts in the general population.

It is also somewhat problematic to compare the distributions of parents’ occupational status in the CMMHE data with that in the national level data because the two sources used different classification methods (see discussion in section 4.2.4 in Chapter 4). One study (Lu, 2002) adopted a similar classification to the CMMHE survey, but it had ten categories rather than the eight in the CMMHE dataset. Lu’s study was based on the One Percent Population Sample Survey in 2000. Table 5.2 shows the differences in
percentages for each occupational category between Lu’s study and the present study.

I combined the three categories of “administrator”, “manager” and “private business owner” in Lu’s classification into one category, which is equivalent to the “administrator/manager” category in the CMMHE dataset. This yielded the observation that the percentages of the two categories in the CMMHE, “administrator/manager” and “professional”, are substantially higher, and the percentage of “farmer” is substantially lower, in the CMMHE dataset than in Lu’s study which represents the national data.

Table 5.2

<table>
<thead>
<tr>
<th>Comparison Between Classifications in Lu’s Study and Those in the CMMHE Data</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lu’s classification</td>
<td>CMMHE’s classification (both parents)</td>
</tr>
<tr>
<td>Administrator 2.1%</td>
<td>Administrator and manager (including private business owner and manager)</td>
</tr>
<tr>
<td>Manager 1.6%</td>
<td>Professional 15.9%</td>
</tr>
<tr>
<td>Private business owner 1.0%</td>
<td>Other 3.8%</td>
</tr>
<tr>
<td>total 4.7%</td>
<td>Office worker 3.6%</td>
</tr>
<tr>
<td>Professional 4.6%</td>
<td>Service industry employee 10.7%</td>
</tr>
<tr>
<td>Small private business owner 7.1%</td>
<td>Worker 12.7%</td>
</tr>
<tr>
<td>Office worker 7.2%</td>
<td>Farmer 30.3%</td>
</tr>
<tr>
<td>Service industry employee 11.2%</td>
<td>Job hunter/laid-off/retired 13.3%</td>
</tr>
<tr>
<td>Worker 17.5%</td>
<td></td>
</tr>
<tr>
<td>Farmer 42.9%</td>
<td></td>
</tr>
<tr>
<td>Job hunter/laid-off/semi-laid-off 4.8%</td>
<td></td>
</tr>
</tbody>
</table>

The higher percentage of “office worker” in Lu’s study than in the CMMHE dataset might be explained by some office workers being placed in the “retired” category in the CMMHE data. In China, the mandatory age of retirement for office workers, service industry employees, and workers is younger than that of administrators, managers, and professionals. It is reasonable to attribute, at least to a certain degree, the higher percentage of the “job-hunter/laid-off/retired” category in the CMMHE data to the retired people from other categories. The difference between “small private business owner” in
Lu’s classification and “other” in the CMMHE data might be caused by students’ misinterpretation of the term “other”. Based on the above analysis, it is difficult to draw any conclusions about the differences in the categories of “worker”, “service industry employee”, “office worker”, and “job-hunting/laid-off/retired” between the CMMHE dataset and the national data presented in Lu’s study.

It is also difficult to compare students’ family income in the CMMHE data with that in the national population statistics. The available national statistics (2006 China Statistics Year Book) only contained information about per capita disposable income of urban residents (11759.5 yuan) and per capita net income of rural residents (3586.5 yuan) rather than family income. However, family income could be roughly calculated. Because the average family size was 2.97 persons in urban areas, and 4.05 persons in rural areas, an estimate of the average disposable income of an urban family would be about 34,900 yuan, and an estimate of the average net income of a rural family would be about 14,500 yuan. I also calculated students’ family income in the CMMHE dataset. An approximate estimate could be made based on this information using the following formula:

\[
\text{Family income} = \sum (\text{middle point value of each cell} \times \text{the percentage in this cell})
\]

Based on this formula, rural family income was about 17,700 yuan, and urban family income was about 32,300 yuan in the CMMHE data. These two numbers were only rough estimates because the calculation used the middle point instead of the mean of each cell, and it used the highest value (8,000) to compute the “low income” category, and the lowest value (60,000 yuan) to compute the “high income” category. It seems that the difference between the estimates of family income in the CMMHE data and that of
national data is not large.

In summary, a brief comparison of the CMMHE dataset, the national statistics on higher education enrollment, and the national statistics on population indicate the following: 1) women’s participation rate is lower but close to that of men in Chinese higher education, but is higher in the CMMHE dataset; 2) the participation rate of rural students is close to that of urban students in the national statistics, so is the same in the CMMHE dataset; 3) the difference between the percentage of parents having higher education in the CMMHE dataset and the percentage in the age cohort general population is substantial; 4) the difference between the percentage of parents from high status occupations (administrator/manager and professional) in the CMMHE dataset and the percentage in the general population is substantial; 5) the difference between the estimates of family income in the general population and that in the CMMHE data is unclear.

5.2 Who Is More Likely To Study at Universities

Individual variables such as gender, geographic origin, parents’ educational attainment and occupational status, and family income have been examined separately in previous studies in China. However, little attention has been given to the effect of multiple social identities on students’ opportunities to study at higher education institutions (e.g., rural women). In this section, the interactions between students’ background variables were explored based on the CMMHE data.

Chi-Square tests were performed first to determine the associations among paired
variables of students’ background characteristics (see table 5.3).

Table 5.3

**Associations Among Paired Social Background Variables**

<table>
<thead>
<tr>
<th>Student’s background variables</th>
<th>Pearson $\chi^2$</th>
<th>Df</th>
<th>Asymp.Sig (2-sided)</th>
<th>Phi or Cramer’s V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender*geographic origin</td>
<td>34.580***</td>
<td>1</td>
<td>.000</td>
<td>.126</td>
</tr>
<tr>
<td>Gender*father’s edu (7ca)</td>
<td>23.917**</td>
<td>6</td>
<td>.001</td>
<td>.105</td>
</tr>
<tr>
<td>Gender*mother’s edu (7ca)</td>
<td>50.725***</td>
<td>6</td>
<td>.000</td>
<td>.153</td>
</tr>
<tr>
<td>Gender*father’s occup (8ca)</td>
<td>22.398**</td>
<td>7</td>
<td>.002</td>
<td>.102</td>
</tr>
<tr>
<td>Gender*mother’s occup (8ca)</td>
<td>46.217***</td>
<td>7</td>
<td>.000</td>
<td>.146</td>
</tr>
<tr>
<td>Gender*income (5ca)</td>
<td>4.656</td>
<td>4</td>
<td>.324</td>
<td>.046</td>
</tr>
</tbody>
</table>

| Geographic*father’s edu (7ca)  | 564.066***       | 6  | .000                | .510             |
| Geographic*mother’s edu(7ca)   | 656.964***       | 6  | .000                | .550             |
| Geographic*income(5ca)         | 364.733***       | 4  | .000                | .410             |

*p<.05; **p<.01; ***p<.001

The differences between girls and boys. The results of Pearson’s chi-square test suggest that geographic origin ($\chi^2=34.580, p<.001$), parents’ educational attainment ($\chi^2=23.917, p<.01$ for fathers’, and $\chi^2=50.725, p<.001$ for mothers’), and parents’ occupation status ($\chi^2=22.398, p<.01$ for fathers’, and $\chi^2=46.217, p<.001$ for mothers’) are all significantly different between girls and boys, but the effect sizes are small (from .078 to .153) according to Coleman (1988). There is no difference between girls and boys in terms of their family income. Mothers’ educational attainment and occupational status tend to have larger effects on differentiating girls and boys’ opportunities to attain higher education than those of fathers’ according to their Phi values. Girls are more likely than expected to have parents with higher education attainment and high occupational status.

---

18 Coleman’s criterion is mainly used for experimental design and uses much more stringent cut-off points for what is considered “large”. 
than boys, and are less likely than expected to come from rural areas.

The frequencies of the CMMHE data show that 47% of girls come from rural areas, while the percentage is 60% for boys. About 27% of girls have college-educated fathers and 19% have college-educated mothers, while the percentages are 22% and 13% respectively for boys. About 33% of girls come from a professional or administrator/manager family background, compared with 26% for boys. In other words, girls who are from urban areas and who have college-educated parents with positions of a higher occupational status are more likely to attend university than boys with similar social background characteristics.

**The differences between rural and urban students.** The results of Pearson’s chi-square test showed that family income ($\chi^2=364.733, p<.001$) and parents’ educational attainment ($\chi^2=564.066, p<.001$ for fathers’, and $\chi^2=656.964, p<.001$ for mothers’) are significantly different for rural and urban students. Effect sizes (from .410 to .550) are considered to be larger (Coleman, 1988). Mothers’ educational attainment tends to have a larger effect than that of fathers’ according to their Phi values. Rural students are more likely than expected to have lower family income and lower parental educational attainment.

The percentage of rural students having primary or primary education level fathers (22.4%) is about 5.6 times that of urban students (4%); the percentage of urban students with college or above education level fathers (44.7%) is 6.4 times that of rural students (7.0%), and the gap is 12.5 times greater for the percentage of the same education level mothers. More rural students are from low-income (less than 8,000 yuan) families
(34.0%) than urban students (9.3%), and there are fewer rural students (4.5%) from high-income (more than 60,000 yuan) families than their urban counterparts (17.4%).

5.3 Who Is More Likely to Study at Private Universities

In this section, I report the results of testing Hypothesis 1.

Hypothesis 1. There is a relationship between students’ social backgrounds and their opportunities to study in different sectors of higher education (public or private). If this hypothesis is supported, who is more likely to study at private universities?

I selected three public universities—one elite and two less elite universities, together with three private universities in the CMMHE dataset to form a sub-dataset (sub-dataset 1), to make the sample more closely approximate the real situation of public universities in China. I also considered the variables that had comparable national statistics in the selection, so as to make the sub-dataset I had similar in percentages of women and rural students to that of the national statistics in higher education. This sub-dataset had a total number of 1102 cases.

Table 5.4 illustrates the students’ social backgrounds in public and private universities from sub-dataset 1. The last column is the ratio of the percentage of each category in private versus public universities. If the ratio is greater than one, it means students with this characteristic are overrepresented in private universities.

The preliminary finding based on this frequency table is that rural students, students from low to middle income families, students with lower educational attainment parents, and students from disadvantaged groups are more likely to study at private universities.
Table 5.4

*Students’ Background in Three Public and Three Private Universities (N=1102)*

<table>
<thead>
<tr>
<th></th>
<th>Private%(N)</th>
<th>Public%(N)</th>
<th>Private%/Public%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>44.6 (200)</td>
<td>50.0 (327)</td>
<td>.89</td>
</tr>
<tr>
<td>Male</td>
<td>55.4 (248)</td>
<td>50.0 (327)</td>
<td>1.11</td>
</tr>
<tr>
<td>Geographic origin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>68.5 (307)</td>
<td>50.9 (333)</td>
<td>1.35</td>
</tr>
<tr>
<td>Urban</td>
<td>31.5 (141)</td>
<td>49.1 (321)</td>
<td>.64</td>
</tr>
<tr>
<td>Father’s educational attainment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>2.2 (10)</td>
<td>1.8 (12)</td>
<td>1.22</td>
</tr>
<tr>
<td>Primary</td>
<td>15.6 (70)</td>
<td>9.2 (60)</td>
<td>1.70</td>
</tr>
<tr>
<td>Junior high school</td>
<td>31.7 (142)</td>
<td>26.3 (172)</td>
<td>1.21</td>
</tr>
<tr>
<td>Senior high school</td>
<td>37.1 (166)</td>
<td>38.1 (249)</td>
<td>.97</td>
</tr>
<tr>
<td>College</td>
<td>7.6 (34)</td>
<td>11.6 (76)</td>
<td>.66</td>
</tr>
<tr>
<td>University</td>
<td>5.6 (25)</td>
<td>9.9 (65)</td>
<td>.57</td>
</tr>
<tr>
<td>Graduate school</td>
<td>0.2 (1)</td>
<td>3.1 (20)</td>
<td>.06</td>
</tr>
<tr>
<td>Mother’s educational attainment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>11.6 (52)</td>
<td>4.9 (32)</td>
<td>2.37</td>
</tr>
<tr>
<td>Primary</td>
<td>27.5 (123)</td>
<td>15.9 (104)</td>
<td>1.73</td>
</tr>
<tr>
<td>Junior high school</td>
<td>31.3 (140)</td>
<td>26.8 (175)</td>
<td>1.17</td>
</tr>
<tr>
<td>Senior high school</td>
<td>22.5 (101)</td>
<td>35.3 (231)</td>
<td>.64</td>
</tr>
<tr>
<td>College</td>
<td>3.8 (17)</td>
<td>9.0 (59)</td>
<td>.42</td>
</tr>
<tr>
<td>University</td>
<td>3.1 (14)</td>
<td>7.5 (49)</td>
<td>.41</td>
</tr>
<tr>
<td>Graduate school</td>
<td>0.2 (1)</td>
<td>0.6 (4)</td>
<td>.33</td>
</tr>
<tr>
<td>Father’s occupational status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job</td>
<td>6.0 (27)</td>
<td>8.9 (58)</td>
<td>.67</td>
</tr>
<tr>
<td>Hunter/laid-off/retired</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmer</td>
<td>36.8 (165)</td>
<td>24.0 (157)</td>
<td>1.53</td>
</tr>
<tr>
<td>Worker</td>
<td>20.1 (90)</td>
<td>17.7 (116)</td>
<td>1.14</td>
</tr>
<tr>
<td>Service employee</td>
<td>8.7 (39)</td>
<td>10.2 (67)</td>
<td>.85</td>
</tr>
<tr>
<td>Other</td>
<td>5.6 (25)</td>
<td>4.1 (27)</td>
<td>1.37</td>
</tr>
<tr>
<td>Office worker</td>
<td>3.6 (16)</td>
<td>3.1 (20)</td>
<td>1.16</td>
</tr>
<tr>
<td>Professional</td>
<td>8.0 (36)</td>
<td>14.8 (97)</td>
<td>.54</td>
</tr>
<tr>
<td>Administrator/manager</td>
<td>11.2 (50)</td>
<td>17.1 (112)</td>
<td>.65</td>
</tr>
<tr>
<td>Mother’s occupational status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job</td>
<td>17.2 (77)</td>
<td>18.3 (120)</td>
<td>.94</td>
</tr>
<tr>
<td>Hunter/laid-off/retired</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmer</td>
<td>47.3 (212)</td>
<td>28.6 (187)</td>
<td>1.65</td>
</tr>
<tr>
<td>Worker</td>
<td>6.9 (31)</td>
<td>9.3 (61)</td>
<td>.74</td>
</tr>
<tr>
<td>Service employee</td>
<td>11.8 (53)</td>
<td>12.2 (80)</td>
<td>.97</td>
</tr>
<tr>
<td>Other</td>
<td>3.3 (15)</td>
<td>6.4 (42)</td>
<td>.52</td>
</tr>
<tr>
<td>Office worker</td>
<td>1.1 (5)</td>
<td>4.1 (27)</td>
<td>.27</td>
</tr>
<tr>
<td>Professional</td>
<td>6.5 (29)</td>
<td>17.6 (115)</td>
<td>.37</td>
</tr>
<tr>
<td>Administrator/manager</td>
<td>3.4 (22)</td>
<td>5.8 (26)</td>
<td>.59</td>
</tr>
<tr>
<td>Family income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 8,000</td>
<td>23.9 (107)</td>
<td>23.7 (155)</td>
<td>1.00</td>
</tr>
<tr>
<td>8,000-25,000</td>
<td>50.9 (228)</td>
<td>36.7 (240)</td>
<td>1.39</td>
</tr>
<tr>
<td>25,000-45,000</td>
<td>14.7 (66)</td>
<td>18.8 (123)</td>
<td>.78</td>
</tr>
<tr>
<td>45,000-60,000</td>
<td>4.7 (21)</td>
<td>8.7 (57)</td>
<td>.54</td>
</tr>
<tr>
<td>Above 60,000</td>
<td>5.8 (26)</td>
<td>12.1 (79)</td>
<td>.48</td>
</tr>
</tbody>
</table>

I then conducted chi-square tests to examine the relationship between each social background variable and the sector in which the students study. Except for gender,
geographic origin (Pearson $\chi^2=34.861$, $p<.001$), parents’ educational attainment (Pearson $\chi^2=34.106$, $p<.001$ for fathers’, and Pearson $\chi^2=69.521$, $p<.001$ for mothers’), parents’ occupational status (Pearson $\chi^2=37.201$, $p<.001$ for fathers’, and Pearson $\chi^2=69.754$, $p<.001$ for mothers’), and family income (Pearson $\chi^2=32.280$, $p<.001$), all had significant effects individually (see Table 5.5). The associations between mothers’ educational attainment, and mothers’ occupational status, and the sector their children study in are greater than those of the fathers’ according to their Phi values.

Table 5.5

*Comparison of Studying in Different Sectors by Students’ Background Variables*

<table>
<thead>
<tr>
<th>Students' background variables</th>
<th>Pearson $\chi^2$</th>
<th>Df</th>
<th>Asymp.Sig</th>
<th>Phi or Cramer’s V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>3.058</td>
<td>1</td>
<td>.080</td>
<td>.053</td>
</tr>
<tr>
<td>Geographic origin</td>
<td>33.861***</td>
<td>1</td>
<td>.000</td>
<td>.175</td>
</tr>
<tr>
<td>Father’s education</td>
<td>34.106***</td>
<td>6</td>
<td>.000</td>
<td>.176</td>
</tr>
<tr>
<td>Mother’s education</td>
<td>69.521***</td>
<td>6</td>
<td>.000</td>
<td>.251</td>
</tr>
<tr>
<td>Father’s occupation</td>
<td>37.201***</td>
<td>7</td>
<td>.000</td>
<td>.184</td>
</tr>
<tr>
<td>Mother’s occupation</td>
<td>69.754***</td>
<td>7</td>
<td>.000</td>
<td>.252</td>
</tr>
<tr>
<td>Income</td>
<td>32.280***</td>
<td>4</td>
<td>.000</td>
<td>.171</td>
</tr>
</tbody>
</table>

* $p < .05$, ** $p < .01$, *** $p < .001$

It can generally be assumed that some of these seven variables are correlated with one another, and the effects of several variables might be explained by the same underlying dimension. Therefore, I diagnosed collinearity, and created a new variable “social-cultural index” (SCI) by linearly combining the four variables of parental educational attainment and parental occupational status using the PCA method (see section 4.2.4.2 in Chapter 4).

I then performed a logistic regression to identify which social background factors
could predict studying at private universities. In the first logistic regression model (model 1 in Table 5.6), I included the dummy variables of female, rural origin, four income variables, and SCI.

A test of the full model with seven predictors against a constant-only model was statistically significant, $\chi^2 = 75.591$, $p < .001$, indicating that the predictors, as a set, reliably distinguished between studying at public and private universities. Hypothesis 1 was supported. The Pseudo R-Square for which these predictors accounted is small, Nagelkerke R = .089. The classification was somewhat unsatisfactory, with 80.0% of students studying at public universities and 33.3% studying at private universities correctly predicted, for an overall success rate of 61.0%.

Table 5.6 shows the regression coefficients, Wald statistics, and odds ratios for each predictor. According to the Wald criterion, rural origin ($\chi^2 = 5.172$, $p < .05$), and family income "between 8,000 and 25,000 yuan" ($\chi^2 = 6.466$, $p < .05$), and SCI ($\chi^2 = 17.102$, $p < .001$), reliably predicted studying at private universities. The odds ratio of 1.415 for rural origin, and 1.921 for income “between 8,000 and 25,000 yuan”, shows that the odds of rural students studying at private universities is 42% greater than the odds of urban students, and the odds of students from middle-low income families studying at private universities is 92% greater than their higher income peers. However, the odds ratio of .905 shows little decrease in the likelihood of studying at private universities on the basis of a one-unit increase in SCI. In other words, the distinctions between rural and urban students, between students from middle-low income and high income families, are strong, but the distinction caused by SCI is not very strong.
This study also sought to find out the following: 1) whether the effect of being female differed for those who were from urban or rural areas; 2) whether the effect of being female differed by SCI; and 3) whether the effect of being a rural student differed, by SCI, in their likelihood of studying at private universities. Thus three interactions were added to a new model (model 2).

The results of the test of model 2a with seven predictors and the interaction between female and rural origin showed that it was not significantly different from model 1 ($\chi^2 = .018, p = .895$). The inclusion of the interaction between female and rural origin did not improve the base model (model 1).

The results of the test of model 2b with seven predictors and the interaction between female and SCI showed that model 2b was not significantly different from model 1 ($\chi^2 = .431, p = .511$). The inclusion of the interaction between female and SCI did not improve the base model.

