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# Local and global public good contributions of higher education in China

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Lin Tian and Nian Cai Liu

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## Abstract

In many countries higher education has long been regarded as a public good that features non-excludability and non-rivalry in its consumption, and benefits simultaneously individuals and the whole society. However, in recent years, tendencies to marketisation and privatisation in higher education seem to have weakened the long-cherished idea of higher education as a public good. China has experienced this situation to some extent. During the last 20 years this has triggered various discussions on higher education and public good(s) in China. Through a qualitative research method, this study explores the perspectives of participants from Chinese government/agencies and universities on higher education and public good(s). The vast majority of participants consider that public good is closely related

to government funding and assume that government is still at the helm of higher education in China. The market may be a marginalised factor in the supply of higher education. It can be argued that at present higher education in China takes the form of a quasi-public good, one that also contributes to the global public good and generates global public goods in many aspects. In addition, in the research some participants suggested that higher education in China is better described in relation to common good(s), as it is deeply affected by the collective culture and government policies.

**Keywords:** public good(s); higher education; education funding; contributions; China

# 1. Introduction

Higher education has long been considered a public good, which is “a commodity or service provided without profit to all members of a society, either by the government or a private individual or organization” (the New Oxford Dictionary of English, 1998, p. 1498). A public good features non-excludability and non-rivalry in its consumption, producing a broad spectrum of externalities (mainly social and public benefits), contributing to the social interest and specific public goods, and benefitting simultaneously the individuals and the whole society (Cheng, 2006; Chen, 2008; Tilak, 2008; Marginson, 2018). Many scholars have recognised the “public nature” of higher education: creating and distributing knowledge, enhancing the life quality of people who are educated, supplying innovations for industry and preparing citizens for democratic decision-making (Yuan, 2009; Su, 2009; Marginson, 2018). However, in recent years the growth of marketisation and privatisation in education, resulting from declines in public expenditure in many countries, has tended to gloss over the long-cherished view of higher education as a public good and legitimised the sale and purchase of higher education. China, also, has experienced something like this.

In the era of planned economy (1949-1978), higher education was considered a pure public good in China. The government undertook all power in education, nationalised all private schools and unified teaching materials and examination. Higher education rigorously adhered to the unified requirements of the government to carry out talent cultivation, without charging any fees from students. In the process of establishing socialist public ownership, the operational mechanisms and management mode of the education system were rendered fully compatible with the planned economy model. It was a highly-united kind of education system, with a high degree of integration of state and education (Xu, 2004, p. 23). At that time, higher education was practised entirely for the national interest and was a national monopoly that played the role of a pure public good. However, in this situation, the funding for higher education was very limited, and for a long time China’s higher education developed slowly (Mi & Li, 2009, p. 96).

In the 1990s China began to build a socialist market economy, bringing profound changes to the social structure. The national concept and social logic underwent an adjustment process, from the national power dominating education to a focus on

social needs and market factors. This altered what had been a two-tier structure containing only the government and the public, without any intervention from the market and social organisations (Wang, 2007, p. 6). Privately-funded colleges began to recover and students gained the right to choose a college according to their purchasing power (although these colleges were still subject to many restrictions), indicating a partial trend of educational commodification. In addition, higher education has charged tuition fees since 1990s, and the competition among students for the best university places has become particularly fierce in recent years. Since China's accession to the WTO in 2001, the view that higher education has the property of a service commodity has been recognised by an increasing number of people (Wen, 2008, p. 79).

It seems that in these years Chinese scholars have encountered a dilemma about how to define higher education, especially in the period of social transition marked by the development of a market economy. Clearly, the previous attributes of higher education, those of a pure public good exclusively provided by the government, featuring non-excludability and non-rivalry in consumption, have changed. Chinese scholars' views on this issue fall into three broad categories. First, higher education is a pure public good (Cheng, 2006; Su, 2009). Second, public higher education is a public good and private education is a private good (Yang, 2007; Yang, 2009). Third, higher education is a quasi-public good, which has the attributes of both public and private goods (Wang, 2007; Zhao & Ruan, 2007; Li & Guan, 2009).

In recent years the third perspective has been the most prevalent idea about higher education. Scholars maintain that higher education has a distinctive "public" character or responsibility to society and contributes to public goods in various ways, while it also produces private benefits, such as academic certificates and individual professional skills (Yang & Zhang, 2000; Fan, 2010; Liu, 2012). Many Chinese scholars consider it may be most appropriate to define higher education in China as a "quasi-public good" which is positioned between a public good and a private good. In fact, some scholars propose that higher education in China represents a spectrum of degrees of public, from 0 to 100% (i.e. from private goods to pure public goods), since this large system contains different educational goods and services (Lü & Zheng, 2010; Zhang & Liu, 2014). As a quasi-public good, higher education charges tuition fees and brings about competition among students (meaning that it is more or less excludable and rivalrous), and it can be provided by both the government (public



universities) and the market (private universities and for-profit educational institutions). Despite that, most Chinese scholars contend that for higher education in China, while it is reasonable to have a limited intervention of the market, the dominant form of regulation should be from the government (Lao, 2002, p. 5; Wang, 2007, p.3).

Although existing Chinese literature provides certain insights into the definition of higher education with regard to public good(s), the connection and interaction between higher education and public good(s)—including global public good(s)—remains unclear. This is partly due to the complex situation in China, and the vagueness of the relevant concepts in Chinese. Consequently, in order to achieve a better understanding of higher education and public good(s) in China, using a qualitative research method this study aims to explore the perspectives of Chinese participants from government/agencies and universities on higher education and public good(s). It is hoped that these perspectives will assist in defining, observing, monitoring and where possible measuring such goods in Chinese higher education. First, this paper offers a review of previous literature on public good(s) and higher education. Second, it presents the research method and procedures. Third, data drawn from the interviews are analysed. Finally, there is discussion in relation to the results and findings of the research.