The results of the test of model 2c with seven predictors and the interaction between rural and SCI showed that model 2c was not significantly different from model 1 (chi-square $\chi^2 = 2.816, p = .093$). The inclusion of the interaction between rural and SCI did not improve the base model.
### Table 5.6

*Logit Coefficient and Odds-ratio in Logistic Regressions to Predict the Likelihood of Studying at Private Universities*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th></th>
<th>Model 2a</th>
<th></th>
<th></th>
<th>Model 2b</th>
<th></th>
<th></th>
<th>Model 2c</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Wald</td>
<td>Odds</td>
<td>B</td>
<td>Wald</td>
<td>Odds</td>
<td>B</td>
<td>Wald</td>
<td>Odds</td>
<td>B</td>
<td>Wald</td>
</tr>
<tr>
<td></td>
<td>X²-test</td>
<td>Ratio</td>
<td></td>
<td>X²-test</td>
<td>Ratio</td>
<td></td>
<td>X²-test</td>
<td>Ratio</td>
<td></td>
<td>X²-test</td>
<td>Ratio</td>
</tr>
<tr>
<td>Female</td>
<td>.091</td>
<td>.499</td>
<td>.913</td>
<td>-.113</td>
<td>.292</td>
<td>.589</td>
<td>-.349</td>
<td>.712</td>
<td>.705</td>
<td>-.090</td>
<td>.484</td>
</tr>
<tr>
<td>Family income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 8,000</td>
<td>.099</td>
<td>.123</td>
<td>1.104</td>
<td>.101</td>
<td>.127</td>
<td>1.106</td>
<td>.097</td>
<td>.117</td>
<td>1.102</td>
<td>.057</td>
<td>.040</td>
</tr>
<tr>
<td>25,000-45,000</td>
<td>.363</td>
<td>1.684</td>
<td>1.437</td>
<td>.365</td>
<td>1.698</td>
<td>1.440</td>
<td>.358</td>
<td>1.645</td>
<td>1.431</td>
<td>.348</td>
<td>1.560</td>
</tr>
<tr>
<td>45,000-60,000</td>
<td>.120</td>
<td>.119</td>
<td>1.127</td>
<td>.121</td>
<td>1.128</td>
<td>1.128</td>
<td>.111</td>
<td>1.100</td>
<td>1.117</td>
<td>.100</td>
<td>1.083</td>
</tr>
<tr>
<td>SCI</td>
<td>-.100</td>
<td>17.102***</td>
<td>.905</td>
<td>-.100</td>
<td>17.062***</td>
<td>.905</td>
<td>-.112</td>
<td>13.229***</td>
<td>.894</td>
<td>-.069</td>
<td>5.229*</td>
</tr>
<tr>
<td>Female*rural</td>
<td></td>
<td>.035</td>
<td>.018</td>
<td>1.036</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female*SCI</td>
<td></td>
<td>.025</td>
<td>.431</td>
<td>1.026</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Rural*SCI</td>
<td></td>
<td>-.076</td>
<td>2.790</td>
<td>.927</td>
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<td></td>
</tr>
<tr>
<td>Constant</td>
<td>.120</td>
<td>.085</td>
<td>1.128</td>
<td>.129</td>
<td>.095</td>
<td>1.138</td>
<td>.245</td>
<td>.290</td>
<td>1.278</td>
<td>-.257</td>
<td>.298</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001
5.4 Who Is More Likely to Study at Elite Universities

In this section, I report the results of testing Hypothesis 2.

Hypothesis 2. There is a relationship between students’ social background characteristics and their opportunities in access to different types of higher education (elite/non-elite). If this hypothesis is supported, who is more likely to study at elite universities?

As I have clarified in section 4.2.4 in Chapter 4, a sub-dataset (sub-dataset 2) was formed by selecting two elite universities and two less elite universities from the CMMHE data to examine which variables could predict studying at elite universities. The size of this sub-dataset was 819 cases.

Table 5.7 shows the frequencies of students’ backgrounds in elite and non-elite universities in this sub-dataset. The last column is the ratio between the percentages of each category in elite versus non-elite universities. If the ratio is greater than one, it means students with this characteristic are overrepresented in elite universities.

The first impression from these ratios is that the differences are larger between elite and non-elite universities than between public and private universities, especially the gap between students having tertiary education level parents and those from high income families and those from other income groups. The preliminary finding from this frequency table is that males, urban students, students having tertiary education attainment parents, students from high income families, and those from advantaged groups (professionals and administrators/managers) are more likely to study at elite universities.
Table 5.7

Students’ Backgrounds in Two Elite and Two Non-elite Universities (N=819)

<table>
<thead>
<tr>
<th></th>
<th>Non-elite% (N)</th>
<th>Elite% (N)</th>
<th>Elite (%) /non-elite (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>68.7(275)</td>
<td>42.9(180)</td>
<td>.62</td>
</tr>
<tr>
<td>Male</td>
<td>31.1(124)</td>
<td>57.1(240)</td>
<td>1.84</td>
</tr>
<tr>
<td><strong>Geographic origin</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>54.9(219)</td>
<td>37.4(157)</td>
<td>.68</td>
</tr>
<tr>
<td>Urban</td>
<td>45.1(180)</td>
<td>62.6(263)</td>
<td>1.39</td>
</tr>
<tr>
<td><strong>Father’s educational attainment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>3.3(13)</td>
<td>1.7(7)</td>
<td>.52</td>
</tr>
<tr>
<td>Primary</td>
<td>11.8(47)</td>
<td>6.0(25)</td>
<td>.51</td>
</tr>
<tr>
<td>Junior high school</td>
<td>32.6(130)</td>
<td>18.6(78)</td>
<td>.57</td>
</tr>
<tr>
<td>Senior high school</td>
<td>37.1(148)</td>
<td>32.9(138)</td>
<td>.89</td>
</tr>
<tr>
<td>College</td>
<td>10.5(42)</td>
<td>14.0(59)</td>
<td>1.33</td>
</tr>
<tr>
<td>University</td>
<td>4.5(18)</td>
<td>19.8(83)</td>
<td>4.40</td>
</tr>
<tr>
<td>Graduate school</td>
<td>0.3(1)</td>
<td>7.1(30)</td>
<td>23.67</td>
</tr>
<tr>
<td><strong>Mother’s educational attainment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>7.8(31)</td>
<td>4.0(17)</td>
<td>.51</td>
</tr>
<tr>
<td>Primary</td>
<td>18.3(73)</td>
<td>12.4(52)</td>
<td>.68</td>
</tr>
<tr>
<td>Junior high school</td>
<td>30.1(120)</td>
<td>17.6(74)</td>
<td>.58</td>
</tr>
<tr>
<td>Senior high school</td>
<td>33.6(134)</td>
<td>36.7(154)</td>
<td>.92</td>
</tr>
<tr>
<td>College</td>
<td>8.0(32)</td>
<td>10.5(44)</td>
<td>1.31</td>
</tr>
<tr>
<td>University</td>
<td>2.3(9)</td>
<td>16.2(68)</td>
<td>7.04</td>
</tr>
<tr>
<td>Graduate school</td>
<td>0(0)</td>
<td>2.6(11)</td>
<td>--</td>
</tr>
<tr>
<td><strong>Father’s occupational status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job</td>
<td>11.0(44)</td>
<td>5.7(24)</td>
<td>.52</td>
</tr>
<tr>
<td>Farmer</td>
<td>30.1(120)</td>
<td>14.5(61)</td>
<td>.48</td>
</tr>
<tr>
<td>Worker</td>
<td>21.1(84)</td>
<td>14.5(61)</td>
<td>.69</td>
</tr>
<tr>
<td>Service employee</td>
<td>10.8(43)</td>
<td>11.7(49)</td>
<td>1.08</td>
</tr>
<tr>
<td>Other</td>
<td>5.5(22)</td>
<td>2.6(11)</td>
<td>.47</td>
</tr>
<tr>
<td>Office worker</td>
<td>1.5(6)</td>
<td>3.8(16)</td>
<td>2.53</td>
</tr>
<tr>
<td>Professional</td>
<td>11.8(47)</td>
<td>22.4(94)</td>
<td>1.90</td>
</tr>
<tr>
<td>Administrator/manager</td>
<td>8.3(33)</td>
<td>24.8(104)</td>
<td>2.99</td>
</tr>
<tr>
<td><strong>Mother’s occupational status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job</td>
<td>19.8(79)</td>
<td>17.4(73)</td>
<td>.88</td>
</tr>
<tr>
<td>Farmer</td>
<td>36.6(146)</td>
<td>16.4(69)</td>
<td>.45</td>
</tr>
<tr>
<td>Worker</td>
<td>8.0(32)</td>
<td>8.3(35)</td>
<td>1.04</td>
</tr>
<tr>
<td>Service employee</td>
<td>12.5(50)</td>
<td>12.6(53)</td>
<td>1.01</td>
</tr>
<tr>
<td>Other</td>
<td>4.3(17)</td>
<td>1.9(8)</td>
<td>.44</td>
</tr>
<tr>
<td>Office worker</td>
<td>3.8(15)</td>
<td>5.0(21)</td>
<td>1.32</td>
</tr>
<tr>
<td>Professional</td>
<td>11.0(44)</td>
<td>28.6(120)</td>
<td>2.60</td>
</tr>
<tr>
<td>Administrator/manager</td>
<td>4.0(16)</td>
<td>9.8(41)</td>
<td>2.45</td>
</tr>
<tr>
<td><strong>Family income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 8,000</td>
<td>27.8(111)</td>
<td>13.1(55)</td>
<td>.47</td>
</tr>
<tr>
<td>8,000-25,000</td>
<td>46.4(185)</td>
<td>27.1(114)</td>
<td>.58</td>
</tr>
<tr>
<td>25,000-45,000</td>
<td>15.8(63)</td>
<td>23.8(100)</td>
<td>1.51</td>
</tr>
<tr>
<td>45,000-60,000</td>
<td>7.0(28)</td>
<td>11.7(49)</td>
<td>1.67</td>
</tr>
<tr>
<td>Above 60,000</td>
<td>3.0(12)</td>
<td>24.3(102)</td>
<td>8.1</td>
</tr>
</tbody>
</table>
Chi-square tests were conducted as a next step to detect which variables had a statistically significant influence on the opportunities to study at elite universities. All five variables had significant effects on studying at elite universities (see Table 5.8): gender (Pearson $\chi^2=56.301, p<.001$), geographic origin (Pearson $\chi^2=25.252, p<.001$), parents’ educational attainment (Pearson $\chi^2=93.217, p<.001$ for fathers’ and Pearson $\chi^2=77.522, p<.001$ for mothers’), parents’ occupational status (Pearson $\chi^2=89.349, p<.001$ for fathers’ and Pearson $\chi^2=77.973, p<.001$ for mothers’), and family income (Pearson $\chi^2=120.471, p<.001$). The effect sizes ranged from medium to large (Phi values from .176 to .384). The associations between fathers’ educational attainment, fathers’ occupational status, and the type of universities their children study at are greater than that of mothers’ educational attainment and occupational status, respectively, according to their Phi values. This pattern is different from that of mothers’ educational attainment and mothers’ occupational status having a stronger influence on the sector in which their children study.

Table 5.8

The Associations Between Social Background and Studying at Elite Universities

<table>
<thead>
<tr>
<th>Students' background variables</th>
<th>$\chi^2$</th>
<th>df</th>
<th>Asymp.Sig (2-sided)</th>
<th>Phi or Cramer’s V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>56.301***</td>
<td>1</td>
<td>.000</td>
<td>.262</td>
</tr>
<tr>
<td>Geographic origin</td>
<td>25.252***</td>
<td>1</td>
<td>.000</td>
<td>.176</td>
</tr>
<tr>
<td>Father’s edu</td>
<td>93.217***</td>
<td>6</td>
<td>.000</td>
<td>.337</td>
</tr>
<tr>
<td>Mother’s edu</td>
<td>77.522***</td>
<td>6</td>
<td>.000</td>
<td>.308</td>
</tr>
<tr>
<td>Father’s occup</td>
<td>89.349***</td>
<td>7</td>
<td>.000</td>
<td>.330</td>
</tr>
<tr>
<td>Mother’s occup</td>
<td>77.973***</td>
<td>7</td>
<td>.000</td>
<td>.309</td>
</tr>
<tr>
<td>Family income</td>
<td>120.471***</td>
<td>4</td>
<td>.000</td>
<td>.384</td>
</tr>
</tbody>
</table>

* $p < .05$, ** $p < .01$, *** $p < .001$
A similar procedure to that described in section 5.3 was then used to predict studying at elite universities.

I first created an SCI variable based on sub-dataset 2. Logistic regressions were then conducted to identify which social background factors could reliably predict studying at elite universities.

A test of the full model (model 1) with seven variables against a constant-only model was statistically significant, $\chi^2 = 225.973, p < .001$, indicating that the predictors, as a set, reliably distinguished between studying at elite and non-elite universities.

Hypothesis 2 was supported. The Pseudo R-Square which these predictors accounted for was medium, Nagelkerke $R^2 = .322$. The classification was 74.2% of studying at non-elite universities and 68.8% of studying at elite universities correctly predicted, for an overall success rate of 71.3%.

Table 5.9 shows the regression coefficients, Wald statistics, and odds ratios for each predictor. According to the Wald criterion, except for the geographic origin variable, female ($\chi^2 = 64.783, p < .001$), family income “lower than 8,000 yuan” ($\chi^2 = 30.108, p < .001$), “between 8,000 to 25,000 yuan” ($\chi^2 = 36.971, p < .001$), “between 25,000 to 45,000 yuan” ($\chi^2 = 15.972, p < .001$), “between 45,000 to 60,000 yuan” ($\chi^2 = 14.769, p < .001$), and SCI ($\chi^2 = 26.356, p < .001$), all reliably predicted studying at elite universities. The odds ratio of 1.159 for SCI shows that students having parents with higher educational attainment levels and higher status occupations are more likely to study at elite universities. But the odds ratios for female students, and students from low, middle-low, middle, and middle-high income groups were all below 1, ranging from the
highest, .260, to the lowest, .116, which indicates that female students and students from lower income families are much less likely to study at elite universities. The odds of women studying at elite universities is 74% less than men, and the odds of students from low, middle-low, middle, and middle-high income families studying at elite universities is 88%, 88%, 76%, and 79% less than those from high income families.

This study also sought to determine the following: 1) whether the effect of being female differed for those who were from urban or rural areas; 2) whether the effect of being female differed by SCI; and 3) whether the effect of being a rural student differed by SCI, in their likelihood of studying at elite universities. Thus three interactions were included into a new model (model 2).

A test of model 2a with seven predictors and the interaction of female and rural origin showed that it was not significantly different from model 1 ($\chi^2 = 1.277, p = .258$), indicating that the inclusion of the interaction between female and rural did not improve the base model (model 1).

A test of model 2b with seven predictors and the interaction of female and SCI showed that it was not significantly different from model 1 ($\chi^2 = 1.958, p = .162$); the inclusion of the interaction between female and SCI did not improve the base model.

A test of model 2c with seven predictors and the interaction of rural origin and SCI showed that it was not significantly different from model 1 ($\chi^2 = .196, p = .658$); the inclusion of the interaction between rural and SCI did not improve the base model.
Table 5.9

Logit Coefficient and Odds-ratio in Logistic Regressions to Predict the Likelihood of Studying at Elite Universities

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2a</th>
<th>Model 2b</th>
<th>Model 2c</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>Wald</td>
<td>Odds</td>
<td>$B$</td>
</tr>
<tr>
<td></td>
<td>$X^2$-test</td>
<td>Ratio</td>
<td></td>
<td>$X^2$-test</td>
</tr>
<tr>
<td>Female</td>
<td>-1.346</td>
<td>.6478***</td>
<td>.260</td>
<td>-1.162</td>
</tr>
<tr>
<td>Rural</td>
<td>.133</td>
<td>.470</td>
<td>1.142</td>
<td>.336</td>
</tr>
<tr>
<td>Family income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 8,000</td>
<td>-2.150</td>
<td>.30117***</td>
<td>.117</td>
<td>-2.140</td>
</tr>
<tr>
<td>8,000-25,000</td>
<td>-2.151</td>
<td>.36978***</td>
<td>.116</td>
<td>-2.148</td>
</tr>
<tr>
<td>25,000-45,000</td>
<td>-1.443</td>
<td>.15978***</td>
<td>.236</td>
<td>-1.439</td>
</tr>
<tr>
<td>45,000-60,000</td>
<td>-1.552</td>
<td>.14772***</td>
<td>.212</td>
<td>-1.539</td>
</tr>
<tr>
<td>SCI</td>
<td>.147</td>
<td>.26341***</td>
<td>1.158</td>
<td>.147</td>
</tr>
<tr>
<td>Female*rural</td>
<td>.372</td>
<td>1.277</td>
<td>.690</td>
<td></td>
</tr>
<tr>
<td>Female*SCI</td>
<td></td>
<td></td>
<td></td>
<td>-.065</td>
</tr>
<tr>
<td>Rural*SCI</td>
<td></td>
<td></td>
<td></td>
<td>-.024</td>
</tr>
<tr>
<td>Constant</td>
<td>.748</td>
<td>1.914</td>
<td>2.113</td>
<td>.392</td>
</tr>
</tbody>
</table>

* $p < .05$, ** $p < .01$, *** $p < .001$
5.5 Differences in Choice of Field of Study by Social Backgrounds

Fields of study is also an important criterion when looking at educational inequality in higher education because study field is an indicator of a student’s future income and social status. In this section, I report on the testing of Hypothesis 3.

Hypothesis 3. There is a relationship between students’ social background characteristics and their choice of fields of study (natural sciences/technology, social sciences, and humanities). If this hypothesis is supported, who is more likely to choose natural sciences and technology?

Chi-Square tests were performed first to identify which factors contributed to the students’ choice. The results showed that based on CMMHE data, gender, parents’ educational attainment, father’s occupational status, and family income individually have a significant effect on students’ choice, while geographic origin does not (see Table 5.10).

Table 5.10
Comparison of Accessibility to Different Disciplines as Measured by Students’ Social Background Variables

<table>
<thead>
<tr>
<th>Student’s background variables</th>
<th>Pearson $\chi^2$</th>
<th>df</th>
<th>Asymp.Sig (2-sided)</th>
<th>Cramer’s V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>188.008***</td>
<td>2</td>
<td>.000</td>
<td>.294</td>
</tr>
<tr>
<td>Geographic origin</td>
<td>2.594</td>
<td>2</td>
<td>.273</td>
<td>.035</td>
</tr>
<tr>
<td>Father’s education (3ca)</td>
<td>13.291*</td>
<td>4</td>
<td>.010</td>
<td>.055</td>
</tr>
<tr>
<td>Mother’s education (3ca)</td>
<td>10.188*</td>
<td>4</td>
<td>.037</td>
<td>.048</td>
</tr>
<tr>
<td>Father’s occupation (6ca)</td>
<td>28.631*</td>
<td>14</td>
<td>.012</td>
<td>.081</td>
</tr>
<tr>
<td>Mother’s occupation (6ca)</td>
<td>15.231</td>
<td>14</td>
<td>.363</td>
<td>.059</td>
</tr>
<tr>
<td>Family income (5ca)</td>
<td>16.719*</td>
<td>8</td>
<td>.033</td>
<td>.062</td>
</tr>
</tbody>
</table>

* $p < .05$, ** $p < .01$; *** $p < .001$
Before conducting a multinominal logistic regression, multicollinearity was checked. It showed that the VIF values of two dummy variables within family income were over 2.5. Therefore, only female, rural, fathers’ and mothers’ educational attainment and occupational status were included in the model.

A multinominal logistic regression was then conducted. A test of the full model with all predictors against a constant-only model was statistically significant, $\chi^2 = 241.946$, $p < .001$, indicating that the predictors, as a set, reliably distinguished choice among three broad disciplines. Hypothesis 3 was supported. The Pseudo R-Square of these predictors was small, Mcfadden = .051.

Table 5.1 shows the regression coefficients, Wald statistics, and odds ratios for each predictor. According to the Wald criterion, female ($\chi^2 = 80.989$, $p < .001$) with reference of male, father’s education at secondary level ($\chi^2 = 10.352$, $p < .01$) with reference of tertiary education, and three categories in father’s occupational status, namely, “job-hunting/laid-off/retired” ($\chi^2 = 6.978$, $p < .01$), “office worker” ($\chi^2 = 7.643$, $p < .01$), and “professional” ($\chi^2 = 7.185$, $p < .01$), with reference of administrator/manager, reliably predicted the choice of social sciences over natural sciences/technology. The odds ratios of job-hunting/laid-off/retired (.513), office worker (.421), and professional (.594) were lower than 1, which indicates that the odds of choosing to study social sciences rather than natural sciences/technology for students from these three occupational backgrounds are much less than for students from manager and administrator background. The odds ratio of female (2.589) and odds ratio of secondary education (1.626) were greater than 1, indicating that the odds of choosing to study social sciences rather than natural sciences for girls is 159% more than boys, and the
odds of choosing to study social sciences rather than natural sciences/technology for
students whose fathers had a secondary education is 70% more than for those whose
fathers had a tertiary education.

Table 5.11

Logit Coefficient of Social Backgrounds to Predict the Choice of Study Field

<table>
<thead>
<tr>
<th>B</th>
<th>Wald X²-test</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>.057</td>
<td>.065</td>
</tr>
<tr>
<td>Female (ref=male)</td>
<td>.951</td>
<td>79.234**</td>
</tr>
<tr>
<td>Rural (ref=urban)</td>
<td>-.227</td>
<td>2.749</td>
</tr>
<tr>
<td>Father’s edu (ref=tertiary)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>.345</td>
<td>1.960</td>
</tr>
<tr>
<td>Secondary</td>
<td>.486</td>
<td>6.676*</td>
</tr>
<tr>
<td>Mother’s edu (ref=tertiary)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>.302</td>
<td>1.799</td>
</tr>
<tr>
<td>Secondary</td>
<td>.227</td>
<td>1.485</td>
</tr>
<tr>
<td>Father’s occupation (ref=manager)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job-hunting/laid-off/retired</td>
<td>-.682</td>
<td>7.232**</td>
</tr>
<tr>
<td>Farmer</td>
<td>-.089</td>
<td>.159</td>
</tr>
<tr>
<td>Worker/service employee/other</td>
<td>-.326</td>
<td>2.725</td>
</tr>
<tr>
<td>Office worker</td>
<td>-.884</td>
<td>7.923**</td>
</tr>
<tr>
<td>Professional</td>
<td>-.496</td>
<td>6.487*</td>
</tr>
<tr>
<td>Humanities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>.171</td>
<td>.536</td>
</tr>
<tr>
<td>Female (ref=male)</td>
<td>1.533</td>
<td>167.875*</td>
</tr>
<tr>
<td>Rural (ref=urban)</td>
<td>-.220</td>
<td>2.225</td>
</tr>
<tr>
<td>Father’s edu (ref=tertiary)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>.419</td>
<td>2.519</td>
</tr>
<tr>
<td>Secondary</td>
<td>.334</td>
<td>2.811</td>
</tr>
<tr>
<td>Mother’s edu (ref=tertiary)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>.089</td>
<td>.135</td>
</tr>
<tr>
<td>Secondary</td>
<td>.159</td>
<td>.660</td>
</tr>
<tr>
<td>Father’s occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job-hunting/laid-off/retired</td>
<td>-.824</td>
<td>8.544**</td>
</tr>
<tr>
<td>Farmer</td>
<td>-.088</td>
<td>.133</td>
</tr>
<tr>
<td>Worker/service employee/other</td>
<td>-.134</td>
<td>.413</td>
</tr>
<tr>
<td>Office worker</td>
<td>-.974</td>
<td>7.768**</td>
</tr>
<tr>
<td>Professional</td>
<td>-.364</td>
<td>3.201</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01; ***p<.001
According to the Wald criterion, female ($\chi^2 = 172.628, p < 0.001$), and two categories in father’s occupational status, “job-hunting/laid-off/retired” ($\chi^2 = 8.575, p < 0.01$) and “office worker” ($\chi^2 = 7.554, p < 0.01$), reliably predicted the choice of humanities over natural sciences/technology. The odds ratios of “job-hunting/laid-off/retired” (.439), and “office worker” (.384), were lower than 1, indicating that the odds of choosing to study humanities rather than natural sciences/technology for students from these two occupation backgrounds is much less than for students from manager and administrator background. The odds ratio of female (4.633) was greater than 1, indicating the odds of choosing to study humanities rather than natural sciences/technology for girls is 363% more than boys. The gendered segregation was more significant between natural sciences/technology and humanities than that between natural sciences/technology and social sciences.

5.6 Summary of the Findings from the CMMHE data

In this chapter, descriptive analysis of the CMMHE data revealed that there is a relation between students’ social backgrounds (such as parental educational attainment and occupational status) and their opportunities in access to higher education; and the results from inferential statistical analyses supported the three hypotheses about the relations between students’ social backgrounds and the sector, type of universities they enter, and field in which they study.

Access to higher education in general. By briefly comparing the five factors in the CMMHE data and national level statistics on higher education enrollment or on general population, this study found that women’s participation rate is slightly lower than that of
men; rural students’ participation rate is close to that of urban students; parental educational attainment and occupational status in the CMMHE data were substantially different from the general population. The difference between students’ family income in the CMMHE data and the population is unclear. Based on the CMMHE data, this study also found that girls are more likely than expected to be from urban areas, have college–educated parents, and come from high occupational status families. Rural students tend to have lower education level parents and come from lower income families compared with their urban counterparts.

**Sector (public versus private).** Except for gender, each variable, including geographic origin, fathers’ and mothers’ educational attainment, fathers’ and mothers’ occupational status, and family income, has a significant effect on distinguishing the likelihood of the sector students study in, net of other variables. Mothers’ educational attainment and occupational status tend to have a larger effect than those of fathers’. However, when taking these factors into consideration together, only rural, middle-low income, and SCI can reliably predict the likelihood of studying at private universities. It showed that rural students, students from middle-low income families (between 8,000 and 25,000), and students with a low SCI score (indicating parents’ educational attainment and parents’ occupational status) are more likely to study at private universities than urban students, students from high income groups, and students with high SCI scores. The inclusion of the interactions between female and rural, between female and SCI, and between rural and SCI, did not improve the base model.

**Type of universities (elite versus non-elite).** Each variable, including gender, geographic origin, fathers’ and mothers’ educational attainment, fathers’ and mothers’
occupational status, and family income, has a significant effect on distinguishing the likelihood of the type of universities that students will study at (elite/non-elite), net of other variables. Fathers’ educational attainment and occupational status tend to have a larger effect than those of mothers’, an opposite pattern to what had been found with the sector students are studying in. When including these factors into a logistic regression model simultaneously, female, all four income categories, and SCI could reliably predict the likelihood of studying at elite universities. It showed that boys, students from high income families (above 60,000), and students with high SCI scores, are more likely to study at elite universities than girls, students from low to middle-high income families, and from low educational and occupational backgrounds as measured by SCI. The inclusion of the interactions between female and rural, between female and SCI, and between rural and SCI, could not improve the base model using only independent variables.

**Field of study (natural sciences/technology versus social sciences and humanities).** Each of the following variables, female, parents’ educational attainment, fathers’ occupational status, and family income, could distinguish the likelihood of studying in which field, net of other variables, but the effect sizes are all small except that of gender. When gender, fathers’ and mothers’ educational attainment, and fathers’ occupational status were included into a multi-nominal logistic regression model together, female, fathers having secondary education, and three categories in fathers’ occupational status were able to distinguish the likelihood of choosing between natural sciences/technology and social sciences. Students from “job-hunting/laid-off/retired”, “office worker” and “professional” backgrounds were less likely to choose social
sciences than natural sciences/technology compared with students from manager and administrator background; girls and students having secondary education fathers were more likely to choose social sciences over natural sciences/technology than boys and students having tertiary education fathers.

Female and two categories in fathers’ occupational status could distinguish students’ choices of studying in the natural sciences/technology and humanities. It showed that students from “job-hunting/laid-off/retired” and “office worker” backgrounds are less likely to choose humanities over natural sciences/ technology than students from manager/administrator background. Girls are more likely than boys to choose humanities rather than natural sciences/technology. The gendered segregation is larger between humanities and natural sciences/technology than that between social sciences and natural sciences/technology.

In this chapter, I examined the effects of social background characteristics on the likelihood of studying in a particular sector, type of university, and field of study. In the next chapter (Chapter 6), I will explore the historical and contextual factors that contributed to these results. In the final chapter (Chapter 7), I will discuss these findings in relation to the cultural values I presented in Chapter 3, and relate them to the contextual situations I explored in Chapter 6.
CHAPTER 6
CULTURAL VALUES, GOVERNMENT POLICIES, AND EQUALITY IN CHINESE HIGHER EDUCATION

The pattern of educational equality is closely connected with the structure and operation of an education system. An education system is an embodiment of its unique historical heritage and contemporary social context, and regarded as one of the most effective instruments of national policy even today, when the process of globalization has undermined the power of nation states (Green, 1997). Hence, in order to better understand and explain the patterns of educational equality in China, it is necessary to examine the history and context in which educational equality has evolved, and the important policies concerning it.

In this chapter, I will explore the changing patterns of equality of opportunity in Chinese higher education through analyzing how cultural values impact government policies, thus shaping the pattern of educational equality. In order to do so, I will start with a brief review of the unique and most important institution in the history of China—the civil service examination system—and its consequences for social stratification, mobility, and social control. Informed by Confucian values, the civil service examination, in turn, institutionalized Confucianism as the orthodox ideology of Chinese society for more than 1400 years. Although the civil service examination system was abolished in 1905, its impact has endured. Indeed it lives on today in various examinations aimed at selection based on individual merit, from the Higher Education Entrance Examination to the current civil service examinations. At a social-psychological level, value orientations about social mobility, fairness and equality have been internalized and deeply rooted in the Chinese people’s subconscious over the long period in which the civil service examination system
was implemented. After a brief description of how tradition interacted with the imported Western model of schooling in the transition period of the Republican era, I will then focus on analyzing how these traditional values, reinforced by imported Western ideas, have influenced government policies about educational development in dynamic ways, and how the shift in policies between the two poles of elitism and populism have shaped the outcomes of equality or inequality in Chinese higher education.

6.1 History of the Civil Service Examinations and Their Consequences

It has been long acknowledged that education has played an extraordinary role in the formation and preservation of the way of life in China (Hu, 1984), without any fully parallel case elsewhere. Social rank in China has been determined more by qualification for office than by wealth and heredity, and this qualification has been determined by education, especially by the civil service examinations (Weber, 1968). The scholar-official class, a sub-group of an elite group called the literati or gentry, had a dominant and enduring influence in all areas of Chinese society, and education formed almost the sole avenue to reach officialdom and elite social status in imperial China (Chang, 1955).

6.1.1 The Evolution of the Civil Service Examination System

Education in China can be traced as far back as the Western Zhou dynasty (1100-771 BCE) during which a rudimentary examination system was devised to select men for higher office. However, the first Imperial Academy as an institutionalized national higher learning organization was not established until 124 BCE. This was during the Han dynasty when the state reorganized the empire as a centralized bureaucracy. The Confucian classics were the
major content taught in the Academy. The state selected candidates through a mechanism of official recommendations or kinship relations based on merit, and the graduates were granted government positions (Cleverley, 1991; Menzel, 1963).

This less formalized selection process was later developed into a civil service examination system in the sixth century of the Sui dynasty (581-618 CE), a system that was reinstituted under the Tang (618-906) (Chaffee, 1985; Cleverley, 1991). During the Tang dynasty, the examination was a simple two-tiered system at the metropolitan and provincial levels. Degrees were granted in several fields, including classics, law, medicine, as well as other areas. The examinations became more sophisticated during the Song dynasty (960-1279). A three-tiered system was established through expanding downwards to the prefecture/county level. The range of subjects was narrowed down to primarily the Confucian classics in their orthodox interpretation, and the writing style was standardized to the eight-legged essay style (bagu) (Chaffee, 1985; Menzel, 1963). Degree holders were eligible for appointment to positions in the different ranks of government offices mainly according to their degrees. They could enjoy the social prestige, economic benefit and lifestyle of the elite class and their families would benefit for generations afterwards (Miyazaki, 1981; Huang, 2005).

6.1.2 Examination as the Most Important Avenue of Social Mobility

In ancient China, education was the basis for the social distinctions among scholar officials, farmers, artisans, and merchants, the four “classes” in descending rank in terms of status (Eberhard, 1962). The highest social status in Chinese society was determined by the qualification for officialdom, which was in turn determined by education and examination. Examination was the most important, if not the sole, avenue of upward social mobility.
Therefore, to succeed in the examinations was not only an individual aspiration but also a family strategy for maintaining status or for social advancement (Elman, 1991; Weber, 1962).

To achieve status, prestige, and wealth for their own sake as well as to glorify their ancestors and families was a strong motivation for candidates to devote themselves to the prolonged and arduous preparation for the examinations. Families were ready to use all of their money to support the children who showed promise.

Given people's willingness to invest in education for their children, the state ceased sponsoring basic education beginning in the Song dynasty. The school system was organized at the prefectural level during the Song and further down at the county level in the Ming and Qing. Community and lineage schools gradually began to flourish. It became a tradition that members of a community or a clan would raise money and provide materials to run schools (Chaffee, 1985; Elman, 1991). Community chests were set up to subsidize the travel of candidates for examinations at the provincial and metropolitan levels (Ho, 1962).

Although success in examinations was the highest aspiration among candidates, and theoretically examinations were open to all regardless of their social origin, the actual opportunity to succeed in the metropolitan level examinations was very rare—so rare that legends about those who did succeed in the civil service examinations are still found in Chinese literature and popular culture (Chang, 1962; Ho, 1962; Huang, 2005). To show how difficult it was to prepare for the examinations, Miyazaki (1981) estimates that over four hundred thousand characters of textual material had to be memorized in order to master the examination curriculum of the Confucian classics, and this count does not
include the voluminous pages of the dynastic histories. Men in their thirties who achieved the glory of a jinshi degree, the highest degree earned at the metropolitan level examination, were by no means behind schedule. Therefore, preparing for examinations required a substantial investment of time, effort, and training which poor families could not afford.

Another inequality lay in the fact that women were totally excluded from the civil service examination system. Girls in imperial China received much less education than boys, and were taught using different curricula if they even had the opportunity to be educated; this opportunity was usually limited to those brought up in families of the elite class or at least wealthy families (Rosenlee, 2006).

6.1.3 Examination as a Tool of State Control

Beginning in the Song dynasty, the civil service examination system occupied a central institutional position in Chinese government and society until 1905 when it was abolished (Eberhard, 1962). The examination system has often been cited as the most successful instrument for political, social and cultural control in the vast country of China (Chang, 1962; Weber, 1962). The institution of the civil service examination, with rule in the hands of elite intellectuals, was effective in emphasizing civilian values and maintaining civilian control over the military (Miyazaki, 1981). Through the required education curriculum for examination candidates, Confucianism as the orthodox ideology was guaranteed its long-term dominance in intellectual circles as well as in public life in China (Elman, 1991, 1994). In this sense, the state accommodated elite interests, and the elite class in turn provided the state with political legitimization and trained manpower (Chaffee, 1985; Metzger, 1973).
On the one hand, the use of the examinations made elitism and hierarchy essential features of Chinese society, while on the other hand, at least theoretically, the civil service examination system, based on individual merit, created opportunities for all except women. Fairness as an essential feature of the competition in the examinations was attested to by the general trust of the Chinese people in the system and the honor they showed to those scholars who succeeded in the examinations (Miyazaki, 1981). The institution of the examinations reinforced the paramount role of education and the importance of the meritocratic principle, and shaped the way that Chinese people perceived equality and fairness in society.

Because of the importance of education and the civil service examination system in Chinese society, questions regarding recruitment for the civil service, education and the adequacy of the examinations, issues such as the use of quotas as a tool to promote balanced development among regions in the vast territory (Zheng, 2001), were among the most closely studied and bitterly contested concerns from imperial times (Menzel, 1963).

Though it had been an institution that was seen as advanced for its time and had been admired in other parts of the world (Miyazaki, 1981), the civil service examination system was also accused of stifling education, and creating a barrier to the development of scientific knowledge and modernization in 19th century China. The system was abolished in 1905, six years before the establishment of the Republic of China. Nevertheless, elitism and the meritocratic principle formed during the long history of the civil service examinations did not fade away over time, in spite of the inflow of Western ideas.
6.2 Elements of Populism in Traditional Chinese Culture

Although elitism was the dominant value in Chinese society for more than one thousand years, it was counterbalanced by the idea of people as the essence and the foundation of a state (*minben* 民本), the root of populism in ancient China. Chinese philosophers and thinkers, from Confucius, Mencius, Xunzi, and Mozi in the Spring and Autumn Warring States Period, to Huang Zongxi and Gu Yanwu in the late Ming and Qing dynasties, and to Liang Qichao in the early Republic, to name a few well-known ones, had addressed the rights of the people, and the relationships between people and rulers. They claimed that people are the essence and the foundation of the state, and that the people’s will reflects the will of Heaven. Rulers are legitimated only when they are given consent by the people. Therefore, benevolent governance (*Renzheng* 仁政) is the highest ethical principle of the political system, according to Confucianism (Dao, 1996; Xia, 2004).

In the famous Gettysburg Address, the then American president Abraham Lincoln proposed three principles for democracy—government of the people, by the people, and for the people. In traditional Chinese culture, there are elements of “of the people” and “for the people” in the ethics and values principles of the political system, but there may be a lack of a mechanism to ensure that government is “by the people”—the procedures and institutions to guarantee democracy (Dao, 1996). Nevertheless, as an essential characteristic of traditional Chinese culture, *minben* functioned to reduce the tendency to autocracy and promote enlightened political ideas primarily through the good practices of the scholar officials in pre-modern China (Jin, 1993; Xia, 2004).

For the scholar officials, “of the people” was their political principle in governance,
and “for the people” was their mission and the way to embody the virtue of Heaven. Zhang Zai, a Neo-Confucian philosopher in the North Song dynasty, wrote the following well-known sentences:

“to establish the heart for Heaven and Earth,

to establish the destiny for all people,

to transmit the interrupted learning of the former Sage,

to bring about peace and harmony for ten thousand generations” (cited from Tu & Tucker, 2003, p.491).

This piece was regarded as the mission statement of Confucian intellectuals. In Chinese history, countless stories have been recorded of the endeavors of scholar officials to strive for the people’s well-being in face of dictatorial rulers.

Because of the idea of minben, there was a limited, though unified form of absolutism in China; however, this absolutism had no religion behind it, and was humanized by Confucianism (Hu, 1955, cited from Xia, 2004). The American anthropologist Berthold Laufer recognized that ancient China was a unique type of civil society with its own principles since feudalism and aristocratic rule had been abolished in the Qin dynasty [221-207 BCE] (Laufer, 1932).

The legacy from ancient China is rich and complex with many contradictions. In the next sections, I will explore how these deeply rooted traditional cultural values, interwoven with imported Western ideas, have impacted policies on educational development, and I will look at the consequences for equality in Chinese higher education. The period after 1949 will be the focus of this chapter.
6.3 Interwoven Influences during the Transition Period (1905-1949)

In seeking a cure for China’s backwardness in the late 19th century, Chinese reformers advocated abolishing the rigid civil service examinations, establishing modern schools, and developing and teaching scientific knowledge (Bastid, 1987). From the 1860s to the 1880s, Western-style military and naval academies and foreign-language institutions were established first. In 1895, the first modern university, Beiyang University, was founded. Three years later, the Imperial University was established by the state (the predecessor of Peking University), a milestone in the development of the modern higher education system in China (Min, 2001).

The modern school system had been formed and organized according to Western models during the late Qing dynasty. However, the question of how to integrate Western models with Chinese tradition puzzled the country for more than a century (Hayhoe, 1999).

In 1911, the foundation of the Republic of China ended thousands of years of empire. However, the country did not experience a renaissance. Instead, it became prey to constant civil wars, and suffered the Japanese invasion (1937-1945). Notwithstanding all the chaos, a new education system continued to expand during the period of the Republic (Cleverley, 1985; Tsang, 1968).

Nationalism was the major theme in the development of the education system in the Republican era (Peake, 1971; Tsang, 1967). From the very beginning of the formation of the modern state in China, the education system was regarded as a means to revitalize and advance the country in face of the humiliation of being defeated by various Western powers and Japan. Individual development was a goal of education as well, but the ultimate aim was to build the nation through education.
Elitism was a guiding principle in the government’s efforts to promote nation building. Elite returnees from overseas universities filled most of the leadership positions in the Nationalist government. They took an elitist approach to educational development, giving priority to higher education over basic education. Public and private funds were drawn particularly to secondary and tertiary education (Pepper, 1996). The purpose of this approach was to accelerate the process of industrialization from a utilitarian standpoint, and it also reflected the traditional value of placing the collective well-being (nation-building) over individual rights.

The value of elitism was also reflected in the decision of the Nationalist government to maintain schools and universities throughout the difficult time of the Anti-Japanese War, not requiring university students to enlist, a different policy from those that the Japanese and most Western governments implemented during war time (Hayhoe, 1999).

As a consequence, higher education became one of the great strengths in educational development during the Republic era. However, the rapid growth of higher education came at the expense of over 80% of the population being illiterate due to the limited provision of basic education (Cleverley, 1985). Western elitism reinforced Confucian elitism in the context of the Republic of China—a country whose eastern coastal regions industrialized rapidly, while its vast hinterland remained undeveloped.

Realizing the huge disparities among the different regions within the country, Chinese officials, many of whom were intellectuals, had the ambition of “revitalizing the nation through education” and put forward various strategic plans to develop a balanced education system, with a rational distribution of disciplines and institutions across regions. However, these efforts met with little success due to the constant conflicts and wars as well as
corruption in the Nationalist government (Hayhoe, 1999).

In the Republican era, various Western university models were experimented with in China, yet autonomy and academic freedom, two core features of Western universities, never took root in Chinese higher education (Hayhoe, 1999). In order to strengthen its political control over the universities, as well as to improve the quality of higher education, the Nationalist government launched higher education entrance and graduation examination systems. Individual merit was the criterion for selection. However, the advantaged group easily managed to maintain its position of privilege since people from poor households and the majority of rural residents were excluded even from basic education. The social mobility patterns somewhat resembled those of the imperial times, the only difference being that successful industrialists and tradesmen joined the club of the advantaged alongside the old elite class (Chow, 1966).