## **2. Review of previous research**

Since this paper is part of a comparative project, the literature review will mainly discuss Chinese studies. Research to date has considered certain aspects of public good(s) in higher education, such as the meaning of relevant concepts, the public nature of higher education and the public benefits from higher education. This section reviews studies on public good(s) and its connections with higher education, and highlights the Chinese perspectives on this theme.

## 2.1 The theoretical concept of public good(s)

The concept of “public goods” was originally proposed by Western scholars as an opposite notion to that of private goods. In Samuelson’s definition public goods are non-excludable and non-rivalrous in their consumption (Samuelson, 1954). Also, public goods yield a large quantity of externalities, in the form of public or social benefits. Public goods provide equal access to everyone, and the marginal cost of producing public goods is zero (Tilak, 2008, p. 451). Market failure, the usual context for the introduction of the concept of public goods, refers to a situation where the allocation of such goods and services is not efficient, because no enterprise can bear the cost for continuing to supply the goods in the absence of beneficiaries willing to pay. The market will not supply such goods. Only the public authority (state and government) can deliver them, while recovering payment for such goods and services through general revenues (Menashy, 2009, p. 308; Zheng, 2009, p. 13). Private goods are altogether different. In most cases they are both excludable and rivalrous.

Economists regard public goods which strictly match all the above-mentioned conditions as pure public goods. However, there are relatively few public goods with such “purity”. Hence Buchanan (1965) and Barzel (1971) suggest a new concept, that is, quasi-public goods/mixed goods, which lie between pure public goods and private goods. They presume that public goods refer to a spectrum with broad extensions, including both pure public goods and other goods and services with a degree of “publicness” ranging from 0 to 100% (i.e. from pure private goods to pure public goods). If the marginal cost of a public good remains unchanged when the process of the consumption is extended from a certain group of people to all, this is a pure public good (e.g., national defense and laws). By contrast, if the marginal cost of a public good rises when the number of consumers increases, and the cost finally becomes very high with the continuing increase of consumers (reaching a point where congestion occurs), this good is a quasi-public good (e.g., a public library, free emergency service or public swimming pool). Take a typical public good, street lighting, as an example. Once street lighting is in place, no-one passing on the street can be excluded from its benefits, regardless of individual consumers’ contributions to its provision (it is non-excludable); and each passer-by on the street benefiting from street lighting does not reduce the benefits from others (it is non-rivalrous)

(Deneulin & Townsend, 2007, p. 20). However, street lighting is not a pure public good to the degree that there can be rivalry or competition in consumption. For example, if too many people are on the street, then some people may be crowded out from the benefits (Deneulin & Townsend, 2007, p. 20). Hence there are public goods without complete “purity”, which can be seen as semi- or quasi-public goods (Tilak, 2008, p. 451).

Scholars have also suggested that quasi-public goods can be further divided into club goods and common-pool resources (see Table 1). A club good is excludable but non-rivalrous (more or less). Goods like access to private parks, subscriptions to cable TV, or even membership in an organisation like the European Union can be regarded as such goods (Buchanan, 1965). Common-pool resources are rivalrous but non-excludable, meaning that the supply of these resources can be depleted, but people cannot be excluded from using them. Some natural resources (e.g. forests) can be seen as common-pool resources. Their provision is not infinite while their utilisation benefits all (Ostrom, 1990).

*Table 1*  
**Goods and Services Matrix**

	<b>Excludable</b>	<b>Non-excludable</b>
<b>Rivalrous</b>	Private good and service <i>Car</i> <i>iPad</i>	Common-pool resources <i>Fish stocks</i> <i>forest</i>
<b>Non-rivalrous</b>	Club good <i>Subscription TV</i> <i>Private theatre</i>	Public good and service <i>Free view TV</i> <i>National defense</i>

(Longden & Bélanger, 2013, p. 503)

Unlike the above-mentioned economic classification, Marmolo (1999) proposes the constitutional theory of public goods, which implies that public goods depend on government supply, and private goods rely on market supply. The decision-making system used in relation to the supply of goods determines the “publicness” of them. In other words, the labels “public” and “private” merely indicate different modes of

supply, rather than the character of the item itself. The only distinction is between “public supply” and “private supply” of goods, not “public nature” and “private nature” (Zang & Qu, 2002, p.37).

It must be noted that public goods also vary in geographic terms. Those limited geographically are local public goods whose benefits accrue to the locality (Tiebout, 1956). Public goods disseminating their benefits around the world are considered as international or global public goods (Kaul, Grunberg & Stern, 1999, p. 2-3).

Apart from the above-mentioned economic and political interpretations related to public good(s), it is necessary to mention the idea of common good(s). UNESCO’s recent report, *Rethinking Education towards a Global Common Good*, proposes common goods as a constructive alternative to public goods in education, due to the intensifying privatisation and marketisation of education as well as the changing global landscape. In relation to common goods, UNESCO states that “irrespective of any public or private origin, these goods are characterized by a binding destination and necessary for the realization of the fundamental rights of all people”; and “goods of this kind are therefore inherently common in their ‘production’ as well as in their benefits” (UNESCO, 2015, p. 77). “The good realized in the mutual relationships in and through which human beings achieve their well-being” (Hollenbach, 2002, p. 81) is “inherent to the relationships that exist among the members of a society tied together in a collective endeavor” (UNESCO, 2015, p. 77).