An awareness of the need to promote social equality led to the revision of the Constitution in 1947 when a new constitution recognized the educational rights of children from six to twelve years old and illiterate adults. Expenditures on education of 15% of the total budget by the national government, 25% by provinces, and 35% by counties and municipalities were declared mandatory (Cleverley, 1985). However, these goals failed to be achieved for the same reasons as the efforts to bring about a rational development of higher education.

At the same time, a new concern about promoting egalitarian ideals of education for ordinary people emerged under the influence of two schools of Western thought, Marxism and a progressive form of pragmatism. In the regions controlled by the Chinese Communist Party, education was provided to people in various formal and informal ways. Work-study
programs were carried out, diverse channels were opened for fund-raising, and resources were directed to education (Pepper, 1996). Another group that aimed at promoting education for all was that of Chinese progressive educators, among whom Tao Xingzhi was a role model. He had returned from the United States and critically adapted Dewey’s ideas to the Chinese context. These educators initiated and promoted a campaign of education for the common people, and established various schools providing diverse curricula closely linked to the needs of local communities (Brown, 1987). Although fragmented, there was considerable activity that promoted egalitarian ideas in education.

The most remarkable gain in the Republic period was that the participation rate of women in each level of education continuously increased, since the traditional patriarchy had been challenged by the increasing influence of Western liberalism and Marxist egalitarianism (Croll, 1978; Tao et al, 2004). Under 1907 legislation, girls gained the right to primary education and normal education. The legislation of 1917 mandated that both general secondary schools and vocational schools be open to girls. In 1919, women achieved the right to enter public universities (Hayhoe, 1999).

Nevertheless, in 1949 the Chinese Communist Party took over an immature and relatively underdeveloped education system. More than 80% of the population was illiterate, only about 25% of elementary school-aged children were enrolled, 3% of the age cohort studied in secondary schools, and only about 0.3% of the age cohort was admitted into higher education, with 17.8% being female at this level (China Education Yearbook 1949-1981).

6.4 Changing Patterns of Educational Equality in Chinese Higher Education
Because of the strong capacity for government control in the new socialist regime, the changing patterns of educational equality have closely reflected the shifting priorities of government policy. In the following section, I will explore how traditional values interwoven with Western ideas have impacted government regulations and policies regarding educational development and equality.

6.4.1 Two Ideal Types of the State’s Approach to Higher Education Policies

As Green (1990) rightly states, “the formation of the state accelerated the development of education, and in return, education provided a powerful vehicle for the construction and integration of the new nation state and became one of its chief institutional supports” (p.1). This principle can be seen very clearly in China’s newly founded socialist state after 1949. The government started to reorganize the education system very soon after the Chinese Communist Party (CCP) took power. The major impetus for doing this lay in the need to provide the state with trained administrators, engineers and military personnel, the need to forge the political and cultural unity of the new state, and the need to cement the ideological hegemony of Marxism in Chinese society.

The government took over and nationalized all higher education institutions. All private and missionary universities and schools were brought under the jurisdiction of either the central or provincial governments by 1952, and then reorganized and restructured according to the Soviet model. The policy objective was to bring all higher education institutions under the control of the government. National unified instructional plans were implemented at all colleges and universities throughout the country—which resonates with the practice of the civil service examinations in imperial times. The central government
made plans for student recruitment and allocated quotas to higher education institutions accordingly, so that the system would closely serve the manpower needs of a centrally planned economy (Min, 1994; Price, 1979).

Within the framework of government control over the higher education system, the pattern of educational equality in Chinese higher education was the outcome of shifting national priorities and the government’s changing approaches to educational development. There have been two contested priorities for education in China: quality and equality. The former has been geared to nation building, while the latter has emphasized education as being open to the working class and peasants. Correspondingly, there have been two contesting principles in policy-making which can be summarized in two opposite ideal types: elitism and populism (see Chapter 4, section 4.3.1).

One priority of the new China was nation building. There was a great demand for skilled manpower for a state with a rapidly expanding economy. The great ambition of the government was reflected in the major discourse of “catch up with and surpass advanced world level” (赶超世界先进水平) throughout decades of socialist construction. The education system was intended to train and sort manpower of high quality to fill strategic positions in a rapidly advancing nation. The other priority of the education system of the new People’s Republic was eliminating educational inequality. The government made great efforts to create an educational system which would provide equal opportunity for the children of the workers, peasants, and other laboring people, because “the revolution had been made in their name and it was strongly felt that they were entitled to its fruits” (Rosen, 1982, p.12).

Just as in imperial times, when questions regarding the recruitment of the civil service
and the examinations were among the most bitterly contested issues (Menzel, 1963), admission to higher education in socialist China was viewed as a battlefield (Taylor, 1981). Similar to the practice in imperial times, students had to take the unified Higher Education Entrance Examinations in order to be admitted into higher education (except during the Cultural Revolution from 1966 through 1976). Students did not pay tuition fees until the reforms of the 1990s, and were assigned jobs at graduation and gained cadre status automatically (Deng & Treiman, 1997).

The new socialist regime needed to be consolidated through having a large number of people who were both “red” (politically reliable) and at the same time experts with advanced knowledge and skills. “Red and expert” (又红又专) had been the dominant government discourse about the goal of Chinese higher education from the 1950s through to the 1970s. The “red” (politically committed to socialism) and “expert” qualities would ideally be combined in one person—a proletarian intellectual with good academic achievements and a commitment to serving the people. In order to achieve this goal, the First National Conference on Higher Education, held in 1950, laid down the objective of drawing workers, peasants, cadres and revolutionary soldiers into higher education institutions (The Central Education Science Research Institute, 1983). In different periods from 1949 to 1976, the Ministry of Education even issued enrollment quotas—the minimum proportion of students who must be drawn from worker, peasant, and soldier backgrounds (Deng & Treiman, 1997).

During this period, higher education selection was a function of the changing relationships among three major criteria, and geared to the priorities the government held paramount. The three criteria used in recruiting students were academic achievement, class
origin, and political performance. Academic achievement was measured by scores in the Higher Education Entrance Examination. Class origin was also important because it was assumed that the offspring of workers, peasants, revolutionary cadres and soldiers would have a natural inclination to be loyal to socialism and communism (red) and therefore be reliable, which was a crucial quality for the new regime. Even though the offspring of petty bourgeois or even exploiting classes could not choose their family backgrounds, they could choose their behavior, so they too could achieve redness through their commitment to socialism. However, good class origin elements could be removed from this category through negative behavior (Rosen, 1982; Shirk, 1982; Yang, 2006).

The attempts of policy makers to balance the two competing priorities of nation building and eliminating inequality led to alterations in policy, and the shifting criteria by which these policy decisions were made explain the rifts that developed later. The following sub-sections seek to sketch a picture of the evolution of educational equality in Chinese higher education, and to explore the reasons for these changing patterns. Five phases in the evolution of educational equality in Chinese higher education have been identified: 1) finding a balance between the two poles (1949-1965); 2) the dominance of radical populism during the Cultural Revolution (1966-1976); 3) building the Four-Modernizations and the rise of elitism (1977-1992); 4) the market economy, massification, and inequality (1993-2005); and 5) the pursuit of a harmonious society and the middle ground (2006-present).

6.4.2 Finding a Balance between the Two Poles (1949-1965)

A Commitment to equalizing educational opportunities

At the beginning of the new regime, the government followed the policies that had
been implemented during the Yan’an period. The guidelines for education policies emphasized mass education and equal educational rights for the working class, reflecting egalitarian ideas from Marxism and the Chinese populist tradition. In order to meet the urgent needs of skilled manpower for industrialization, the government employed an approach of expanding the formal education system and promoting informal education simultaneously. Many adults who had no opportunity for formal schooling received some kind of education in these informal schools (China Educational Yearbook 1949-1981).

A dual-track education system was formed gradually during this period to fulfill two goals, namely nation building and equality. One track consisted of regular schools, from kindergartens to regular universities. In short, this track was a K-12, lock-step system catering to urban and more developed rural sectors. The other track consisted of various short-cycle educational programs, including worker and peasant schools and part-time work-study programs from primary to university levels. In general, the entire education system in China during this period was a mixture of formal and informal pedagogical formats (Hawkins, 1983; Yang, 2006; Pepper, 1996; China Educational Yearbook 1949-1981).

Although the dual-track system promoted educational opportunities, it also caused much tension and debate, especially when attempts were made to connect the two tracks together, such as through the establishment of worker-peasant accelerated schools in 1950. These schools allowed adults to obtain a high school diploma in seven years instead of 12. Graduates from these schools were given priority in admission to formal higher education because of their class background and political performance (Deng and Treiman, 1997), which promoted educational opportunity for students from working class origins. However,
these students encountered difficulty in higher education institutions due to their insufficient academic preparation and their sense of alienation from the dominant academic culture, although many measures were taken to help them catch up (Yang, 2006).

Individual faculty members were blamed for neglecting these students at first, but the voice of blame was drowned out by voices criticizing the low quality of the rapid schools (Taylor, 1981). By 1955, the accelerated schools closed.

The period of 1949 to 1965 saw shifts between the populist approach, advocating egalitarianism, and the elitist approach, emphasizing nation building and quality in education.

**The first shift: the Soviet model and elitism**

The first shift occurred in 1952 when the Soviet model was adopted. Higher education was restructured into a centrally-controlled system to adapt to the central planning in the economic system, and ensure its direct service to the nation’s economic and social goals. Higher education institutions were vertically classified into different levels including key national universities and national, provincial, and local institutions at the municipal and prefectural levels; on the horizontal dimension, institutions were reorganized into comprehensive universities, normal universities, polytechnic universities or colleges, and specialized institutions (Min, 1994).

Unified standards were stressed to ensure the quality of graduates who would be able to fulfill their roles in a catch-up model of socialist construction. Academic criteria became the crucial factors in admission to higher education institutions (Pepper, 1990). For the same reason, the priority within the education system was inclined towards higher education over basic education. This shift could be clearly seen in a government report in 1953. It stated that, “in order to adapt the economic development, the education enterprise
should concentrate on developing higher education. Basic education has made big progress in access, the focus next should be placed on improving quality” (Central Education Science Research Institute, 1983, p.113). Government funding disproportionately flowed to tertiary education and elite institutions at the expense of under-funding mass education (Pepper, 1990; Yang, 2006), as was practiced in imperial times and in the Republican era.

A key school system was established, based on the belief that resources must be concentrated in a few centers of strength to guarantee quality standards. Basic education, especially rural education, ran into the predicament of falling quality due to the lack of funding and teachers. A large number of students from rural peasant families dropped out at the basic education level (Yang, 2006; Li, 2003; Hong & Qian, 2008), thus their opportunities for access to higher education were denied long before they could take the HEEE.

An interesting event that signaled shifting priorities was the establishment and then abolition of the Ministry of Higher Education. Every shift coincided with a shift between the elitist and populist approaches: the Ministry of Higher Education was first separated from the Ministry of Education in 1952, and the two were merged in 1958 during the Great Leap Forward when the call for mass education reached a new high. In 1963 the two were separated again, but were amalgamated at the beginning of the Cultural Revolution in 1966 (China Educational Yearbook1949-1981).

**The second shift: turn to populism in the Great Leap Forward (GLF)**

The development of higher education had some success in terms of forming a new political and technological elite. However, it had moved too far toward one pole, exacerbating the hierarchy of the system (Hayhoe, 1999, p.93). Concern for the education
of the masses rather than a narrow interest in the education of the elite had been growing, and reached a tipping point with the Great Leap Forward (GLF).

The GLF represented a firm move away from the elitist model. The movement shifted towards populism in the education domain as well as in other fields. With the abolition of the Ministry of Higher Education and the decentralization of administration, provincial governments gained more autonomy from central control. A large number of higher education institutions were established by the provincial and local governments, with an agenda of moving toward broader geographical participation and an inclusiveness that went closer to the grass roots than the Soviet pattern had done (Hayhoe, 1999; Min, 1994). The period of 1957 to 1960 witnessed a rapid expansion in higher education. The number of higher education institutions increased from 229 to 1289, and the total enrollment climbed from 441,000 to 961,000 (Hayhoe, 1999). As a consequence, people from hinterland regions and from traditionally disadvantaged groups gained more opportunities for access to higher education during the GLF.

There was a significant growth in students of worker-peasant origins enrolling in higher education. It was reported that students from worker-peasant families constituted 28% of the total enrollment in 1953, 55% in 1958, and 71% in 1965 (China Educational Statistical Yearbook1949-1982). Schools and universities were required to give priority to the admission of worker-peasant children, so as to realize the communist commitment to “eliminating the distinctions between urban and rural residents, industry and agriculture, physical and mental labour” (China Youth Daily, 1959). The influx of large numbers of students with inadequate academic qualifications gave rise to pedagogical difficulties, but by accepting such students the schools contributed directly to a change in the class

The third shift: Back to elitism at the early 1960s

The explosive development of higher education in the GLF soon faced retrenchment due to economic failure and famine. Nevertheless, the commitment to wider access remained a concern. Non-formal or adult higher education experienced steady growth during this period through providing correspondence and evening courses at regular institutions, and through the continued development of spare-time universities attached to state enterprises or rural communes. Much less funding was required by non-formal institutions and the number of students in this type of program grew from 16,000 in 1955, to 64,000 in 1956, 150,000 in 1958, 300,000 in 1959, and remained at just over 400,000 between 1962 and 1965 (Hayhoe, 1999).

The policy swung back again with the elitists taking control when the populists ran into difficulties after the Great Leap Forward. Academic performance as the main criterion for university enrollment in China reached a kind of culmination point in 1961 when the government enacted The Regulation on the Work of Higher Education Institutions Affiliated to the Ministry of Education. The share of students from working class origin dropped in these elite universities due to the implementation of this policy.

However, forces from the populist pole soon responded: the 1964 entrance examinations and recruitment criterion were again geared toward students of good class background. The exam format was changing too. In 1963 a politics exam was added; in 1964 the biology exam was dropped; and in 1965 physics was removed as well (Rosen, 1983). As a result, academically less well-prepared students from working class origin had more opportunities to be admitted into higher education. A storm heralding big
changes was brewing.

6.4.3 The Cultural Revolution (1966-1976): The Dominance of Mao’s Radical Populism

The elitist academic model has never been accepted without criticism anywhere in the world, and dissenting voices have tended to be much louder in developing and newly independent countries. As Chen (1981) rightly points out,

Leaders have questioned whether the academic model can adequately meet the needs of their respective societies. The academic model has been accused of being a rigid lockstep system, with a narrow scope to the curriculum and the entire program, and with administrative practices that tend to reduce learning to a mechanical process of meeting rigidly prescribed criteria for advance on the educational ladder (p.4)

Mao Zedong grasped the opportunity to mobilize an unprecedented cultural revolution in 1966. The Cultural Revolution (CR) was his effort to put his utopian educational ideals into practice. The elitist order which so-called ‘revisionists’ and bourgeois intellectuals cherished was overthrown. Elitism and selectivity according to academic criteria were abolished in favor of open access to education for the masses, because the rigid selection criteria were accused of making the children of workers and peasants fall victim to examination discrimination (Munro, 1972).

In addition to emphasizing equal educational opportunity for the working class, the “Maoist revolutionary educational model reduces the central importance of the school and considers it to be one of many agencies in society playing a positive role in education” (Chen, 1981, p.6). The entire system was vocationalized with many regular universities establishing factories within their campuses on the one hand, and various non-formal higher education institutions being established in factories and communes on the other.
(Gamberg, 1977). This reflected Mao’s ideas of integrating theory and practice, which is derived from the Chinese knowledge tradition. However, this experiment was later regarded as unsuccessful because this type of university was at best a training school.

As to higher education admission policies, the Higher Education Entrance Examination was discontinued beginning in 1967, and admission to higher education institutions was based on recommendation, through which the political criterion became the single most important concern (Taylor, 1981). High school graduates had to have at least three years work experience before they were eligible for recommendation. Mao experimented with a radical reform to eliminate the gap between urban and rural areas by urging young intellectuals (high school or middle school graduates) to go to rural areas. This was called the *Campaign of Up to Mountains and Down to Villages* (Bernstein, 1978).

From 1967 to 1969, there were no new enrollments in the formal higher education system, although there were many short-term training classes mainly focused on political issues. When regular enrollment was restored, it began with 47,815 students in 1970, and gradually grew to 564,715 by 1976 (Hayhoe, 1999).

There are two opposing views among researchers about Mao’s experiment in higher education during the Great Cultural Revolution. Some researchers have claimed that China was the only country that explicitly reduced class differences in educational attainment through state intervention. They have provided empirical evidence of the relationship between fathers’ educational attainment and their children’s for two age cohorts after 1950: children’s educational attainment increased only 0.23 of a year and 0.11 of a year, respectively, when their fathers’ educational attainment increased by one year in China, compared with 0.5 of a year average across 20 other nations (Treiman & Yip, 1989; Deng &
Treiman, 1997), indicating the association between fathers’ and their children’s educational attainment was weaker in China than in 20 other nations. However, others assert that the seemingly reduced intergeneration class gap in educational attainment does not necessarily mean the elimination of inequality, but reflects the drastic adjustment of occupational status due to political movements in the Chinese context (Liu, 2005; Yang, 2006). Without scrutinizing the specific social and cultural context, findings based on numbers might be misleading.

Since academic criteria were eliminated from the admission requirement, three criteria were reduced to two: “class origin” and “political performance”. But the opportunities for children from “bad origins” were very limited (Rosen, 1983). Therefore, the equalization of educational opportunity for the working class was at the expense of depriving the children of “bad origin” of their rights. In fact, the increased importance of class origin by the mid-1960s benefited those from revolutionary cadre and military families much more than it did those from working class and peasant families (Liu, 2005). During the Cultural Revolution, there was greater rural participation in higher education; however, many of these students came from the families of rural cadres, and it is difficult to distinguish them from the large numbers of urban young people who had settled in the countryside under the Campaign of Up to Mountains and Down to Villages. Some of these urban youth were recommended for higher education entry after being reclassified as peasants (Liu, 2005; Pepper, 1990; Unger, 1982).

Mao’s effort to break the accumulation of “cultural capital” and to change the disadvantaged position of working class people through a revolutionary approach was evidently defeated. It is interesting to note that during this period the traditionally
advantaged group in higher education was replaced by a new advantaged group—the children of revolutionary cadres and military personnel, and the criteria which measured advantage shifted from economic and cultural dimensions to political dimensions. This pattern was also seen in the experience of Eastern European countries (Heyns & Biatecki, 1993; Mateju, 1993; Szelenyi & Aschaffenburg, 1993). Some scholars have defined the political advantage owned by this special group as “political capital” (Nee & Matthews, 1996).

Mao’s radical populist approach, on the one hand, promoted mass education and informal learning opportunities, as well as breaking the intergeneration accumulation of cultural capital. Thus the participation rate of working class youth in higher education was increased; on the other hand, however, educational equality was limited to the proletariat. Political capital took the place of cultural capital, and the explicit group exclusion of those from “bad class origins” took the place of the implicit exclusion of culturally less advantaged individuals in Chinese higher education. Therefore, Mao’s radical populism in fact deviated from the ideal of populism in Chinese tradition (see Table 4.4 at page 117).

Even though it met with obvious failure with respect to higher education, Mao’s revolutionary model made basic education possible for everyone over the vast country, though it may have been relatively low in quality, especially for rural children. Mao’s experiment constituted an alternative to the westernized school model.


After 30 years of socialist construction, Deng Xiaoping declared the end of class struggle in the late 1970s. Past political labels were removed. The use of family or class background as a criterion for admission to higher education, job assignments, and other
benefits ended. The country put itself firmly on the track of modernization. Economic
development was the priority in this new reform era. This was also the era when the
country opened up to the world after 30 years of isolation. The education system, especially
the higher education sector, once again was geared to the developmental goals of the
nation. “Improving quality” (提高质量) became the main theme, which was articulated in
the Regulation on the Work of National Key Higher Education Institutions enacted in 1978.

In the beginning, the Soviet model from the 1950s was rebuilt, but gradually other
university models, especially the American model, were reintroduced and the American
model ultimately became the dominant model in China. While this phenomenon is the
result of world-wide Americanization, it may also imply that some essential values of the
American university model tally with the Chinese cultural values that are desired in the
country’s higher education system, such as awareness of social responsibility and certain
elite features.

The Higher Education Entrance Examination was restored in 1977 after ten years of
discontinuation—a sign that the pendulum had swung back to elitism. Equal opportunity
for all based on individual academic merit became the main theme of educational equality
during this period. In fact, the concern about equality of opportunity for disadvantaged
groups was replaced by the question of how to economically “catch up with and surpass the
advanced world level” (赶超世界先进水平) and thus to rapidly realize the “Four
Modernizations” (实现四个现代化), two related government discourses during the 1980s.

Correspondingly, the system of key institutions was reintroduced.

Key schools/institutions have received more funding, better facilities, and more highly
trained instructors than regular schools/institutions. This elitist approach has been justified by articulating the need for identifying and training China’s most talented youth in order to speed up the process of modernization, thus eventually benefiting the entire society.

Rigorous examinations have been held at all levels to screen youngsters who are attempting to enter key schools. Basic education has been directed toward a more rigorous preparation of students so as to select the most promising students for higher levels of education (Hawkins, 1983, p.38).

The key school policy has given rise to continuous criticism. Those who were against the policy argued that key schools did not fulfill their role of creating high quality throughout the whole system; rather, they widened the gaps among schools and undermined educational equality because the basic function of the education system had shifted to selecting a few elites at the expense of the majority (Liu, 2008; Yang, 2006). Until 1981, there were 5271 key primary schools and 4016 key high schools (junior and senior) in China, accounting for 0.6% and 3.8% of the total number of primary schools and high schools. Most of the key schools were located in urban areas and county towns. According to a survey of 13 provinces in 1983, only 2% of the key senior high schools were located in rural areas (Yuan, 1999). This suggested that rural students were much less likely to have the opportunity to enter these key schools than their urban counterparts. Consequently, their opportunity in access to higher education was greatly reduced due to the low educational quality at primary and secondary levels.

The hierarchy in higher education institutions was also strengthened during this period. As early as 1954, six universities were given the title of National Key Universities, with the number increasing to 16 in 1959, and to 68 in 1963 (Wang & Liu, 2009). In 1978,
the State Council approved the Ministry of Education’s *Report on Resuming and Improving National Key Universities*, and 88 universities were given this title. A clear hierarchy was also reflected in rules about the selection of students for various institutions in descending sequence according to their scores in the HEEE, with national universities having the right to select students in the first round, provincial universities, prefectural/municipal universities in the second round, and finally two-year colleges in the third round. National universities, those under the jurisdiction of the Ministry of Education and other ministries of the central government, have fewer restrictions and can recruit students nationwide, while provincial universities, prefectural/municipal universities and two-year colleges mainly recruit students within the jurisdictions at their respective level. Consequently, top students are clustered in national universities, where socially and culturally disadvantaged students were significantly under-represented. For example, in 1991, rural students only accounted for less than 19% in Tsinghua and Peking University respectively (cited from Yang, 2006, p.217), compared with more than 60% of rural residents in the whole population; students from farmer and industry/service worker backgrounds accounted for only 47% of the total enrolment in Renmin University (.Li, 1993, p.245), which was much lower than the 80% representation of this group in the occupational population.

Decentralization in administration and the increasing influence of the market on education also had a substantial impact on educational equality. Realizing the importance of knowledge and technology to the success of China’s modernization, and at the same time realizing the insufficient financial resources of the central government to expand educational provision, the state began to allow more autonomy and flexibility to local governments and institutions by promulgating a milestone document, *The Decision of the*
Intending to provide a policy framework rather than direct administration, the state deliberately devolved its responsibility and power to local governments, local communities, and non-state sectors involved in creating more learning opportunities (Zhou, 1995; Mok, 2000).

Under the new discourse of “institutional reform” (体制改革), various practices were encouraged explicitly or implicitly since 1985. Private (Minban, 民办) education was moderately encouraged, and the financing of basic education was decentralized, so that provincial, prefectural, and county level governments and villages all had a share of responsibility. Public higher education institutions gained more autonomy, and were encouraged to open new channels to generate income mainly through operating enterprises, providing for-profit services, and recruiting self-paying and commissioned students.

Self-paying students had to pay their own tuition, while the tuition of the commissioned students was covered by the employers they would serve after graduation based on contracts. Students below the academic standards in the HEEE were admitted into public universities or colleges by paying fees. Although this practice caused debate in that it undermined the principle of equality, the number of self-paying students kept increasing as more institutions were allowed by the government to recruit them, until this practice was discontinued in the mid-1990s when most institutions began to charge tuition fees and use a unified admission standard (Bao, 2009; Wang & Liu, 2009; Zhong & Lu, 2003).

The devolving of the financing of basic education from the central government to local governments allowed diverse sources to flow into basic education, and hence
achieved a rapid expansion in basic education. “A poor country runs the largest education system” (穷国办大教育), and “people’s education run by people” (人民教育人民办), were popular discourses appearing in various government documents and officials’ public talks. However, this approach caused serious problems, such as the aggravated burden for peasants because they had to pay additional taxes for education, the low quality of basic education in many rural areas due to the tight budgets of town/village governments, increased drop-out rates of students from impoverished families, and widened gaps in education between rural and urban areas, and between economically developed and under-developed regions (Liu, 2008).

In summary, elitism reached a new high in this period, while the importance of equality gave way to “efficiency” in policy-making. In order to train more and better sources of manpower and thus accelerate the modernization process, the government implemented the key-school system so as to concentrate resources on cultivating the elite in ways that systematically disadvantaged rural children. The government also began to allow marketisation and privatization in education, which excluded students from impoverished families from the expanded educational opportunities.

The issue of equality was not at the centre of policy-making during this period. An interesting phenomenon worth noting is that statistical information about the backgrounds of students in higher education was no longer available, a different situation from that of the 1950-1960s when national statistics proudly announced the increased proportion of enrollments from the working class (including peasant families). There are two possible explanations for this: the representation of the working class in higher education was no longer a major concern for the government; or the country just did not want to emphasize
class distinctions as it had suffered so much from class struggle during the Cultural Revolution.


Since 1978 Chinese society has been undergoing a remarkable transition. The year 1993 marked another turning point for the country when the Chinese Communist Party declared that China would experiment with the socialist market economic system. The distinctive binary structure of rural and urban areas formed in the past half century still existed, although it had begun to weaken with the progress of industrialization, urbanization and the reform of the residential registration (hukou, 户口) system. A more complex social structure has been emerging in Chinese society, in which the magnitude of difference along the lines of socioeconomic status based on occupation and income has overtaken the distinctive line between residents of urban and rural areas. With the formation of a socialist market economy, property and material well-being, as well as social, cultural and political capital, have been redistributed (Nee, 1996; Bian, 2002; Lu, 2002, 2004).

The redistribution of wealth and prestige has led to the formation of a large-scale disadvantaged stratum, including peasants who lost land, migrant peasant workers in low-paying jobs, laid-off workers, and the unemployed (Sun, 2004). The gap between the advantaged and the disadvantaged has been growing. In this context, equality in access to higher education shows different patterns than before.

According to one research study (Yang, 2006), among the factors influencing educational equality in China, the dominant factor used to be the difference between urban
and rural residency, with the second being the difference between regions, followed by
ethnic groups. Gender was the least influential factor. The gaps increased with the level of
education; thus the disparities were smallest at the primary level and largest at the tertiary
level. With the drastic societal transition from a socialist state to a market-oriented society,
the gap between social strata is rapidly becoming a more important factor than ever before.

Development continued to be the paramount task of the country during this period.
Ideological struggle and the debate over ‘-isms’ were forgotten. A pragmatic attitude
toward development prevailed, which was reflected in Deng Xiaoping’s famous metaphor
“no matter whether a black cat or a white cat, the one that can catch a mouse is a good cat”
(不管黑猫白猫，捉住老鼠就是好猫). Within the context of experimenting with a
socialist market economy, which had also been influenced by world-wide trends in
neo-liberalism, the state employed marketisation and privatization as the two major
vehicles to promote educational development.

However, instead of being guided by a free market principle, the Chinese government,
similar to other East Asian countries, acted as a developmental state, as defined by Castells
“A state is developmental when it establishes as its principle of legitimacy its ability to
promote and sustain development” (Castells, 1992, p.56). The characteristic mark of the
developmental state is the dynamic and shaping role played by the state leadership and
bureaucracy in relation to civil society. This legitimacy in China not only comes from the
socialist practice of power over the past half century, but more importantly, as Clark and
Jung (2002) have claimed, from the tradition of Confucian values shared among East Asian
societies.

Equality was not at the centre of policy concern during this period either. The guiding
principles of educational reform after 1985 were restated in another important document, *Mission Outline of the Reform and Development of China’s Education* (“The Mission Outline” hereafter), which was promulgated in 1993. The *Mission Outline* set the tone when it stated that “education must be a strategic priority of national development”, and “improving the moral, scientific and cultural level of the whole nation is the vital way to realize modernization”. It established ambitious goals for educational development: at the end of the 20th century, China would make 9-year compulsory education universal and would basically eliminate illiteracy. It also declared that the country would concentrate resources to support 100 universities and hence improve their quality in education and research to a high level (later called the Project 211). The *Mission Outline* reassured people that the state supported the decentralization policy and the diversification of educational services. Moreover, it clearly stated in Article 16 that “national policy actively encourages and fully supports non-government organizations and citizens to establish schools according to laws and to provide right guidelines and to strengthen administration”\(^\text{19}\).

*The Education Law* (1995) and the *Higher Education Law* (1998) reconfirmed the general principles of decentralization, and further called for more diversified modes of educational services, allowing far more flexibility to local and provincial governments to run higher education. The ideas and practices of the “socialist market economy” had decisive impacts on educational development. Concepts like “efficiency” and “competition” became far more popular in management and governance of education during this period (Mok, 2002, p.262).

*From free higher education to cost-sharing*

\(^{19}\) [http://old.hnedu.cn//fagui/Law/12/law_12_1202.htm](http://old.hnedu.cn//fagui/Law/12/law_12_1202.htm)
Under the above-mentioned policy framework, the funding of higher education was diversified as financial support was sought from local government taxes and subsidies, and other resources such as donations. In 1992 at a national higher education conference, Zhu Kaixuan, then chairman of the State Education Commission, stated that “higher education does not fall into the category of compulsory education and, in principle, all university students should pay their way.” In the same year, the practice of recruiting self-paying and commissioned students was officially approved as a “within plan” recruitment activity by the state. This practice undoubtedly discriminated against children from low-income families, yet it helped expand the provision of higher education rapidly, and hence met the pressing demands from both the labor market and citizens (those who could afford it). Therefore it was carried out despite much debate.

In 1993, 30 universities began to experiment with a scheme known as ‘merging the tracks’, which meant all students would be admitted with the same academic standard to one institution and had to pay tuition and accommodation fees. A cost-sharing policy (merging the tracks) was implemented throughout the whole system by 1997. Tuition fees became an important source of income in Chinese higher education (Wang & Liu, 2009).

The percentage of tuition fees in the total income of the regular higher education sector increased from 14.4% in 1997 to 32.4% at its peak in 2005 and then decreased slightly to 29.2% in 2007. By contrast, government budgetary appropriations decreased from 67.8% in 1997 to their lowest point of 42% in 2005 and increased slightly to 42.6% by 2007 (see Table 6.1).

An increase in tuition rates is always a bitterly debated issue of social equality. The rate of increase of tuition was higher than that of income during the years immediately
following the huge expansion beginning in 1999, especially for rural residents whose average income was significantly lower than that of urban residents. For example, in 2002, tuition was 1.78 times the rural per capita net income, while the corresponding number in 1996 was 69% (Liu et al, 2006). Thereafter, the increase in the tuition rate slowed down. From 2002 to 2007, tuition and students' fees grew from 4,639 yuan to 6,489 yuan at a rate of 7% per year (Xie & Chen, 2007). During the same period, urban per capita disposable income increased from 7,702 yuan to 13,786 yuan at a rate of 12.4% per year, and rural per capita net income increased from 2,476 yuan to 4,140 yuan at a rate of 10.8% per year. The tuition fees were about 1.5-1.9 times the net income of rural residents during this period.

The high tuition may cause difficulty for students from rural low income families, although the actual impact on their access maybe not as great as expected. The reason for this is that parents are ready to use up all their money if their children are admitted into a higher education institution, due to the cultural tradition of close family bonds.

Table 6.1

*The Percentage of Government Budgetary Appropriation and Tuition Fees in the Total Income of Regular Higher Education Institutions by Year (1997-2007)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Government budgetary appropriation /total expenditure of regular HEIs (%)</th>
<th>Tuition fees /total expenditure of regular HEIs (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>67.8</td>
<td>14.4</td>
</tr>
<tr>
<td>1998</td>
<td>65.0</td>
<td>15.7</td>
</tr>
<tr>
<td>1999</td>
<td>49.6</td>
<td>13.4</td>
</tr>
<tr>
<td>2000</td>
<td>46.9</td>
<td>17.2</td>
</tr>
<tr>
<td>2001</td>
<td>47.9</td>
<td>21.3</td>
</tr>
<tr>
<td>2002</td>
<td>46.7</td>
<td>24.7</td>
</tr>
<tr>
<td>2003</td>
<td>44.7</td>
<td>27.0</td>
</tr>
<tr>
<td>2004</td>
<td>42.9</td>
<td>30.0</td>
</tr>
</tbody>
</table>
Various financial aid programs were launched, including student loans, scholarships, bursaries and work-study programs. However, the sources of financial aid were not sufficient. Beginning in 1999, China began to implement low-interest student loan programs. However, these programs were not available in all higher education institutions, especially private institutions (Liu et al, 2006). The gap between the number of applications and the availability of loans was huge even though the loan programs had expanded continuously. A study on student loans at higher education institutions in Guangdong province, the most economically advanced province in China, has shown that about 20% of students were identified as in need of financial assistance, but only one-fourth of the applicants actually received the loans (Wang, 2008). Further, a case study shows that financial aid programs were lacking in stability from one year to the next (Xu, 2008).

Disparities in the availability of student loans among regions and institutions have been shown for that period. Studies indicate that the percentage of students receiving student loans in the Western region was lower than that in the Eastern region, and it was relatively more difficult for students from local institutions to be granted loans than for their counterparts in national universities, although the proportion of impoverished students was obviously higher in the Western region and in local institutions (Li, 2004; Li, 2006; Liu et al, 2006).

In short, charging high tuition while at the same time providing insufficient financial aid has undermined equality of opportunity for students from low income families,
especially for those studying at non-elite universities, since the finding of this study as well as others showed that students in this type of universities are more likely from lower income families.

**Private higher education and educational equality**

After three decades of private higher education not being allowed, the first Minban (民办, meaning people-run, a euphemism for private) college was established in 1982. Although various government documents publicized after 1985 stated repeatedly that the government encouraged non-government organizations and citizens to run private institutions, the development of private education was slow until 2003 when the *Law for Promoting Minban Education* was enacted.

A noteworthy phenomenon has been the development of second-tier independent colleges, affiliated with public universities but run by a market mechanism. Independent colleges charge twice the tuition of the public universities with which they are affiliated, and admit students with a lower academic performance in the HEEE than those in the same public university. The first independent colleges were established in 1999 when the state decided to radically expand higher education. The government acquiesced to this practice as an experiment in fully utilizing the resources from society to expand the provision of higher education. The affiliated public universities were expected to assure basic academic quality at these independent colleges. Once again, developmental goals outweighed equality in this case. This experiment has caused lively debate over issues such as different credentials, quality and equality. Obviously, students from low income families have been systematically disadvantaged by this approach.
Private institutions and independent colleges together enrolled 3.927 million students, accounting for 19.4% of the total enrollment in regular higher education by 2008. Despite this substantial development, no government subsidy goes to private higher education. Therefore, the operation of private higher education institutions in China heavily depends on tuition and student fees. Private institutions charge higher tuition and fees than those of public institutions. According to a survey (Xie & Chen, 2007) conducted in 51 higher education institutions from 10 provinces in 2006, tuition was significantly differentiated in different types of institutions. The average tuition fees were 4,617 yuan in national universities, 4,070 yuan in local public institutions, 5,229 yuan in public vocational institutions, 14,980 yuan and 8,031 yuan, respectively, in degree and vocational programs in private institutions, and 11,233 yuan in independent colleges.

By and large, private institutions are located at the bottom of the hierarchical system (Zha, 2006, 2008). Students have to pay more for less valued credentials in private institutions. However, this practice has not caused much debate in Chinese society. Hayhoe (1995) attributes this to deeply-rooted Confucian meritocratic values and how fairness is perceived in Chinese society.

The development of private higher education enlarged the provision of higher education, thus contributing to increased learning opportunities, although these expanded opportunities may be associated with increased qualitative inequality even though traditional Chinese cultural values of prioritizing education and close familial bonds have buffered the actual impact on the opportunities of the students from middle to lower income families.

*Elitism and strengthened hierarchy in Chinese higher education*
To carry out the developmental strategy of “Strengthening the Nation through Developing Science and Education”\textsuperscript{20}, the Ministry of Education proposed an *Action Plan to Vitalize Education into the 21st Century* in 1998. The state, on one hand, tried to mobilize diverse sources to flow into education, thus expanding learning opportunities, and on the other hand developed another ear-marked project, the Project 985, to pump literally billions of yuan into a few of China’s key universities to help them attain world-class status. This was in addition to the Project 211.

The number “211” refers to supporting 100 universities and disciplines to achieve excellence in the 21\textsuperscript{st} century. The project was announced in 1993, and the first round of investment started in 1996. A total of 18.63 billion yuan was infused into 101 universities from 1996 to 2001; a total of 18.75 billion yuan was invested in the second round; and this project continued with increased funding in the third round (Wang & Liu, 2009).

The Project 985 was initiated by the then General Secretary of the CCP, Jiang Zemin, who called for building world-class universities for the revitalization of the nation at the Centennial Anniversary Celebration of Peking University in May 1998. The Project 985 provided even more significant funding than the Project 211. In the first round (1998-2001), only nine top universities were on the list. Peking University and Tsinghua University each received 1.8 billion yuan ($225 million USD), and other universities received less funding but still a substantive amount (Mohrman, 2008; Wang & Liu, 2009). As a result, all universities tried their best to be included in the project. The list was expanded to 43 universities. However, the selection criteria and procedures are not

\textsuperscript{20} “Strengthening the Nation through Developing Science and Education” was put forward by the Central Committee of the CCP in 1995 in *The Decision of CCP Central Committee and the State Council on Accelerating the Development of Science and Technology*.
available publicly.

The scale of these infusions explains why universities were so eager to be included. Those receiving special funding are the most likely to flourish: “For institutions right on the edge between inclusion and exclusion, omission from the list of the Project 985 in particular is a judgment of second-class status for the foreseeable future” (Mohrman, 2008, p.35). The infrastructure, quality of education and research, environment, and prestige of the funded universities improved remarkably.

As a result of these projects, the disparities between elite and non-elite institutions significantly widened. The gap in per student expenditure between national and local higher education institutions increased from 3708 yuan in 1998 to 8196 yuan in 2006 (a value comparable to that of 1978) (Bao & Liu, 2009). These policies reinforced elitism further in the name of enhancing the nation’s competitive capacity in the globalized world, and strengthened the hierarchical structure of the system, hence augmenting the inequality of opportunity for different groups of student. This is because, as I have shown in Chapter 5, students from less advantaged groups are more likely to study at non-elite public universities and private institutions.

Expansion and educational equality

The implementation of decentralization, marketisation and privatization in Chinese higher education throughout the latter half of the 1980s and the 1990s made the system flexible, yet the state still had a strong capacity to steer it from a distance. The diversified channels of funding better prepared the system to expand rapidly without heavy investment from the state.

The expansion of the Chinese higher education system in this period was interpreted
as being a result of state intervention in higher education (Wan, 2006). The beginning of the radical expansion was somewhat dramatic. In June 1999, the central government made the decision to expand the higher education system in China. The Ministry of Education was required to amend its annual recruitment plan for the fall of 1999 to admit more students. The reasons for this sudden expansion, as articulated by the Chinese government, included the following: 1) stimulating domestic consumption; 2) easing the immediate pressure on the labor market; 3) the high public demand for higher education; 4) the political will of the government to develop higher education under the pressure of global trends; and 5) accumulating human capital for future development (Wan, 2006; Xie, 2007; the Report of China Education and Human Resource Research Project, 2003).

However, the most immediate cause of this radical move was an effort to stimulate consumption after the 1997 Asian Financial Crisis, using a strategy proposed by two economists from the Asian Development Bank and accepted by the central government. It was anticipated that higher education expansion would spur China’s economic growth and bring the economy out of stagnation through investment in infrastructure construction and students’ consumption of educational resources in the short term, and the accumulation of human capital for future economic prosperity in the long run (Tang, 2006a, 2006b). It appears that an economic rationale, rather than social equity considerations, led to the radical expansion, and this, in turn, set the tone for related policies of marketisation and privatization in higher education.

The pattern of the massification of higher education in China is a result of the mixed influences of neo-liberalism and elitism. The top-down appeal of massification corresponded with the massive demand of citizens and the labor market, especially in
economically advanced regions. Local public universities and colleges applauded the policy and took advantage of it to expand and upgrade their status, while most of the top universities were cautious about this move in that they worried that the rapid expansion would downgrade their quality and dilute their credentials. In 1998, the enrollment in local colleges and universities was 2.258 million; in 2008 it increased to 14.578 million. By contrast, the enrollment in national universities only increased from 1.541 million to 1.705 million in the same period. Private higher education institutions also achieved substantial development during the expansion (Liu & Wang, 2010).

The above-mentioned policies produced complicated results in terms of equality of opportunity in access to higher education. The overall equality of higher education opportunity was enhanced by embracing more marginal students with lower academic competency, rural students, and students from families with less social and cultural capital. The characteristics of the inequality observed were transitioning from conspicuous and quantitative forms to recessive and qualitative forms in my quantitative data analysis based on the CMMHE data: students who were socially and culturally disadvantaged (as measured by parents’ occupational status and educational attainment), but who were from middle-low income families, are more likely to study at private universities; in terms of the opportunity to study at elite universities, students from socially, culturally, and economically advantaged backgrounds have enjoyed more opportunities. Most of the findings from my study confirm those of other research studies (Ding, 2005; Yang, 2006; Du & Du, 2006; Zhang & Liu, 2005; Min & Wang, 2006).