This approach to common goods has a number of implications. First, the definition of a particular good steps away from the long-disputed topic of whether it is public or private. There is more emphasis on its “results” (in relation to realisation of the fundamental rights of all people) rather than methods of supply (public or private supply). Second, the notion of common goods may complement the concept of public goods. Public goods lack a necessary correlation between who pays for the good or helps to produce it, and who uses it. A public good is open to free-riding, whereas a common good highlights the collective endeavor of all participants. The benefits of a common good are generated in the course of that shared action. This could be a new perspective to inspire further investigation, but given the theme of the current research project, the remainder of the literature review focuses mostly on public good(s).

## 2.2 The concept of public good(s) in China

There is a wide array of Chinese translations for the concept of public good(s), including “*gong gong wu pin*”, “*gong gong chan pin*”, “*gong yong pin*” and “*gong gong shang pin*”, among which the most widely-known one is “*gong gong wu pin*”. However, when introduced into the Chinese environment, this English-language concept faces a problem. All of the above-mentioned Chinese translations are misleading to some extent. These translations do not comprehensively summarise the meaning of public good(s). This has stimulated a number of discussions in China (Ma, 2012, p. 6). Chinese scholars began to discuss public good(s) in 1990, from an economic point of view (Luo, 1990). In general, over the past 30 years, Chinese scholars’ discussions about “public good(s)” have mainly focused on meanings, classifications and externalities.

In economic discussion most Chinese scholars draw on Samuelson’s schema to demarcate public goods from private goods (Li, 2002; Li, 2009). However, in real life, goods with clear-cut public and private features are rare. Therefore, some scholars cite Buchanan (1965) and Barzel’s (1971) ideas, clustering goods into three categories, pure public goods, quasi-public goods/mixed goods and private goods (Huang, 2014; Zhou, 2005). In addition, following ideas proposed by Buchanan (1965) and Ostrom (1990), other Chinese scholars assume a more detailed classification of goods, since quasi-public goods can be further divided into club goods and common-pool resources (Mao & Li, 2000; Shen & Xie, 2009).

The classifications described above are on the basis of the natural attributes of goods. Some scholars disagree with such ideas and argue that items should be classified as public or private goods in relation to the method of supply. Zang and Qu (2002, p. 37) refer to Marmolo’s (1999) constitutional theory of public goods, whereby the method of supply (public or private) determines the nature of goods. For instance, a free health emergency service, in some cases, is a pure public good. It is non-excludable (everyone can use it without any charge) and non-rivalrous (a certain amount of people’s use of it will not restrict the availability of the service for others). However, there is a congestion point for such service. When an overwhelming number of people use this service this definitely prevents others from doing so. In this circumstance, a free health emergency service is a quasi-public good (non-

excludable while somewhat rivalrous) (Zhang, 2006, p. 42; Deneulin & Townsend, 2007, p. 20). However, even in such a “congested” situation, the nation or the government could still consciously adjust the (non-) excludability and (non-) rivalry of it; for example, the government could arrange more hospitals and medical centres to provide free health emergency services for more people when needed and then such service may transform again into a pure public good, with non-excludability and non-rivalry. Therefore it is impossible to have an objective criterion for the classification of goods, free from the influence of the outside world, delineating a strict and clear boundary between public goods and private goods (Tong, 2013; Marginson, 2018). Scholars holding this perspective believe that the supply of public goods is essentially a matter determined by participative public decision making. Which goods are public goods, with compulsory public supply, is a matter that is politically determined. Such decision-making usually reflects social, cultural and ideological patterns (Zang & Qu, 2002, p.37; Ma, 2012, p. 11).

In fact, in China, the meaning of “public good” goes far beyond the idea of “good” or “wealth”. It includes all mandatory collective activities, which are based on solely common interests, including “goods (services) of the common consumption” (Ma, 2012, p. 6). In other words, public goods are goods for public benefit, which are produced on the basis of public demands, relying on public power and through consensus and cooperation (Zhang & Qi, 2016, p. 2). In this sense, the meaning of public goods in China is more related to common goods, which are collective in nature, beneficial to all, and perhaps fostering social inclusion, integration, tolerance, equality, and human rights, with a distinct feature of *intrinsic value* and *shared participation* (Hollenbach, 2002, p. 81; Deneulin & Townsend, 2007, p. 24; UNESCO, 2015, p. 78; Zhang, 2015, p. 33). However, few Chinese scholars investigate this concept or analyse the relationship between the two concepts of public and common. Therefore, on the basis of the existing Chinese literature, when considering whether an item is a public good, it is better to take account of both the attributes of the good and the relevant political decision-making.

## 2.3 Public good(s) in higher education in the Chinese context

After searching for related keywords on CNKI (China National Knowledge Internet), which is the largest database for Chinese journals, the history of studies on higher education and public good(s) falls into three stages. The first stage (1998-2002) is the period of emerging research on this topic. At this stage, scholars started to explore the public good of higher education and the industrialisation of higher education, with the number of articles at about two per year (Ke, 1999; Shi, 2002). The second stage (2003-2008) is the period of development. Studies on the issue of higher education and public good(s) gradually increased, centering on issues of public good(s) and the profitability of higher education, public good(s) and marketisation/industrialisation of higher education, and so on (Lao, 2002; Guo, 2005). The third stage (2009-2017) is the period of continuation. Topics in this stage included the relationship between market, government and education, government's role and function in higher education, the realisation of the public good of higher education in the national transformation and development, the maintenance of the public good of private higher education and so on (Li, 2009; Mi & Li, 2009; Li & Xu, 2010; Jiang, 2011).

When defining the categories to which higher education belongs, the term “*zhun gong gong wu pin*”(a quasi-public good) is used commonly, while when describing the nature of education and higher education, the concept of “*gong yi xing*” or “*gong gong li yi*” is often used, which represents the long-lasting and intrinsic attributes of higher education and is often expressed as higher education's contributions to *the public good*. Additionally, as for the outputs and contributions of higher education, the word “*gong yi wu pin*” (appearing as *public goods*, *public welfare* and *public benefits* alternately in the English abstracts of existing Chinese literature, though these expressions may be problematic) is used with the greatest frequency. It is likely that Chinese scholars use these expressions (in relation to “*gong yi wu pin*”) interchangeably, without a clear differentiation. The meaning of these concepts could be generalised as: beneficial products that enjoyed by the majority of citizens (Guo, 2005, p. 48; Yang, 2004, p. 12). This differentiation in the Chinese context also indicates an important conceptual difference between the sense of “a” public good, or public “goods” in economics, and the more generalised idea of “the public good”

(or common good, or public interest). The latter means the shared benefit at a societal level, which is more like a philosophical or political idea. (Goodsell, 1990; Morrell, 2009, p. 543; Morrell & Harrington-Buhay, 2012).

This seems ambiguous when defining higher education in China. First, higher education in China is not a pure public good, as it is selective and fee-charging. Therefore it is reasonable to argue that it belongs to the category of quasi-public goods. However, the overwhelming bulk of the literature, including policy documents, laws and decrees, emphasises higher education's contributions to the public good by virtue of its positive externalities (e.g. social mobility, decreased crime rates and technological development) and non-profit nature. The last is seen as an intrinsic attribute of higher education. Also, higher education produces other public goods, including advanced knowledge, research outputs and new technologies. Does this mean that a quasi-public good could also contribute to the public good and generate other public goods, under political and cultural influence? In China, the origin of higher education is not a focal point in discussion since the educational community is largely government-led and regulated by national laws. However, its roles and contributions to people, society and the whole nation are given wide attention. Also, in view of the above analysis, apart from its intrinsic attributes (contributing to the public good), culturally, higher education is understood as a collective endeavor. Politically, it is common to all people. In this sense, defining higher education in China in terms of common good(s) may be less vague and more comprehensible.

In summary, the previous research (here speaking mainly about Chinese studies) has explored concepts of the public good(s), the public good, profitability and marketisation of higher education; and also the realisation and maintenance of the public good of higher education (including private higher education) in the processes of national transformation and development, including the roles and functions of government in higher education. This prior research lays a foundation for the present project. However, most of the prior research is theory-based, with less emphasis on empirical investigation. Also, the interpretation of the terms public good(s), public welfare, public interest and other concepts in these studies is relatively vague, owing to the differences in languages and contexts. Further, discussions on common good(s), global public goods and global common goods have been rather limited—though this has become an important aspect of higher education against the backdrop of internationalisation and globalisation.



Given the purpose of the present project, we have formulated the following research questions:

1. What is the relationship between government and higher education in China?
2. How does higher education in China relate to (global) public good(s)?
3. How does higher education in China relate to (global) common good(s)?
4. How can the above-mentioned goods be monitored and measured in China?

### **3. Methodology**

The research was conducted using a qualitative research framework, with semi-structured interviews. Semi-structured interviews are a very flexible way of collecting data, providing interviewees with the opportunity for a genuine dialogue in which they discover their feelings about what they are doing and can explain why they are doing it (Layder, 2013, p. 82). Moreover, asking general questions that shape the whole research encourages participants to “open up” during their interviews and express their points of view with little influence from the interviewer (Bouma & Ling 2004, p. 177).

#### **3.1 Participants**

Potential participants were invited by the researchers through email. 24 Chinese people from government/agencies and universities participated in the research. They were divided into three groups according to their affiliated institutions and position (see Table 2), to ensure coverage of all relevant groups of people who might have a good understanding of public good(s) in higher education in China, and to facilitate generalisation of the research findings. The study chose two universities in China, at two different levels, a top research university (S university) and a local university (N university), with participants from different disciplines. This study population matches that being used in other countries in which parallel research on higher education and public good(s) is being conducted, so enabling comparative analysis.

**Table 2**  
***Population of this study***

<b>Groups</b>	<b>Number</b>	<b>Notes</b>
(1) Participants from government and agencies	3	they come from government departments and agencies related to this project.
(2) University leaders	S university = 4 N university = 5	including (vice) president, directors, deans, etc.
(3) Academics	S university = 6 N university = 6	including lectures and professors from engineering, economics and history disciplines.

### **3.2 Data collection**

There were three different sets of interview questions for the above-listed three groups of participants in the study. For participants in Group 1 (government and agencies) and Group 2 (university leaders), the interview questions were almost the same, except question 1 and 8. There were 15 questions, as well as scope for follow-up angles, involving the relationship between government and higher education, concepts of (global) public goods, university activities relating to (global) public goods, higher education and (global) common goods, and so on. For participants who were academics in universities (Group 3), there were 14 general interview questions, with some of those questions centering on more specific issues such as university/discipline contributions, social mobility and tuition fees.

- *Interview with participants from universities:* semi-structured interviews conducted with participants from S university and N university during December 2017 and January 2018 explored the perceptions and practices of administrators and academic staff.

- *Interview with participants from government and agencies:* semi-structured interviews were conducted with participants from Chinese government and agencies during March 2018.

All interviews were conducted in Chinese and each session lasted approximately 40 to 70 minutes, depending on the interest of the participants and the natural pace with which the interview moved. At the beginning of each interview, researchers provided background on the project and explained how the interview would proceed. Then, researchers asked the consent of the informants, before audio-recording of the interview commenced. During the interview process, researchers took brief notes in order to track the points raised by the interviewees. After the interview the recorded data were transcribed into written form by the researchers.

### 3.3 Data analysis

The interview data were coded by NVivo 11 under broad headings (adjusted from 8 dimensions of inquiry of this project), such as “relations between government and higher education”, “social-educational culture” and “public goods in higher education” (see Appendix 1 for the classification of interview questions, themes - dimensions of inquiry in relation to research questions). Then, according to the research questions, researchers grouped these headings into different tables for analysis. The categories were later modified as researchers further engaged with the transcripts.