6.4.6 Building a Harmonious Society and the Middle Ground between Elitism and Populism (2006-present)
In the past three decades, China’s rapid economic growth and changes in society have brought about serious challenges to the further development of the country: corruption, social injustice, disparity in income and regional development, unemployment, etc. Voices calling for social justice and equality have become increasingly strong as the society goes through a dramatic transition. Chinese leaders have realized that efficiency without equality is unsustainable. In order to address the classical trade-off between efficiency and equality, the Chinese government has brought forward a new goal of “building a harmonious society” (和谐社会).

The concept of “a harmonious society” represents the value orientation of the new generation of CCP leaders. Building a harmonious society was officially introduced in 2004, and it was discussed and adopted as a goal of societal development in The Decision on Several Critical Issues related to Building Socialist Harmonious Society at the 16th CCP Central Committee in 2006. According to Hu Jingtao, the current General Secretary of the CCP, a harmonious society is one with democracy and the rule of law, equality and justice, respect and love; it is full of vitality, stability and order, and is environmentally friendly (Xinhua News, 2005).

The new concept and goals are viewed by many commentators as significant departures from the efficiency-oriented developmental strategy. It is believed that the new value orientation represents a fundamental reform in China’s institutions, and a signal that decades of single-minded pursuit of economic growth and efficiency is about to change (Guo & Guo, 2008, p.3). What is noteworthy is that instead of emulating the Western model of a welfare state, the CCP brought forward an alternative by turning to the traditional Confucian idea of a Datong (Common World) and harmonious society. The
essence of *Datong* is that it is a just society in which every member is given what he or she needs. A harmonious society is a realistic version of *Datong*, in which people are ruled by law, governed by the elite, enjoy equal opportunities, and live in harmony.

In the domain of education, Hu addressed the importance of education in the 17th party congress report in 2007, saying that “education is the cornerstone of the renaissance of the nation, and educational equality is an important foundation of social justice”. “People’s satisfaction” became an important criterion in assessing the progress of the educational enterprise. The terms “people” and “educational equality” once again have appeared with increasing frequency in the discourse of government policies on educational development. Beginning in 2008, each year’s *Outline of the Worksheet of the Ministry of Education* have repeatedly stated the government’s determination to “run the kind of education that people are satisfied with” (办人民满意的教育), “facilitate balanced development in education”, “find the solutions for the problems in education that people concerned about, promote educational equality”, “build a system providing equal educational opportunities for all citizens, adhere to the principle of public good”, “guarantee people’s right in access to quality education”. The tone of nation building is much more balanced, and the interdependency of the nation building and equality has been articulated in documents.

Since 2006 Chinese education has achieved a leap forward in educational equality as promoted by the *Law of Compulsory Education (2006)* and other new policies. Compulsory education is reviewed as the key domain to be supported since it has been realized that balanced development in compulsory education is the foundation for equality of educational opportunities. Special projects to facilitate balanced educational development between rural and urban areas, as well as among regions and among schools, have been
implemented, in addition to those for improving financial aid systems for students in need.

In the spring of 2006, students in compulsory education in Western rural areas were exempted from fees and the government began to provide bursaries to impoverished students, causing 200,000 student drop-outs in these regions to return to school. In the following year, students in other rural areas were exempted from fees, and in 2008 urban students began to enjoy the same benefits. Projects aimed at facilitating the development of compulsory education in Western and rural areas were carried out, including the Project of Developing Compulsory Education in Western Regions, the Project of Reconstructing Rural School Buildings, the Project of Developing Modern Distance Education in Rural Schools, the Project of Building Rural Boarding Schools, and the Project of Reconstructing Junior High School Buildings in the Central and Western Regions. Most of these projects were started between 2004 and 2006 and the support for each project exceeded 10 billion yuan. In 2009, the central government appropriated 66.6 billion yuan to guarantee the funding of rural compulsory education, and 2 billion yuan to support local governments in providing equal education to the children of migrant workers in cities.\(^\text{21}\)

The amount of student loans and government scholarships at the secondary and tertiary levels has continued to increase since 2006. Students in six national normal universities were exempted from tuition and fees from 2007. In 2009 central and local governments granted a total of 11.2 billion yuan ($1.63 billion USD) in scholarships and bursaries to students in vocational schools and higher education institutions. The financial aid programs covered 90% of students in vocational schools and 22% of students in tertiary education (China Education Daily, 2008).

\(^{21}\) From the website of The Central People’s Government of the People’s Republic of China. What are the new developments in promoting educational equality? http://www.gov.cn/2010lh/content_1559778.htm
In order to facilitate the development of higher education in the Western region, the Ministry of Education began to implement the *Scheme to Provide One-to-one Support to Higher Education Institutions in Western Region* in 2001, and the scope of the scheme has expanded continuously. According to the scheme, a leading national university has one university in a remote Western region as its partner, and takes responsibility for helping its partner university to improve the quality of their teaching and research. Against a background where 90% of higher education institutions are supported by local funding, institutions in the Central and Western regions suffer a severe deficiency of funds. To change this situation, in 2010 the Ministry of Education initiated the *Scheme to Revitalize Higher Education in the Central and Western Regions*, which states that greater resources will be distributed to the less developed and under-developed Central and Western regions.

Beginning in 2008, the state started to draft the *Mission Outline for Medium and Long-Term Educational Reform and Development (2010-2020)*. Multiple rounds of meetings were held to collect diverse opinions from delegates from a broad range of groups. The first and second complete drafts were posted on various websites from February 2009 to March 2010 so that individuals could give their own comments. This action shows the state’s effort to “run education that people are satisfied with”. In this draft, in the section on guiding principles for educational development, the promotion of educational equality is even listed ahead of quality in education. This is the first time “equality” has appeared in a national strategic planning document and been highlighted by a subheading since the 1980s. It clearly articulates the point that the government should take the major responsibility for promoting educational equality, while other societal sectors should make an effort as well.
6.5 Summary

In this chapter, I first described the institution of the civil service examination system in imperial China and its consequences for social mobility and social control. This institution played an extraordinary role in the formation and preservation of the way of life in China, because the cultural values rooted in the 1400 years of this tradition still strongly influence people’s attitudes towards education, family support for education, merit, and social advancement, as well as influencing the government’s policies on social control in the new millennium.

After a brief introduction to the interaction of traditional and Western values in educational development during the transition period of the Republic of China, I then explored how traditional values in combination with Western ideas impacted government policies and shaped the patterns of educational equality in Chinese higher education within the framework of two ideal types: elitism and populism. I identified five major phases of the evolution of equality in Chinese higher education, and assessed the major characteristics and value orientations in each phase.

In the past 60 years, the patterns of educational equality in access to higher education have changed constantly in China as a consequence of the changes in government policies. The period of 1949 to 1965 saw the value orientations of the government policies regarding educational development swing between elitism and populism, with the overall proportion of working class enrollment increasing, although with some fluctuation. Mao’s ideal of radical populism then dominated education during the Cultural Revolution (1966-1976). Actual enrollment in Chinese higher education dropped although the percentage of students
from working class backgrounds increased. Meanwhile, those of “bad” class backgrounds were systematically excluded from access to higher education. Under Deng Xiaoping’s leadership, China stopped emphasizing class struggle and began to pursue economic prosperity. Inevitably, policies oriented towards elitism in educational development were carried out to better facilitate modernization in the country. The government continued this orientation when it began to experiment with a socialist market economy, during which the traditional elitist tendency was complicated by the influences of neo-liberalism. On the one hand, the government concentrated resources on some selected institutions, and on the other it decentralized the system and employed the neo-liberal approaches of marketisation and privatization in higher education. These policies had effectively expanded higher education provision thus promoting educational opportunity for all. At the same time there were increased disparities in access to quality higher education for students from different social backgrounds. Economic, cultural and social factors became even more distinctive determinants in access to quality higher education.

The year 2006 marked another turn in the state’s value orientation in educational development. Educational equality and satisfying people’s needs became key phrases in the government’s discourses. Various projects and schemes have been implemented to promote educational equality. Obviously, the pendulum is swinging away from elitism but not in a radical way. The recent move is somewhat milder, toward a middle ground (中庸, the golden mean of Confucius), which is likely to promote educational equality.

In my concluding chapter, I will further summarize the four modes of educational equality based on the characteristics of the patterns of educational equality I found in each of the five phases in this chapter.
It has been widely accepted that the trajectory of educational development in socialist China is the result of conflict between the two contested lines of revisionist and revolutionary tendencies in most of the history of Mao’s China. The interpretation that highlights the conflict between traditional values and the implanted foreign university model is widely accepted (Hayhoe, 1999; Pepper, 1990; Taylor, 1981). In the next chapter, I will briefly discuss the interactions between the two value orientations inherent within Chinese culture, and the interactions between Chinese values and Western ideas, and their effect on educational equality as a way of opening up ideas for future research.
CHAPTER 7
DISCUSSIONS AND CONCLUSIONS

In this chapter, I will first summarize the major findings of this study. Part one presents and discusses the empirical findings about the opportunities for students from different social backgrounds studying in different types of higher institution, and is based on the CMMHE data collected from 12 Chinese universities in 2007. Part two is a summary of the historical analysis. It examines how cultural values have shaped the patterns of equality in Chinese higher education through analyzing government policies against two ideal types: elitism and populism. I will then reflect on the indigenous model of educational equality developed through the cultural analysis. Based on a discussion of the strengths and limitations of this study, I will suggest implications for future research. Finally, I will discuss the significance of the findings for policy-making.

7.1 Equality of Opportunity in Chinese Higher Education in the Era of Massification

Since the expansion of higher education is mainly achieved through the process of differentiation and diversification, and the hierarchical character of the Chinese higher education system has been further strengthened during its expansion, this study has examined how students’ social backgrounds influence the general pattern of access, on a vertical dimension (the opportunity to study in different sectors and types of institutions within a hierarchical system) and on a horizontal dimension (the opportunity to study in different disciplines) based on the CMMHE data. Descriptive analysis of the CMMHE data revealed that there is a relation between students’ social backgrounds (such as parental educational attainment and occupational status) and their opportunities in access
to higher education; and the results from inferential statistical analyses supported the three hypotheses about the relations existing between students’ social backgrounds and the sector (public or private), type of universities they enter, and field in which they study.

In this section, I will summarize the findings presented in Chapter 5 with a review of the effects of the social background variables. I will also link my findings to the existing literature, and discuss these findings in relation to the cultural values I presented in Chapter 3, and in relation to the historical and contextual situations I illustrated in Chapter 6.

7.1.1 The Impact of Socioeconomic Status

The findings from the CMMHE data show that social economic status is a crucial variable affecting educational equality, as has been shown by many other studies (Hauser & Warrant, 1997; McDonough, 1997; Swell & Shah, 1968).

Parents’ educational attainment is a significant determinant of students’ opportunity to access higher education. The percentage of students having parents with tertiary education is significantly higher in the CMMHE data than in the relevant age cohorts in the national statistics, indicating that the cultural capital represented by parents’ educational attainment is important to having the opportunity to access higher education. This finding confirms those of many studies both in the Chinese context (Ding, 2005; Min & Wang, 2006; Wang & Xie, 2005b; Yang, 2006) and in other societies (Ayalon, 2007; Ayalon & Shavit, 2004; Pfeffer, 2008; Rahona Lopez, 2009; Reimer & Pollak, 2005).
Both fathers’ and mothers’ educational attainment are significant factors in differentiating students’ chances to study in different sectors and different types of universities, a finding in agreement with those of other studies (Ding, 2005; Min & Wang, 2006; Wang & Xie, 2005b; Yang, 2006). In the CMMHE data, the percentages of students having parents with a senior high school or higher level of education are all systematically higher in public than in private universities, while the percentages of those students having parents with a junior high school or lower level of education are all systematically lower in public universities than in private universities. Similar patterns were also found for opportunities to study at elite or non-elite universities.

Within the hierarchical system of Chinese higher education, private higher education institutions are largely located at the bottom of the system (Zha, 2006) in terms of their status and the value of their credentials in Chinese society. It is reasonable to assume that parents with higher levels of education would like their children to study at public universities unless there is no other choice. This is especially true for those parents who are university graduates themselves. In the same vein, since the gaps in terms of quality, prestige, and career opportunity between elite and non-elite universities have significantly widened in the past decade, parents with more cultural capital will try to help their children get into elite universities.

Both fathers’ and mothers’ educational attainment have a weak effect on students’ choices of fields of study. Of course, this finding may largely be the result of this study defining "fields of study" too broadly, using only three categories, due to the availability of data. In fact, the degree of selectivity and individual return among the disciplines in the same broad field may be distinctly different: for example, agriculture versus
A new and interesting finding of this study is that mothers’ educational attainment and occupational status have a larger effect than those of fathers’ on the likelihood of their children studying in a particular sector. This may be related to the increasingly important role that women are playing in the decision-making process regarding their children in families in contemporary China (Sha, 1995; Ye et al, 2003). However, this study also found that fathers’ educational attainment and occupational status have a larger effect than those of mothers’ on the likelihood of the type of universities their children will study in. Further research is needed to examine this issue.

**Parents’ occupational status** is another significant determinant of the chances for students to study in a particular sector, type of university, and discipline. The percentage of parents in the “farmer” category is much lower in the CMMHE data than in a research study (Lu, 2002) based on national data, but the percentage of parents in high status occupations, “professional” and “administrator/manager”, are significantly higher in the CMMHE data. These findings suggest that advantaged groups, as measured by occupational status, enjoy more opportunities in access to tertiary education, which confirms the findings of other studies (Ambler & Neathery, 1999; Clancy & Goastellec, 2007; Egerton & Halsey, 1993; Halsey, 1993; Park, 2002; Shavit & Blossfeld, 1993; Shavit et al, 2007).

Similar to the effect of parents’ educational attainment, both fathers’ and mothers’ occupational statuses have significant effects in differentiating students’ chances of studying in different sectors and at different types of universities, confirming the findings
of other studies (Du & Du, 2006; Hu & Zhang, 2006; Min et al, 2006; Shen & Yan, 2006; Wang & Xie, 2005b; Zhang & Liu, 2005). Students from advantaged groups ("professional" and "administrator/manager") are more likely to study at public than private universities, and are more likely to study at elite than non-elite universities, while this sequence is reversed for students from disadvantaged groups ("farmer" and "worker").

It seems to be a universal phenomenon that students having parents with higher level educational attainment and higher occupational status are more likely to study at elite universities; however, it may be a particularly "East Asian" characteristic that students from lower socio-economic status tend to study at private universities. In these East Asian societies, private higher education institutions generally have lower status than their public counterparts. This is particularly true in China, because China has a smaller private sector than that in other East Asian societies, and its private sector is newly developed. An interesting phenomenon worthy of attention is that although students have to pay higher tuition and fees at these private institutions for less valuable credentials, there is not much debate on this issue in China, because people there regard examination as a fair mechanism of selection due to the influence of Confucian values (Hayhoe, 1995).

Fathers’ occupational status has a weak effect on students’ choice of field of study, while mothers’ occupational status has no effect statistically. The reason for the weak effect of fathers’ occupational status may be the same as the one discussed in the previous

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22 Enrollment in regular higher education programs in the private sector accounted for 20.2% of degree program enrollment and 18.5% of associate-degree program enrollment in China in 2008, compared with 73.7% in university enrollment and 92.7% in junior college enrollment in Japan (MEXT, 2006), 41.7% and 77.1% in South Korea, and about 70% and 92% in Taiwan respectively (Xie & Luo, 2008). The fact that the private sector is so much smaller in China is a function of the history of the socialist system. The private sector used to account for about 38.2% higher education enrollment in 1950 (Chen, 2001), but all private education was nationalized in 1952, and private education was not allowed to develop again until the 1980s.
subsection under “parents’ educational attainment”.

Specifically, three categories in fathers’ occupational status reliably predict the difference between choosing natural sciences/technology or social sciences. Students having fathers in the categories of “job-hunting/laid-off/retired”, “office worker”, and “professional”, compared with “administrator/manager”, are less likely to study social sciences than natural sciences/technology, while students having fathers in the two categories of “job-hunting/laid-off/retired” and “office worker”, compared with those having “administrator/manager” background, are less likely to study humanities. As I have discussed in section 5.1 in Chapter 5, a high proportion of parents in “job-hunting/laid-off/retired” are actually those who retired from other categories (not including “farmer” and “other” categories).

Office workers and professionals generally have higher levels of education, are more likely to emphasize the importance of education, are better able to tutor their children and decode information about education systems and labour markets than people in other groups, except those in the “administrator/manager” group. Children from these two groups tend to perform better in examinations so that they can be admitted into programs in natural sciences/technology which are generally more selective in the Chinese context. However, these two groups generally have less social capital than the “administrator/manager” group (Lu, 2002; Lu, 2004); therefore, their children tend to choose “hard” disciplines, which are relatively selective, with employment relatively secure, and future incomes relatively high. By contrast, administrators and managers are in more advantaged positions to help their children get a decent job no matter what field their children study at universities. This is especially true in Chinese society where
personal networks (guanxi) play a crucial role in social activities.

**Social-Cultural Index (SCI)** is a variable I created through the PCA method by linearly combining parents’ educational attainment and occupational status variables. The reason for creating this variable is that parents’ educational attainment and occupational status variables are highly correlated with one another, and measure the same underlying dimension. Therefore, in this study, I am not able to determine which variable—educational attainment or occupational status—means more to students’ opportunities.

**Family income**'s effect on the overall accessibility to higher education is unclear based on the CMMHE data. However, it exerts a significant effect on studying in different sectors and types of universities. For students from the income group of “between 8,000 and 25,000 yuan”, the likelihood of these students studying at private universities is twice as high as that of students from other income levels.

Low-income level has no effect because of the strong support from families and lineage based on traditional values. Higher income families have more options, such as having the financial capacity to sponsor their children to study abroad. In 2008 the number of students going abroad had already reached 179,800, and more than 90% of them were self-financed. My interpretation of the phenomenon that middle-low income families are more willing to support their children to study at private universities than other income categories is that they tend to have less cultural and social capital to help their children find decent jobs without higher education credentials, and they have a
greater capacity to invest in their children’s education than do the low income families; however, they have less capacity to support their children to study aboard than do the high income families.

It is puzzling why family income is the strongest predictor of the likelihood of students studying at elite universities, even though it is reasonable that high income families can support their children to study at better primary and secondary schools which usually require higher sponsor fees in China, and they can afford private tutors or expensive tutoring programs outside of school (Liu, 2008). This is somewhat different than the results of other studies which have suggested that parents’ education has stronger effects than family income in other contexts (Mora, 1997). Based on the analysis of the CMMHE data, the odds of children from the high income group (above 60,000 yuan) studying at elite universities is almost ten times that of students from low (below 8,000 yuan) and middle low income groups (between 8,000 and 25,000 yuan), and almost five times that of those in the middle (25,000 to 45,000 yuan) and middle high income groups (45,000 to 60,000 yuan).

7.1.2 The Impact of Gender

Globally, women’s participation in higher education has made substantial progress with the expansion of higher education. This is also the case in China. The process of massification has widened the opening for women to access higher education in China. In 1999, women’s share of regular higher education enrolments was 39.7 %, while in 2008, this figure had increased to 49.9 %.

Women are overrepresented in the CMMHE data compared with the national statistics. Hence, this study tried to make the sub-datasets closer to the national statistics
in terms of the percentage of females and rural students. The analysis of sub-dataset 1 of the CMMHE data found that there is no difference statistically between girls and boys studying in a particular sector, which is different from the experience of other East Asian societies. For example, in Japan, women are more likely study at private junior colleges where they account for 87% of the enrolment. Private junior colleges, for their part, accounted for 92.7% of the total enrollment at the college level. The socialist emphasis on gender equity may be the reason for the more equal results in this regard, and also the implementation of the One-Child policy in China since the 1970s.

However, this study reached the same conclusion as many other studies: women are less likely to study at elite universities (Jiang, 2007; Liu & Wang, 2008; Wen, 2005). Similar results have also been found in other contexts (Amano, 1997; Davies & Guppy, 1997; Hearn, 1990; Jacobs, 1999).

Gendered segregation by field of study seems to be a universal tendency all over the world (Gerber & Schaefer, 2004; Kelly, 1990; Vander Voet, 1986), regardless of the level of economic development and the political system. The findings of this study relating to this tendency are consistent with previous studies. Jacobs’ (1999) analysis is also applicable to the Chinese context, namely that the underrepresentation of girls in elite universities is the result of the gendered segregation of fields of study. The concentration of male-dominated engineering programs at the most selective institutions is one major reason for the gender gap in this type of institution.

Women are actually not a unified social group but can be seen as representing interlocked identities associated with other factors such as socioeconomic status, and geographic origin. Similar to the findings from other research (Jiang, 2007; Liu & Wang,
2009), this study has found that proportion of urban girls, girls with higher levels of parental educational attainment, or those from advantaged groups, are higher than expected in Chinese higher education, indicating that socioeconomic status and geographic origin have a stronger influence on girls’ accessibility than on boys’. However, it is surprising that there is no statistical difference between girls who are from urban or rural areas and boys from the same geographic origin, no statistical difference between girls with different SCI backgrounds and boys with similar backgrounds, and no statistical difference between rural students with different SCI backgrounds and urban counterparts from the similar backgrounds, either in the likelihood of the sector, or the type of universities they are studying at. These results differ from other studies (Liu & Wang, 2009; Shen & Yan, 2006; Wen, 2005). Further research is needed to re-examine this issue.