In the paragraphs that follow, participants in the interviews are referred to by different codes, for the purposes of both ensuring anonymity and facilitating tracing references from the data (see examples of codes for participants in Table 3).

**Table 3**  
***Codes for different participants in interviews***

<b>Codes</b>	<b>Explanation</b>
<b>PGA1</b>	the first participant from government and agencies.
<b>PSL2</b>	the second participant in S university, who is a university leader.
<b>PNA5</b>	the fifth participant in N university, who is an academic.

*Notes: P: participants; GA: participants from government and agencies; S: S*

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*university (a top research university) N: N university (a local university); L: leaders in a university; A: academics in a university.*

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### **3.4 Ethical considerations**

All interviews were confidential and anonymised. A consent form was sent to potential participants before the interview, and then signed by both the researcher and the participant. Participants were informed of the purpose of the research and of the ways in which the data would be used. The consent form also clarified how anonymity and confidentiality would be protected throughout this project. All interviews were conducted on an opt-in basis.

## **4. Results and findings**

We report the results and findings in relation to the four research questions, from the perspectives of each group in succession: participants from government/agencies, and university leaders and academics.

### **4.1 Perspectives of participants from government/agencies (N = 3)**

#### **4.1.1 Relations between government and higher education**

All three participants saw government as playing a dominant role in higher education, especially in strategic planning and the provision of funding. To do this, the government develops related policies, for example, the types and numbers of talents that are needed by the country. The governmental participants saw the role of government in higher education in largely positive terms. Government funding accounts for more than 50 per cent of the funding of most institutions and China's higher education system consists mainly of public universities. In addition, the government also monitors the quality of higher education, by establishing evaluation systems, with regular assessment of higher education quality.

PGA1: The government's role in education is obvious, it's like a director in a broad way, it focuses on the development strategies and funding of universities. Of course, it has some policies for higher education. There is also a big plan for higher education development and the entire country, because this needs government planning. What kind of talents we need and how many we need? These are often questions government puts forward, and I guess this is also the government's responsibility. Yes, in this aspect, I think government plays a positive role.

Against this backdrop, the three participants noted that universities should have autonomy in three areas. First, recruitment, as the missions and characteristics of universities are different and they need different students with specific potentials and specialties. Secondly, certain specific aspects of higher education, such as the provision of specialisations and the teaching programmes, should be decided by universities. Third, internal management, such as the introduction of talents, the distribution of salaries, and the evaluation of professional titles should also be controlled by universities.

PGA2: Student recruiting, because each university's mission and characteristics are not the same, it needs different students with certain potential.... However, it is not possible to have completely self-recruiting, because the culture, tradition and development stage of our country are very different from other countries. We have an issue of fairness, we have to combine equality, fairness, and efficiency in the recruiting process. Yes, part of our universities, now they have some autonomy in student recruiting.

PGA3 : I think universities need to be autonomous in various aspect, for example, in the area of talent cultivation... in the educational aspects, for example, the setting of schools and departments, discipline construction, talent selection for enrollment, and curriculum arrangement, etc. The talent training model, should also have the universities' own philosophy, like what kind of people they hope to educate.....

Also, two of the interviewees emphasised the autonomy is conditional, which means that the university cannot be separated from wider society. The overall goal of

running a university should be consistent with the country's goals. For example, the students who are trained must become talents for the nation, with an international outlook. In other words, the autonomy of university education must adapt to the country and the society's needs in various aspects, within the framework of the government's macro-control.

PGA1: The autonomy of a university must conform to the country's social needs in many aspects, under the country's macro-control. If it is completely autonomous, for example, in student recruiting, it brings inequity. So, it is related to the development stage. The degree of autonomy of the university should be compatible with the stage of development of the society and also the ideas of the university administrators.

#### **4.1.2 Higher education and (global) public goods**

Two participants found these concepts to be somewhat elusive, but they believed that while higher education in China cannot be regarded as a pure public good, it has a public good aspect. Students needed to pay tuition fees, but the tuition fee was relatively low in China, it was not a completely profit-making system. The government was still the largest sponsor of higher education. China also encouraged universities to obtain funding from diversified sources, hoping to attract more private investment. One participant also mentioned that alumni donation was potentially very important, but this area was a shortcoming in the funding system of higher education in China, compared with Western countries. Recently, relevant government policies had encouraged alumni giving.

PGA2: In our country, higher education is certainly not like compulsory education...you have to pay tuition fee...however, in our country... it is still the government that provides large amount of funding to higher education... I believe that the government will continue to do so and will not allow students to fully bear the cost of having education. But in fact, because government spending is limited, now we are also emphasising diversified funding... but, all of this, will not change the public nature of higher education...Our government has done something about alumni donation...for example, if you get 50 million RMB from your alumni, the government will provide you the same amount of money...

All three participants agreed that higher education contributed to public goods in many aspects. Two of them highlighted the talents cultivated by universities, and the outcomes of scientific research which solved challenging problems faced by mankind. They also noted the cultural influence of higher education.

PGA3: Contributions? The talents we educated in higher education, I think they are the public goods, though we'd better not describe people as goods, but yes, they are, their intelligence and skills are full of importance. Because when they enter the society, I mean, having their job in the society, they have their roles and the positive roles are always beneficial for our social development. Then, our research outputs, solving problems for us, making our lives more beautiful...

Also, after acknowledging higher education may provide private goods ( $N = 3$ ), all participants reaffirmed that the public nature of China's higher education would continue and these two types of goods could be developed together. In some cases, the accumulation of private goods may become public goods. If there was a private investment in higher education, it did not mean higher education became a private good. In contrast, when higher education had achieved diversified funding sources, this was an indication of its development.

PGA2: Private goods and public goods, I think, they can develop at the same time. Private goods are not completely opposed to public goods. I guess private goods are just like individuality while public goods like generality, so you see, if we have enough private goods, we may get some public goods, I am not sure whether I get the point...

PGA3: Multiple funding sources, apart from government funding, in nature, is a fundamental guarantee of modern universities' development. I think that China will continue to strengthen this trend in the future. We are also exploring now, including some non-profit, pure public universities, they also have social donations, donations from alumni, and some foundations, which doesn't mean they become private.

In terms of the global public good and global public goods, one participant put forward President Xi's idea of "a community of shared future for mankind" (*ren lei ming yun gong tong ti*), which thinks highly of the benefits for all. Higher education contributed to these goods in various aspects. The internationalisation of higher education was one essential part, as an internationalised university can educate global citizens with international perspectives who will play a role in the world.

PGA1: Now we say what President Xi has talked about "a community of shared future for mankind" (*ren lei ming yun gong tong ti*)... what is it? I guess it is based on all people's benefits since we live on the same planet

PGA3: Speaking of talent cultivation, in fact, internationalisation is an important symbol of modern universities, it means the students you are cultivating will become people who are more internationally-oriented, not only focusing on a region, but having a global perspective and vision, they will enter the international world and then serve the world.

However, the participants argued that such global public goods could vary by nation and by the power of the nation. Powerful countries often provided more influential and important global public goods, and countries' demands for such goods differed, according to their development level.

PGA2: Ideally, these goods should be the same, since we are all equal to enjoy these goods. But in fact, this is closely related to a country's power, its value orientation, and its culture, also, its stage of development...

Two participants noted that universities and countries should be more open-minded and forward-looking, with the perspective of developing mutually beneficial cooperative programmes, for example, the "Belt and Road" initiative proposed by China. Universities needed to break down the existing barriers of self-interest and abandon the idea of nationalism, thereby promoting global cooperation and coordination, so that all participants benefitted.

PGA3: I think our government should take steps further. First, we need to have the awareness of global issues. Second, we must jump out of our nationalistic thinking. We must organise the world's best scientists to plan



and think. So I think these are the aspects we need to change, we can't only focus on the development of our country, you know, like the "Belt and Road" project, and it is a great opportunity for us... we can promote the development of many countries.

Global public goods entailed costs. Two participants mentioned that the receiver and the beneficiaries should cover the cost, but one participant considered that if the product was a global public good, there was no need to discuss this question. The powerful countries should take the responsibility of funding and creating such goods for the benefit of mankind.

PGA1: For global public goods, every country, especially some very powerful countries, or developed countries, should provide more contributions to these goods that promote the human development and civilization. This is their responsibility and obligation. There is no question of who to pay. I believe the efforts of pushing forward the human development are what a responsible big country should do.

The interview participants maintained that higher education's contributions to public goods and global public goods are progressive, meaning that Chinese higher education should first focus on the nation and the region before making contributions globally. In this sense, the contributions of higher education hinged on its capability. If a university was unable to serve its own country due to the lack of resources and capability, it could not benefit either other countries or the whole world. Also, high-level universities often took the initiative in making global contributions.

PGA2: in my opinion, universities are built on a specific historical and cultural tradition, they have their specific functions...of course, it should serve the nation and its people. I don't think there will be a university which contributes to the world but abandons its own nation. It should be progressive, like serving the local areas and then the country, and then the world. If it doesn't have the ability to serve the local area and the country, I guess it may not have the ability to serve the world either.

### 4.1.3 Higher education and (global) common goods

Two participants believed that ‘common goods’ could represent goods that were beneficial to all people. However, there was a boundary for such benefits. That is, who should benefit from these goods and how many people should enjoy the benefits? For example, the core values with Chinese characteristics promoted by Chinese universities might be applicable largely to Chinese people. By contrast, the research spirit and scientific literacy cultivated by universities were applicable to people all over the world. Participants in the study believed that research outputs, good values, and knowledge were included in such goods.

PGA2: Yes, our higher education contributes to such goods, we are talking about our core values... democracy, equality, unity, and dedication are all included in the core values. Higher education will certainly contribute to the formation and optimisation of such values, but these values may be more suitable for China’s national conditions. In addition to this, higher education, it also educates the spirit of science and I guess it is applicable for all...

One participant also argued that higher education in China was a common good because it attached great importance to serving the public. In this sense, regardless of the funding resources, higher education’s purpose was to benefit society.

PGA3: Our fundamental direction of China’s higher education is to serve the people, serve the society, and make efforts for China’s modernisation. From this point of view, no matter who invests or trains talent, the final product is such a goal to serve the society. I think this is a common good. What higher education cultivates is to serve the society, not to nurture the development of a family, an enterprise, or an interest group...

With respect to global common goods, two participants considered these goods were similar to global public goods and it was hard to differentiate the two concepts in the Chinese context.

#### 4.1.4 Monitoring, regulating and measuring such goods

All three participants considered that government should regulate and monitor the contributions of universities to such goods, since government was the main financial supporter of higher education and also provided general direction for universities. Also, universities should place requirements on themselves, because their contributions and the quality of those contributions were directly associated with their reputation.

PGA2: The government is obviously asking for universities' contribution to public goods. Because our government defines the functions of universities as talent cultivation, scientific research, social services... this is what universities need to do, this is a clear requirement. As direct stakeholders, universities, of course, will also have requirements, because it is the place where people get trained, their outputs of talents and technology products are directly related to their reputation....