7.1.3 The Impact of Geographic Origin

Although studies have found that the gap between rural and urban students having access to higher education has decreased during the expansion (Gou, 2005; Yang, 2006), geographic origin is a predictor of the likelihood of studying in a particular sector. Rural students are more likely to study at private universities than their urban counterparts. The reason is the same for students from middle-low income families, as explained in the “family income” sub-section of this chapter. However, geographic origin cannot reliably predict the chance of studying at a particular type of university or discipline based on the CMMHE data. This is also somewhat different from the findings in other studies (Xie, 1998; Jiang, 2007); in these studies rural students have been found to have fewer opportunities than their urban counterparts to study at elite universities. A possible reason
is that the distinction between the elite and “non-elite” universities in my sample is not as large as in the samples of other studies. The two universities I termed as “non-elite” actually are universities supported by the Project 211, although they are marginal among other Project 211 universities because of their location and history.

Unlike the findings in other contexts (Looker & Andres; 2001), this study found that rural students tend to have parents with a lower educational attainment, and come from lower income families than their urban counterparts, indicating that the opportunity for access of rural students is less influenced by their social backgrounds than is the case for urban students. One possible reason may be that, historically, rural residents have been systematically excluded from various forms of social welfare in China (see section 1.2.4 in Chapter 1). Therefore rural students tend to have much higher aspirations and work much harder to attain higher education so as to change their fate. Another reason may be psychological: having a disadvantaged social background is less serious for Chinese students given the cultural belief that all are born equal and can develop their potential to the fullest regardless of their origins; this is especially true in rural areas where traditional values are still strong and the socioeconomic disparities are less distinctive than in urban areas.

7.2 Changing Patterns of Educational Equality in Chinese Higher Education

(1949-present)

The second research question of this study pertains to how cultural values have shaped the changing patterns of educational equality. The quantitative findings presented above provide a snap shot of equality of opportunity in access to a differentiated system
of higher education in China in 2007. Many factors in combination led to these outcomes, among which government policy is an important one; also inequality caused by policies is easier to change when compared with inequality resulting from historical causes. Hence, this study analyzed how cultural values shape patterns of educational equality through analyzing their influence on the formulation and implementation of government policies for educational development.

The logic of the analysis is based on the cultural analysis model I developed in Chapter 3 of this dissertation, in which policies and actions are seen as a manifestation of culture and are determined by a deep level of beliefs and values (see figure 7.1). The period from 1949 to the present is the focus of my qualitative analysis. However, in order to understand the Chinese cultural values related to educational equality, it is necessary to know how these values have been formed and whether these values still influence people’s ideas and actions today. Therefore, my historical analysis began with a brief review of a unique institution in imperial China—the civil service examination system, the most influential institution and most crucial avenue of social mobility in Chinese society (Weber, 1968). Although it was abolished in 1905, elitism and meritocracy cultivated throughout the fourteen hundred years of practice of the civil service examination system had been internalized in the ways Chinese people perceived social mobility, social order and fairness. However, elitism has also always been counterbalanced by the idea of minben (民本, people are the essence), the root of populism in ancient China (Jin, 1993; Xia, 2004). As an essential characteristic of traditional Chinese culture, minben functioned as a constraint on autocracy and stimulus for enlightened political ideas in pre-modern China.
China established its modern political and educational institutions by borrowing Western models during the late Qing. The period of the Republic was an era of experimentation with deliberately selected Western ideas and institutions. Elitism from the Chinese tradition was reinforced. However, at the same time, informed by Marxism and progressive pragmatism, both of which resonated with the ideas of the minben tradition in Chinese culture, practices that endorsed an egalitarian ideal of education for the common people spread throughout the society (Chow, 1966; Cleverley, 1985; Pepper, 1996; Tao, 2004).

Given the greater capacity of the government to control society during the socialist regime, it became even clearer that the changing patterns of educational equality were the result of the state’s shifting value orientations between the two poles of elitism and populism.

Populism was the guiding principle of educational development in the early years of the People’s Republic. But shortly afterwards, elitism began exert its influence in the name of nation building. The government reorganized higher education into a centrally planned system following the Soviet model in 1952, so as to better support the goal of accelerating industrialization. Government funds disproportionately flowed to higher education (Hayhoe, 1999; Min, 1994). Underfunding in basic education meant that a large number of rural students dropped out (Pepper, 1990, 1996; Yang, 2006). When elitist tendency reached a certain level, forces from the other pole began to react. The Great Leap Forward (GLF) campaign was pervaded by a strong spirit of populism, and education at all levels radically expanded, opening the doors more widely to the working class (Chen, 1981). This explosive development ended in 1960 due to economic failure.
Elitists seized the opportunity to strengthen their power in the early 1960s.

However, the pendulum swung back to populism in a radical way during the Cultural Revolution. The Higher Education Entrance Examination was abolished in favor of open access to members of the proletariat, but the rights of students from what were designated as “bad origins” were almost entirely denied. Higher education suffered, but mass education at the basic level made rapid strides all over the country though the quality of education was low.

After 10 years of economic stagnation and political chaos, from 1977 the country entered the era of reform and put itself firmly on the track of modernization. Elitism became the major theme, reflected in the policies of restoring the Higher Education Entrance Examination and the key school system. The society entered a period of radical transition. The state carried out projects of decentralization, marketisation and privatization in educational development. Higher education was no longer free as of 1997. The implementation of the Project 211 and the Project 985 further strengthened the hierarchy. The massification of higher education provided more opportunities for all social groups, yet those from better socioeconomic backgrounds benefited more.

The concern about educational equality had been replaced by a focus on economic growth from the 1980s throughout the 1990s, and this continued into the early years of the 21st century, until the government brought forward a new goal of building a harmonious society in 2006, a notion from Confucianism. Promoting social justice and equality returned to the government’s policy agenda. A substantial amount of government funding has been poured into basic education, which had suffered so long from underfunding. Greater resources are to be distributed to higher education institutions
located in the Central and Western regions, which have also suffered a serious deficiency in funding due to the limited resources of local governments in these poorer regions. Financial aid is now available for more needy students.

Based on the above description and analysis, educational equality in Chinese higher education has experienced four modes since 1949. I have categorized these as politically restrained elitism, politically restrained populism, inclusive elitism, and a tendency toward harmony. The characteristics of each mode are summarized in table 7.1.

**Table 7.1**

*Institutional Characteristics of Educational Equality in Different Phases in China*

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Priorities of the state</td>
<td>Industrialization and catching up with developed countries</td>
<td>Cultural revolution; Empowering the masses and widening participation</td>
<td>Catching up with developed countries; Economic prosperity</td>
<td>Building a harmonious society; sustainable development</td>
</tr>
<tr>
<td>Value of education system</td>
<td>Elitism, efficiency</td>
<td>Populism, mass education</td>
<td>Elitism + mass education, efficiency</td>
<td>Balance between selectiveness and equality</td>
</tr>
<tr>
<td>Resource allocation</td>
<td>Binary structure of urban and rural; priority in higher education; public funding</td>
<td>Priority in basic education, especially in rural areas; public funding</td>
<td>Priority in urban areas and in higher education; marketisation and privatization; HE begins to charge tuition in 1997</td>
<td>Priority in basic education; diverse channels of funding, but government takes major responsibility for reducing inequality</td>
</tr>
<tr>
<td>Education system</td>
<td>Hierarchical structure key schools;</td>
<td>Eliminating difference among schools; multiple tracks in education</td>
<td>Hierarchical structure; key schools; growth of private education</td>
<td>Hierarchical structure in HE + policies to promote balanced development in</td>
</tr>
<tr>
<td>Selection and advancement within education</td>
<td>Political + academic criteria; entrance examination quota for working class</td>
<td>Political criteria; admission based on recommendation</td>
<td>Academic criteria; entrance examination; those who could afford it had more opportunities</td>
<td>Academic criteria; entrance examination; universities have more autonomy</td>
</tr>
<tr>
<td>Educational rights</td>
<td>Equal rights within “good class” + discrimination against “bad class”</td>
<td>Equal rights within “good class” + exclusion of “bad class”</td>
<td>Equal opportunity + certain groups had privileges (culturally, socially, and economically advantaged)</td>
<td>Equal opportunity + policies aimed to reduce disparities among social groups</td>
</tr>
<tr>
<td>Assessment of educational equality</td>
<td>Unequal rights for different classes; elitism</td>
<td>Unequal rights for different classes; low level balanced development in basic education</td>
<td>Equal rights; increased opportunity for all; widened gaps between disadvantaged and advantaged to access quality education</td>
<td>Equal rights; increased opportunity for all groups; policy effort to decrease gaps</td>
</tr>
</tbody>
</table>

Note: Some aspects are adopted from Yang’s study (2006), p.58.

### 7.3 Reflections on the Theoretical Framework

Some scholars (Capra, 1983; Morgan, 2003; Yang, 2005, 2006b) have argued that the social sciences developed in the West are unsuited to describing and interpreting the experience and reality of non-Western people, in that these social science theories have been developed on the basis of particular contexts yet have been assumed to have universal relevance and applicability. It is seen as a form of imperialism or colonialism in the realm of knowledge. Zahra Al Zeera (2001) makes the point that although emerging paradigms of postpositivism, critical theory and constructivism have provided some space for alternative ways of thinking and understanding, they are nonetheless connected
invisibly to the Aristotelian principle of ‘either/or’, which holds that every proposition must be either true or false. This principle fails to integrate the material, intellectual and spiritual dimensions of life, and fails to avoid the kinds of fragmentation that have tended to characterize social thought in the West (cited from Yang, 2005): “This is where Chinese traditions of unity, harmony and oneness can play a significant role” (Yang, 2005, p.68). This study is a response to the call for developing indigenous knowledge and approaches to analysis in social science research.

7.3.1 An Indigenous Framework for Research on Educational Equality

Based on my review and synthesis of the literature, I developed a cultural analysis model to analyze educational equality (see figure 7.1).

![Figure 7.1 A cultural analytical model for research on educational equality](image)

In this model, core values shape institutions, structures and actions and, therefore,
shape the outcome of educational equality. In turn, institutions, structures and collective action reciprocally impact cultural values. Environment exerts an influence on every layer. The change in culture is usually initiated by external factors in the environment, but it is the internal factors that determine whether a change really occurs. Culture, as a proactive and active agent, can selectively adopt or reject external influences.

Rather than conceptualizing the world as static, linear or in a modality of “either/or”, this study adopts a Chinese dialectic stance about the relation of internal factors. According to the Chinese dialectic way of thinking, everything is a unity of opposites, and the opposites are contradictory, yet interdependent and complementary to each other. Nothing is static; all is constantly fluid and changing. Every step of development or change is the result of the contesting forces of the opposites (Ren et al, 1994, p.3).

At the core of this model, six dimensions of cultural values that are most relevant to the study of educational equality were identified: human nature, attitude to education, status and advancement in society, orientation on the relation between community and individual, power distribution, and the role of gender. I then extracted traditional Chinese cultural values relevant to educational equality and organized these values within these six dimensions (see Table 3.1 at page 95).

The Chinese values organized within these six dimensions were then used to construct two ideal types, elitist and populist approaches to educational development (see Table 4.4 at page 117); these I used to analyze how cultural value orientations influence government policies and thus shape educational equality.

7.3.2 Evaluation of the Indigenous Cultural Analytical Model

At a micro-level, the findings from the quantitative analysis of the CMMHE data
indicate that the Western framework is basically applicable to China. However, some of the findings cannot be explained by Western framework, such as rural students and students from middle-low income families being over-represented at private universities. But this phenomenon can be convincingly interpreted by the cultural analytical model I developed with indigenous cultural values at its core.

Private higher education institutions in China are largely located at the bottom of the hierarchical system of higher education in terms of status and the value of their credentials, but they charge higher tuition fees. In 2006, the average tuition was 14,980 yuan in degree programs in private universities according to a recent survey (Xie & Chen, 2007), while the average family income in rural areas was 14,500 yuan in the same year (see section 5.1 in Chapter 5). This means that, on average, tuition is even higher than the entire family income in rural areas. Despite this fact, these families are still determined to support their children for study at private institutions; otherwise their children cannot have access to higher education. In China, scores in the Higher Education Entrance Examination constitute the single criterion for admission to universities, and private universities usually require lower scores. Rural students and students from middle to low income families tend to lag behind in their examination scores in that they are more likely to come from lower educational attainment families, and to graduate from lower quality high schools, or in some cases simply have lower academic ability.

Nonetheless, financial difficulty does not deter rural students and students from middle-low income families from studying at private universities. Because education has been the most important avenue of social mobility, Chinese parents have a strong determination to support their children’s education, even to the extent of emptying their
purses, as they attach a great importance to education. The close familial bonds also make parents choose to support their children to their fullest capacity.

Paying higher tuition for a less valuable education does not give rise to much debate over issues of equality in Chinese society, because the Chinese widely believe that individual merit measured by examination scores is a fair mechanism of selection, and those who demonstrate merit deserve better treatment for the greater contribution they might make to the society. The long history of the civil service examination as the way of classifying people has resulted in a meritocratic principle being internalized in the Chinese people’s way of perceiving educational equality.

At a macro-level, this indigenous framework can explain the changes in government policies regarding educational development and equality in the Chinese context in an in-depth way. It shows that the various seemingly opposing educational policies adopted and implemented at different periods of time all had their inner logic. These policies were shaped by the two opposing value orientations in such a way as to cause swings in the guiding principles of policy-making between the two poles of elitism and populism. For example, during the period of the 1980s and 1990s, various educational policies were formulated and adopted: the marketisation of higher education by encouraging institutions to generate income by themselves; promoting privatization in education; devolving the central government’s responsibility for funding basic education to the local level; supporting selected universities to aspire to world class standing, etc. These polices did not seem closely related to each other, yet the underlying value orientation was the same—elitism, which was expressed in a concentration of resources on select elites and support for these elite individuals or institutions to attain excellence, in the expectation
that this would accelerate economic development. However, when inequality reached a tipping point, strong objections were expressed, even from those who were in favour of elitism. Then the whole orientation was amended in ways that emphasized equality, and various policies were then initiated and implemented to promote equality.

The tentative conclusion of this study on policy change in the Chinese context is that the changes were the result of these contesting forces between the two poles of elitism and populism, which are inherent in Chinese culture itself. The trajectory of change is not a linear one, nor should it be viewed in a “either/or” manner. The two opposite forces are contradictory yet interdependent within a constantly changing unity. Although external forces are not the ultimate determinants, they exert an important influence that induces or provokes, and facilitates change. In the period from 1949 to 1976, the shifts in policy orientations usually took place in a radical way and at short intervals. This happened in a Cold War environment where a high level of tension existed between opposing factions inside China and between China and the outside world. In more recent years, however, the pattern has shown a kind of balance that has been possible in a relatively peaceful environment even though economic competition is becoming increasingly intense. The next question then is how do external cultural values influence inherited internal culture?

7.3.3 A Discussion of the Dynamics of Cultural Change

In the interpretation and discussion of the policy changes in Chinese higher education after 1949, the struggle between the two factions of revisionists and radicals within the CPC was the most common explanation. Some scholars tried to dig deeper and view it as a matter of cultural conflict between Chinese tradition and elements in the imported western models that were the embodiment of Western values (Hayhoe, 1999;
Inspired by Hayhoe’s (1999) and Seeberg’s (2000) work, as well as by research studies from other social science disciplines, I would like to suggest that the dynamics of change at the collective level are initiated by external factors that facilitate change, while internal factors instrumentally determine whether a change actually occurs. Of course, in reality, the dynamics and process of a change are much more complex.

In the face of the influx of various schools of thought, even those imposed by the imperialist powers, the receptor culture has the capacity, strong or weak, to reject or selectively adopt those with which it is compatible. The examination of the ideas and policies on educational development in the nationalist Republican era and the subsequent era of the socialist People’s Republic basically support this view of the dynamics of cultural change.

Of all the schools of social theory introduced from abroad, Marxism was no doubt the most influential and it has fundamentally transformed the country. Some scholars suggest the reason that Marxism really took hold in China is that its ideas resonated with deep-level Confucian ways of thinking (Bell, 2007, 2008; Fu, 1974; Mahoney, 2008; Seeberg, 2000). A dialectical way of thinking can be found in the *Book of Change* (*Yijing*), as well as in Taoist metaphysics, which undoubtedly paved the way for Marx’s dialectical materialism. The unity of theory and practice is also an emphasis which the two schools share. Both schools agree that the world can only be transformed by effective practice, and social practice is the only criterion of truth and, at the same time, the purpose for developing theory. They both give priority to material well-being, and have an aversion to other-worldly outlooks; they emphasize that human beings can only be
understood in their social relations. The ethical and moral aspects of social life advocated by Marxism also have their parallel in the altruistic and collectivistic ethic of Confucian morality. Egalitarianism and the demand for social justice in Marxism might be seen as congenial with the idea of *minben* (people as the essence/foundation of a state) in Chinese tradition. Both schools are also fundamentally optimistic. Confucius conceived of a utopia he called “the world of Great Unity” (*datong*), which is comparable to the Marxian “higher phase of Communism,” at least on a superficial level.

By contrast, those parts of the government’s program that failed to take hold, such as the attempt to replace family ties with ties to the state (Bell, 2007), and the attempt to eliminate meritocracy and elitism during the Cultural Revolution, were in conflict with central Confucian values.

In the same vein, one can find some similarities between Confucianism and Pragmatism, which has also been influential in educational practice in China, especially the ideas of John Dewey, one of the founders of pragmatism. In this study, I highlight some major areas where Confucians and Deweyan pragmatists have much in common, areas such as communitarianism, self-cultivation, an emphasis on morality, and the primacy of practice. For Dewey, the self is irreducibly social, and democracy is the flourishing community that emerges progressively and in concrete ways through the “equality” and “individuality” of its specific members. Education is a necessity of life and the way to mold “individuality”. The central aim of education is self-cultivation through communication and intelligent inquiry, a lifelong as well as essentially moral process (Dewey, 1998; Hall & Ames, 1999; Ames, 2003; Hayhoe, 2006). Although Dewey did not have the Marxist emphasis on social class, he was an upholder of the
interests of marginalized groups and ‘the people’, and has been regarded as “a forward-looking, modernizing populist” (Ryan, 1995, p.245). Dewey’s theories influenced many Chinese scholars, including Hu Shih, Zhang Boling, and Tao Xingzhi who studied under him at Columbia University. Based on the observation of the significant overlaps in thought between Deweyan pragmatism and Confucianism, Hall and Ames (1999) claimed “China is in many ways closer to Dewey’s communitarian ideal of democracy than his own native land” (p.166).

Liberalism has been a mainstream school of Western thought and the philosophical foundation for political and economic institutions in Western industrialized countries. Politically, it advocates equal rights and liberty for individuals; economically, it espouses private property and a free market. The past two centuries have witnessed the triumph of liberalism spreading to other parts of the world. At the beginning of the 20th century, Western institutions underpinning liberalism were partially adopted by China’s nationalist government on a voluntary basis, and partially imposed by the Western powers. However, some essential elements of liberalism had difficulty taking root in Chinese soil due to conflicting values, such as the emphasis on individualism. Liberalism was, therefore, replaced by Marxism as the dominant ideology of the country when the Chinese Communist Party took power in 1949.

However, after more than 30 years of socialist construction, economic liberalism has begun to celebrate a kind of triumph in the country because of the successful experiments with a market economy; yet in the political sphere, liberalism has had little influence until today. This is a reminder of the famous adage from the late Qing dynasty: “Chinese learning for the essence, Western learning for utility” (cited from Bray and Koo, 2005,
p.39), and represents a typical utilitarian attitude towards Chinese and Western learning among Chinese leaders from imperial times up to the present. When social injustice and economic disparities reached a level that caused serious concern, as a result of the single-minded pursuit of economic prosperity, the CCP brought forward a new goal of building a harmonious society, a term from Confucianism, to rescue the situation. Some commentators have suggested that this new ideology is intended to divert people’s attention and at same time to heal the wounds caused by a kind of “morph” or “quasi” capitalism (Robertson & Liu, 2006), while others argue that the CCP has never changed its basic goals but is tactically employing a quintessential idea from Chinese tradition to inspire people and to avoid using ‘discredited’ Marxist terms, terms which may stir up unpleasant memories of the Cultural Revolution. They interpret the similarities between the ideals and epistemology of Confucianism and communism as showing that the CCP still adheres to communism (Mahoney, 2008).

The past century has witnessed numerous endeavors by Chinese liberals to find ways to incorporate liberalism and its political institutions into Chinese society, but the results are far from effective. The main reason is probably the incompatibility between the cultural values of the two systems.