Two participants ( $N = 2$ ) considered that higher education's contributions to science and technology were relatively easy to measure. There were many indicators, such as how much revenue was generated from technology transfer, how many patents the university had, how many scientific research projects the university conducted, and how many papers were published. However, it was hard to measure other, intangible, contributions.

PGA2: I don't know how to measure our talents, maybe their employment rate? No, I am not sure. But for the research outcomes, it's quite easy, you see, we have the data, the number of universities' publications, patent as well as some important national or international projects.....

Overall, the participants from government and agencies suggested that the government played a dominant role in higher education and made relevant policies to guide the higher education system. However, universities should also be autonomous in aspects such as student recruitment, programme design and internal management. The participant interviewees suggested that higher education in China may not be a pure public good, but it contributed to (global) public goods in many

aspects. Government and universities should monitor and regulate these contributions, among which science and technology-related outputs were easier to measure.

## **4.2 Perspectives of university leaders (N = 9)**

### **4.2.1 Relations between government and higher education**

All university leaders in the study ( $N = 9$ ) agreed that in China's higher education system, the state and the government played a leading role, since national or local financial allocations were the main source of funding for public universities. This determined the basic characteristics of public universities in China, that is, serving the country and the society. The government developed the top-level design of higher education. Though universities had their own positioning and development strategies, these strategies had to be closely integrated with state-designated educational programmes.

PSL3: In China, the main body of higher education is... public universities which are mainly supported by the government... the government has played a dominant role in higher education. You know, China has a powerful government... there will be an education plan, and then the university's plan must be in accordance to and responsive to these plans. This is a top-level design...

Specifically, in terms of what the government should do in the higher education system, some participants pointed out that, first, as the guider of the higher education, the government generated top-level design and planning for universities, such as the general planning of university operation ( $N = 6$ ). Second, the government provided financial support for universities. China's higher education system mainly consisted of public universities which were largely supported by the central and local governments, including resources, funding and personnel ( $N = 6$ ); Third, the government offered policy guidelines to universities. The government had a diverse range of policies and regulations to achieve the sound operation of universities, providing support and solutions in many aspects ( $N = 2$ ).

PNL1: The development of higher education and economy, I think they are similar. It is the national strategy that leads this development. I guess the government's first function is to have a macro control... the second is to give an overall plan for higher education planning in response to the national strategy... it should serve as director... also, about the financial support, in fact, it is the government's funding.

In this framework, the first mission or goal of Chinese universities was to cultivate talents who met the demands of the society ( $N = 3$ ). The second was to make innovations in science and technology that contributed to society ( $N = 2$ ). The third was about cultural transmission, passing on the right values and cultural tradition in the society ( $N = 2$ ). Universities in China shared the purpose of promoting national and local development in various aspects ( $N = 4$ ). For high-level universities, making contributions to the prosperity of the entire nation was a priority, with an emphasis on the interests of the whole world. For local and regional universities, their aim was to pursue excellence and support local and regional development.

PSL3: the inheritance of civilization and tradition... to explore the truth, I think this is the basic function of S university... The other two are related to public interests, and we must revitalise China and benefit mankind... It is necessary to take into account the interests of the whole country and also to make global public goods. These aims have been clearly defined in our mission statement...

PNL1: Since the building of N university at the beginning, its long-term goal has been set as building a world-class university... It should follow the road of pushing forward the development of the whole city through the university.

Therefore, when asked in what areas a university should be autonomous, participants assumed that the key point was academic freedom. However, academic freedom in Chinese universities was not absolute freedom and had to conform to the national interest ( $N = 4$ ). The autonomy of universities could include: first, the level and fields of talent cultivation ( $N = 4$ ); second, research directions and contents ( $N = 3$ ); third, the right to classify academic disciplines and degree programmes ( $N = 2$ ); fourth, the right to plan the talent cultivation model, including curriculum design ( $N = 2$ ). Participants from the top research university placed greater emphasis on

research autonomy, for example, the determination of research topics, while participants from the local university highlight autonomy in talent cultivation, such as the arrangement of majors.

PSL3: The first is the right to formulate academic standard, you have to develop such a standard. The second is the right to have decision-making opportunities in academic research, what I can study, what I cannot study, it is an academic right... so here we divide autonomy... I think it is not simply about personal freedom, it is about the issue of the autonomy of an organisation.

PNL1: ... the classification of disciplines, this right should be given to the university. Then, the talent training programs... the formulation of talent training programs, the specific teaching arrangement, the planning of scientific research and things like this.

#### **4.2.2 Higher education and (global) public goods**

Three participants considered that the notion of “public” highlighted the public nature of universities, which meant university education was not just for individual students, but for the benefit of the public overall. More specifically, the scope of the concept of “public” could include both local and global public good(s). The so-called local public goods and the local public good are related to one country and people, whereas global public goods and the global public good are for all people worldwide. Participants ( $N = 3$ ) considered the concept of the global public good to be very closely related to what President Xi described as “a community of shared future for mankind” (*ren lei ming yun gong tong ti*), which extends beyond the nation and the region. Such good is meant for the sake of mankind and the earth as a whole.

PSL3: The coverage of the word “public”, the meaning itself emphasises the public use or sharing, not only for individuals, but also for the benefit of all people. We have a definition on the scope of the contribution of the local and global public good. The so-called local is related to the country, to the city.....There are also some goods, the so-called global goods, they are for all people.

PNL3: I think what President Xi has talked about is very similar to this idea... a community of shared future for mankind (*ren lei mingy un gong tong ti*) ... I guess it is the idea of the global public good... this is a reflection of truly global public good. It represents the development of humans. In fact, we must take into account the ecological and environmental things.

With regard to higher education and public goods, Chinese university leaders ( $N = 9$ ) consistently saw higher education as belonging to the public service sector, thereby placing emphasis on its public characteristics. In light of this, the most important public goods in higher education were new knowledge discoveries, and the tools of knowledge dissemination, such as courses, textbooks and theses which also belong to public goods. Two participants suggested that the public attributes of higher education should be set by the current government, while higher education also had a responsibility to serve the public.