Different from “rights-based” individualism, which is the core of liberalism, “duty-based” and “altruistic” collectivistic tendencies are essential in Confucian morality. Although liberalism has many diverse strands, the fundamental assumption of liberalism is that the individual is the basic social unit out of which societies and states are formed; the individual is the bearer of natural rights and possesses rational self-interest—such an understanding of ‘self’ then entails the necessity of a “social contract” as a device for
ensuring mutual benefit among individuals, as well as accounting for the founding of the state, which protects the life, liberty and property of individuals (Mill, 1859; Green, 1883). Generally speaking, liberals believe in limited government, even for those social democrats who advocate state provisions to ensure equal rights. But East Asian societies sharing a Confucian tradition have tended to unanimously adopt a Developmental State model, where governments have a strong capacity to intervene through public administration (Woo-Cummings, 1999; Castells, 1992).

In the era of globalization, no culture is exempt from external impacts. Localization happens simultaneously alongside the process of westernization. Various ideas interact to form a constant flux. Among the Chinese people, Hollywood movies and Yu Dan’s interpretation of the Analects of Confucius can enjoy the same level of popularity in the 21st century. Unconsciously, diverse sources of influence (including those revived from its own tradition) are contouring and re-contouring the everyday life of Chinese people, and inevitably penetrating from the surface to a deep level.

7.4 Summary of the Study

The quantitative research in this study tried to portray the equality of opportunity for students from different social backgrounds in accessing higher education as the move to mass higher education took place in China. Vertical dimensions of equality (the opportunity to study in different sectors and different types of institutions) and horizontal dimensions of equality (the opportunity to study in different fields or disciplines) were examined using descriptive and inferential statistical procedures.

23 This book sold more than 4 million copies in a single year, 2007, which is regarded as a signal of the appreciation of apolitical Confucius teachings in contemporary life.
Most of the findings of this study confirm those found by other research studies: students from socially, culturally, and economically advantaged groups have more opportunities to study at elite universities, while women are less likely to study at elite universities and in natural sciences/technology. Social background has a stronger impact on girls than on boys in terms of accessibility to higher education. A unique finding, to a certain degree, is that rural students and students from middle-low income families are over-represented in private universities which charge higher tuition but offer less valued credentials. Although similar phenomena have been found in other East Asian societies, China is an extreme case because the private sector in China is more marginalized than that in Japan, South Korea, and Taiwan. Another interesting finding is that social background exerts less influence on rural students than on their urban counterparts. An indigenous framework has been used to explain these findings which cannot be easily understood within Western frameworks.

The qualitative research in this study explored the influence of cultural values on the patterns of equality of opportunity in Chinese higher education by analyzing the policies on educational development and equality. I applied the Weberian sociological research method of ideal types to set up a framework, and used historical analysis and discourse analysis to depict and interpret the changing patterns of educational equality since 1949. Three modes of educational equality were constructed: “politically restrained elitism”, “politically restrained populism”, and “inclusive elitism”. A tentative fourth mode, “tendency toward harmony” was proposed. The basic characteristics of each mode, as well as recent tendencies, are summarized in table 7.1.

As I have discussed in previous sections, the modes of “politically restrained
elitism” and “politically restrained populism” occurred in the cold war environment in which the dominant world phenomenon was the struggle between the two camps of socialism and capitalism. By contrast, the mode of “inclusive elitism”, emphasizing efficiency in education, occurred in the environment of globalization when economic competency had become the single most important parameter of a nation’s strength, especially after the 1991 collapse of the Soviet Union. With respect to the most recent tendency, on the one hand elitism is still dominant or has even been further elevated. This can be seen in government policies such as selectively supporting elite universities, the establishment of the new civil service examination system, and the increasingly important role that elites are playing in Chinese society (Fewsmith, 2001; Zang, 2004; Li, 2001, 2008). On the other hand, the government has implemented various policies to promote equality at all levels of education for all citizens, especially those who are disadvantaged. This tendency explicitly reflects China’s new position in the global community. China has achieved rapid economic growth in the past three decades. The latest data show that China has already surpassed Japan and become the second largest economic entity in the world (Los Angeles Times, 2010). China’s catch up effort has proved to be successful, although this is at the expense of increased social inequality and a badly deteriorating environment, and China still lags behind if measured by per capita indicators. Nonetheless, with the rise in its economic competency has come a sense of the capacity to improve equality now. Of course, the internal tensions over inequality, which have increased, are also a reason for policies moving toward the pole of populism.

24 A civil service examination was reintroduced in 1994, and only those with university degrees are eligible to take the examination. The continuous increase in the number of candidates has reconfirmed the tradition of xue er you ze shi (man who excels in study can follow an official career) in the 21st century. In 2009, most positions in the central government have attracted over 1,000 applicants each, and about 60% of the positions required that candidates hold a master’s or even a doctoral degree (Yangzi Evening Paper). http://news.sina.com.cn/c/2009-10-25/023218901496.shtml
Therefore, there are sound reasons to predict that the current tendency towards equality in the guidelines of government policy will continue, and greater educational equality can be expected in China’s future. Nevertheless, as the most enduring cultural complex in Chinese society, elitism will continue to be a major theme in the country’s development. These two orientations will co-exist in the foreseeable future in policy making.

Finally, I would like to summarize the main strengths and weaknesses of this study in my conclusion. I will begin by outlining the main strengths and then go on to identify the major limitations.

Firstly, in the quantitative research part, this study used logistic regressions; these allow the researcher to assess the influence of multiple factors simultaneously, and it is through these that the intricate interactions among these factors can be taken into account.

Secondly, in the qualitative research part, this study used multiple methods, including ideal types, and informal historical and discourse analysis, so that the researcher could gain a deeper insight into the research subject, and probe some aspects of its complex reality at a deeper level.

Thirdly, the use of a multi-method sequential research design has meant that the qualitative analysis in the second stage was able to provide historical and contextual explanations for the phenomena depicted in the first stage of quantitative research, thus providing a more contoured knowledge of the issue of educational equality in China.

Lastly, drawing on ideas from multiple disciplines, this study developed a cultural analytical model for the study of educational equality, and incorporated Chinese cultural values into the ‘core’ part of the model. This model, although still immature, was useful
for the analysis carried out in this study, and may also be applicable to other social science research after some adaptations.

This study also has several limitations.

Firstly, this study only offers a ‘snapshot’ of, rather than more generalizable conclusions about, the current situation of equality of opportunity in Chinese higher education. This is due to the non-random sampling in the data collection procedures (see section 4.2.1 in Chapter 4). Hence, this study makes no attempt to generalize its findings to the whole population. But it is nevertheless worthwhile in that empirical studies of China’s radically expanded system are so far rare and inadequate. For some of the findings in the quantitative research it is difficult to find convincing explanations, such as the likelihood that students from high-income families would study at elite universities is much higher than that of other income groups. Non-random sampling may be a reason.

Secondly, as I have discussed in section 4.3.4 in Chapter 4, because this study heavily relies on research literature rather than first hand authentic materials, a situation caused by limited accessibility to these materials, it is inevitable that some misinterpretation and bias may have crept in from other research.

Thirdly, the attempt at interpreting the empirical findings through a cultural lens does provide some convincing explanations of phenomena which otherwise might not be understood using an existing framework adopted from Western knowledge (see section 7.3.3 in this chapter). However, the use of the indigenous framework is less fruitful. It might show greater value in interpreting survey data with variables measuring subjective constructs or with open-ended questions, or interview data.

Finally, Chinese culture is a complex entity with diverse strands (Louie, 2008); the
culture is fluid, although changes in the culture tend to occur slowly. Chinese cultural values are, as Hall and Ames (1995) point out, always in the process of being revisited, reconfigured, and sometimes revitalized. Restricted by limited time, resources, and knowledge, the development of the indigenous cultural analytical model and the discussions about culture and change in this study are exploratory, and inevitably tend towards a kind of oversimplification or reductionism.

### 7.5 Implications for Future Studies and Policy-making

There is considerable potential for future research in several directions.

The first direction is to provide a more comprehensive picture about equality in Chinese higher education. This includes research that uses or collects more representative data so that the findings can be more generalizable, or a study collecting more informative data which contain information about students’ interests, academic ability, high school experience, educational expectations and choices, etc. Although there is myriad of such literature in North America, very little research can be found examining these issues in the Chinese context. Both survey and interview methods would be applicable to this purpose.

The second direction would be to demonstrate trends by longitudinal studies. Since Chinese higher education will continue to expand (the gross enrollment rate was 23.3% by 2008), it would be interesting to see how the patterns of educational equality change at different stages, as in studies based on the observation of other contexts (Kaneko, 1997; Paterson & Iannelli, 2007; see “stages of expansion” in section 2.5.2 in Chapter 2). It would also be helpful for governments to monitor this important aspect. Very few such
studies based on Chinese experience have been found in the literature.

The third direction would be comparative studies on educational equality among East Asian societies which share similar cultural beliefs, or between the two rapidly rising economic giants China and India, or between China and other post-socialist countries whose education systems are embedded in different cultural traditions.

Another interesting yet unexplored frontier is the tension between the force of world-wide convergence and the isomorphism of education systems put forward by World Institution Theory on one hand, and the local response rooted in tradition and culture on the other, with a special focus on how external and internal forces and their interaction impact educational equality.

Lastly, the indigenous analytical framework this study has developed to study educational equality can be refined so as to make it more methodologically rigorous. The logic and methods this study used to develop this indigenous model can also be extended to other topics in comparative educational research.

As a researcher from a Chinese background who was taught that the purpose of developing knowledge is to improve practice, I ponder the implications of this study for policy-making. What first comes to my mind is not trying to offer some practical suggestions, but rather the hope of initiating a discussion about the philosophical foundations of education in China. Although China is a society based on collectivism with an enduring tradition of elitism, think tanks and researchers in China can reflect on the goals of education by drawing on Western ideas such as the principles that John Rawls (1971) proposed in his foundational work *A Theory of Justice*, as well as from its own tradition. “Justice is the first virtue of social institutions”, and those least advantaged
in wealth and power should be assured compensating benefits in education as a remedy. If this principle cannot be fully practiced, at least it should be given high-level attention and respect in educational practice in China.

At the level of practice, this study provides several suggestions for policy makers in China:

First, establish a system that can systematically and routinely collect and analyze data on educational equality based on a set of well-reasoned indicators, so that educational inequality can be measured and monitored.

Second, since the private sector accommodates a large proportion of socially, culturally, and economically less advantaged students, it actually functions as a way of equalizing learning opportunity in higher education. The government should give the private sector more actual support, such as appropriate subsidies, including its teaching staff in the formal appointments system, and developing a student loan programs in private institutions.

Third, although it is an elite university’s own judgment and a matter of autonomy as to whether to expand its enrollment or not, or who they want to admit, at least the government could advocate and promote the multiversity model in China. According to Kerr (1982) who created this concept, the multiversity is a “city of infinite variety”, and “as a city, there are many separate endeavors under a single rule of law” (p.41). The multiversity is “a complex, diverse entity with greatly fractionalized power; the multiversity is massive in size, has many levels, and serves diverse populations, and feeds into various societal echelons in graduates’ employment” (Hayhoe, 1995, p.307). The expression of this model in the higher education system in California, as well as at the
University of Toronto, where I am studying, could provide examples that show that expansion does not necessarily have to be at the expense of compromising quality.

Fourth, the rationalization of higher education institutions and disciplines has been a goal since the Republican era, and is still an area for improvement. There is a particular need to support those in the Central regions, which have received relatively less financial support from the central government than their counterparts in the Western regions, while having to serve larger populations.

Fifth, the most disadvantaged groups should be given more attention both economically and academically. Since the government has appropriated more funding for compulsory education and established financial aid programs in higher education, the uneven development of senior high school education has become a bottleneck for students from disadvantaged groups seeking access to higher education. More attention should be given to the equality issue at this level.

Finally, opportunities for transfer between disciplines and between institutions should be promoted so that students are given more opportunities to choose the areas which best match their interests and aptitudes. In this way, the differences caused by a lack of cultural capital in the families could be reduced.

This study has used quantitative methods to describe and analyse the current patterns of educational equality in Chinese higher education, the world’s largest higher education system; it is a system which has experienced radical expansion and diversification, yet has been inadequately researched until now. This study did not stop with a descriptive analysis of the contemporary situation but has also explored the changing patterns of educational equality through a historical analysis using the lens of culture since social
phenomena are context-based and culture specific.

Restricted by limited time, resources, and knowledge, the development of an indigenous model for research of educational equality is more exploratory than definitive. Greater effort is needed to develop a more robust model that can result in a deeper level of more valid analysis. Using a Chinese proverb—“casting out a brick to attract jade”, the intent of this study is to initiate discussion concerning cultural analysis in the research on educational equality. Regardless of the limitations, the present study is valuable in that it 1) intentionally raises awareness of culture as a hidden yet decisive force in shaping educational development and equality, because “in many ways culture constitutes the contextual feature with the deepest historical roots and greatest continuity” (Hayhoe, 2007, p.189), and 2) has developed an indigenous analytical model by applying a multi-disciplinary approach, a model which may illuminate other comparative studies.

This deeper knowledge of the Chinese experience will add to international understanding in the research literature on educational equality, higher education, and policy studies in education.
### Appendix

#### Description of variables in the CMMHE data (N=2170)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Percentage (N)</th>
<th>Percentage (N) within gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Female</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>79.4 (1723)</td>
<td>17.1 (200)</td>
</tr>
<tr>
<td>Private</td>
<td>20.6 (447)</td>
<td>82.9 (967)</td>
</tr>
<tr>
<td><strong>Field of study</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural sciences &amp;</td>
<td>37.2 (808)</td>
<td>24.9 (291)</td>
</tr>
<tr>
<td>Social sciences</td>
<td>34.6 (750)</td>
<td>37.4 (437)</td>
</tr>
<tr>
<td>Humanities</td>
<td>28.2 (612)</td>
<td>37.6 (439)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>53.8 (1167)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>46.2 (1003)</td>
<td></td>
</tr>
<tr>
<td><strong>Geographic origin</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>53.2 (1155)</td>
<td>47.4 (553)</td>
</tr>
<tr>
<td>Urban</td>
<td>46.8 (1015)</td>
<td>52.6 (614)</td>
</tr>
<tr>
<td><strong>Fathers’ educational attainment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>2.3 (50)</td>
<td>2.2 (26)</td>
</tr>
<tr>
<td>Primary</td>
<td>11.5 (250)</td>
<td>9.4 (110)</td>
</tr>
<tr>
<td>Junior high school</td>
<td>26.8 (581)</td>
<td>24.9 (291)</td>
</tr>
<tr>
<td>Senior high school</td>
<td>34.7 (754)</td>
<td>36.4 (425)</td>
</tr>
<tr>
<td>College</td>
<td>11.4 (247)</td>
<td>12.2 (142)</td>
</tr>
<tr>
<td>University</td>
<td>11.0 (239)</td>
<td>11.8 (138)</td>
</tr>
<tr>
<td>Graduate school</td>
<td>2.3 (49)</td>
<td>3.0 (35)</td>
</tr>
<tr>
<td><strong>Mothers’ educational attainment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>7.9 (171)</td>
<td>5.7 (66)</td>
</tr>
<tr>
<td>Primary</td>
<td>18.5 (401)</td>
<td>15.8 (184)</td>
</tr>
<tr>
<td>Junior high school</td>
<td>25.6 (555)</td>
<td>24.2 (282)</td>
</tr>
<tr>
<td>Senior high school</td>
<td>31.8 (689)</td>
<td>35.6 (416)</td>
</tr>
<tr>
<td>College</td>
<td>8.3 (180)</td>
<td>9.6 (112)</td>
</tr>
<tr>
<td>University</td>
<td>7.3 (159)</td>
<td>8.6 (100)</td>
</tr>
<tr>
<td>Graduate school</td>
<td>0.7 (15)</td>
<td>0.6 (7)</td>
</tr>
<tr>
<td><strong>Family income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 8,000</td>
<td>22.4 (487)</td>
<td>21.4 (250)</td>
</tr>
<tr>
<td>8,000-25,000</td>
<td>40.5 (879)</td>
<td>39.6 (462)</td>
</tr>
<tr>
<td>25,000-45,000</td>
<td>18.8 (409)</td>
<td>19.5 (227)</td>
</tr>
<tr>
<td>45,000-60,000</td>
<td>7.6 (166)</td>
<td>8.2 (96)</td>
</tr>
<tr>
<td>Above 60,000</td>
<td>10.6 (229)</td>
<td>11.3 (132)</td>
</tr>
<tr>
<td><strong>fathers’ occupational status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job hunter/laid-off/retired</td>
<td>7.5 (163)</td>
<td>7.7 (90)</td>
</tr>
<tr>
<td>Farmer</td>
<td>27.1 (588)</td>
<td>23.9 (279)</td>
</tr>
<tr>
<td>Worker</td>
<td>18.2 (395)</td>
<td>17.4 (203)</td>
</tr>
<tr>
<td>Service industry employee</td>
<td>9.9 (215)</td>
<td>10.5 (123)</td>
</tr>
<tr>
<td>Other</td>
<td>3.8 (82)</td>
<td>3.5 (41)</td>
</tr>
<tr>
<td>Office worker</td>
<td>3.6 (78)</td>
<td>3.7 (43)</td>
</tr>
<tr>
<td>Professional</td>
<td>15.3 (333)</td>
<td>16.5 (193)</td>
</tr>
<tr>
<td>Administrator/manager</td>
<td>14.6 (316)</td>
<td>16.7 (195)</td>
</tr>
<tr>
<td><strong>Mothers’ occupational status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job hunter/laid-off/retired</td>
<td>19.1 (414)</td>
<td>21.4 (250)</td>
</tr>
<tr>
<td>Farmer</td>
<td>33.5 (726)</td>
<td>28.2 (329)</td>
</tr>
<tr>
<td>Worker</td>
<td>7.2 (156)</td>
<td>6.8 (79)</td>
</tr>
<tr>
<td>Service industry employee</td>
<td>11.6 (251)</td>
<td>12.8 (149)</td>
</tr>
<tr>
<td>Other</td>
<td>4.9 (106)</td>
<td>3.0 (35)</td>
</tr>
<tr>
<td>Office worker</td>
<td>3.7 (80)</td>
<td>3.6 (42)</td>
</tr>
<tr>
<td>Professional</td>
<td>16.4 (356)</td>
<td>18.9 (220)</td>
</tr>
<tr>
<td>Administrator/manager</td>
<td>3.7 (81)</td>
<td>5.4 (63)</td>
</tr>
</tbody>
</table>
Bibliography


of State of Canada.


Bary, M. & Koo, R. (2005). Education and society in Hong Kong and Macao: Comparative perspectives on continuity and change. Hong Kong: Comparative Education Research Centre, the University of Hong Kong, Springer.


Bray, and Koo (2005). *Education in society in Hong Kong and Macao: Comparative perspectives on continuity and change*. Hong Kong: Comparative Education Research Centre, the University of Hong Kong, Springer.


http://www.msvu.ca/site/media/msvu/MixedMethodologyHandout.pdf


Carabana, J. (2002). *International adult literacy survey showed how changes in university students’ social origins were arrested*. Presented at the Committee of Investigation on Social Stratification. Madrid.


University Press.


China Education Daily (2008). Gaige kaifang sanshi nian zongjie zhi jiaoyu gongping
[Reform 30 years: Review of educational equality]. November 2.


Planbureau.


Hayhoe, R. (2006). Portraits of influential Chinese educators. Hong Kong: Comparative Education Research Centre, the University of Hong Kong, Springer.


http://www.93.gov.cn/partic/confer/questi/735363828848009575.shtml


Montreal: McGill-Queen’s University Press.


[Analysis of the current situation about student loan program and some suggestions for future development]. *Peking university education review*, 2 (1), 9-11.


Li, W. & Reynolds, B. (2005). Geren(jiating) xindai yueshu yu gaodeng jiaoyu ruxue jihui [Restriction of individual (familial) credit and opportunity in access to higher education]. *Economics of Education Research* (Beida). 3(1).


Liu, J.M. (2007). Kuozhao shiqi gaodeng jiaoyu jihui de diqu chayi yanjiu [Research on the disparity of higher education among regional in the process of massification].


Mahoney J, Rueschemeyer D. (Eds.) (2003), Comparative historical analysis in the


Boston: Pearson Education, Inc.


Buckingham: Open University Press.


Shaphiro, D. Y. & Tambashe, B. O. (2001). Gender, poverty, family structure and


California Press.


Wang, W. & Xie, Z. (2005b). Butong jieceng zinv gaodeng jiaoyu ruxue jihui chayi de yanjiu [The difference in opportunities for students from different strata in access to higher education], *Private Education Research, 4*.


Xinhua News (2005). Hu Jintao qiangdiao zhashi zuohao gongzuo dali cujin shehui dexie tuanjie [Hu Jintao emphasizes doing work concretely to greatly promote harmony and solidarity in society].

http://news.xinhuanet.com/newscenter/2005-02/19/content_2595497.htm


http://epaa.asu.edu/ojs/article/viewFile/326/452


(Review and reflection on the history of enrolment by examination in China).

Zhou, N. (1995). Strengthening the connection between education and economic development: major issues in China’s educational reform and suggested solutions. In G. Postilglione & W. O. Lee (Eds.), *Social change and educational development, mainland china, Taiwan, and Hong Kong* (pp.274-289). Hong Kong, Centre of Asian Studies, the University of Hong Kong.