PNL2: The public good of higher education should be set by our current government, also, as a university that mainly supported by the government, it should undertake the public good as an innate responsibility. In the field of policy, for example, at the recruiting level, you can't only recruit local students, you should also look at the national level to reflect the public good of universities and can't go narrow to one area.

PSL3: China has always regarded education as a public service sector, so it emphasises its public benefits... we say that non-profit products, our most important non-profit products, are the new discoveries of knowledge and tools of knowledge dissemination, such as curriculum, textbooks, papers, these are completely non-profit things... they can be shared once they come out...

Higher education's contributions to public goods was observed in several areas. First, higher education cultivated talents. If talents trained by universities had awareness of the public good, this brought more far-reaching impacts to society and the whole world ( $N = 3$ ). Next, higher education provided knowledge and scientific and technological innovations, including achievements that benefitted all humans, such as the discovery of new medicines ( $N = 5$ ); Third, higher education assisted the transmission of culture and preserved traditions. ( $N = 3$ ); Fourth, higher education

provided meaningful policy suggestions for the country. As relatively neutral organisations, when providing suggestions for policy, universities were less concerned about private gains and losses ( $N = 2$ ).

PNL1: In fact, we talk about the cultural inheritance and innovation, such a function mainly depends on the university, especially those comprehensive universities... the second aspect of universities' contributions is to provide policy suggestions, especially for some disciplines of humanities and social science. As a relatively neutral institution, university may provide neutral suggestions too; third, in terms of natural sciences, universities create advanced scientific research to society... therefore, the role and contribution of the university to society in fact is all-round.

In addition, the majority of participants ( $N = 5$ ) agreed that the government had a positive role in helping universities to provide public goods, since it designed projects and offered policy guidelines for universities. Also, some universities could be awarded special funds, for example, the government supported certain top-level national universities to assist universities in backward areas in China. Also, the government provided funding to encourage universities to help important enterprises in terms of technology.

PSL3: Actually, universities' social service function has been strengthened over years, the government will increase its input in the future. Our government has some special project for university's social service. In fact, government often plays a role of guiding, through relevant policy, and then combing various stakeholders to complete such task. In this respect, I think the trend whether the government funding will increase or not, it depends on the national economic vitality.

Most participants ( $N = 6$ ) agreed that beneficiaries or receivers should pay for public goods once they cross national borders. In theory, whoever benefits should pay, but if it is a common benefit shared by all, it can also follow the principle of cost-sharing. However, in some cases, the developed countries should shoulder their global responsibility to help others, thereby paying the cost.



PNL2: if public goods, like scientific research outputs go across borders, undoubtedly, the receiving country should pay. However, if this good is created under the framework of the global public good, for example, scientific research in developed countries is hatched among underdeveloped countries, as a way of technologic assistance, then the developed countries should have a spirit of assisting and shoulder their global responsibility to help others thereby paying the cost.

Most participants ( $N = 7$ ) considered there are differences among different countries, in global public goods in higher education. Global public goods are not the same everywhere. The enjoyment of such good is to a large extent related to the power of the country.

PNL1: For example, the medical research results, they benefit all people, of course, who benefit, who do not benefit, depends on each country's ability and its economic power, but in theory, goods can benefit people worldwide.

#### **4.2.3 Higher education and (global) common goods**

All participants agreed that higher education contributed to common goods, but their understandings of this concept slightly varied. One participant made the interesting point that the market and the government may be ineffective for generating and providing common goods. These goods were collective property, and the people who make up this collective group belonged to a community with common interest. Higher education itself was a kind of common good. It provided resources, like laboratories, to engage many students in a common research project. In addition, by exerting its functions, higher education created and maintained the most basic things in human society, such as morality and values; and at the same time, it promoted harmony, civilisation and the progress of mankind. In this sense, the service provided by higher education was also global common goods.

PNL3: Definitely helpful. Higher education itself is a common good, you put the teaching resources, including laboratories, for many students to participate in the use, and they continue to deepen the process of a project. I think it is a common good itself. By contrast, in ancient times, we have “*si shu*”, which is a form of old-style private school...

PSL2: It creates and maintains the basic things in human society, and promotes harmony, civilization and progress of mankind as a whole... higher education may not pose direct impact on these aspects, it creates and improves these things by exerting its functions.

#### **4.2.4 Monitoring, regulating and measuring such goods**

When asked who should regulate or monitor the contribution of higher education institutions to public good(s), participants asserted that all parties had requirements (government, universities, students, parents, employers, etc.), but the dominant parties were government and universities. As an institution of higher education, universities should have their own independent judgment while at the same time consider the requirements of the country. For instance, the ideas that a university hoped give to their own students should be a matter for the independent judgment of the university ( $N = 6$ ).

PSL1: Everyone can have some requirements in this area. The government gives you money, so you should do something for the government. But, universities should also have some of their own opinions... China has its law on higher education, there are restrictions for the university on what they should do... parents are the same... I would certainly like to train my children in a university, and also for governments at different levels, they also hope that you train the people to contribute to the local or national economy and social development, so all these parties are in the same community of interest...

PSL3: The state and the government are directors in higher education... apart from this, as a university, you should have an independent judgment on this. Your work should not depend on the government's funding; if the government gives more money, you do more – that's not right. What image we want to give the public? What are our missions? What information do we hope to pass on to our students? All these should be universities' own judgments.

However, when asked how to measure such goods, only two participants provided answers. They suggested certain index systems for measurement, including the number of talents, the enrollment rate, the number of graduates and so on. Also, to investigate the reputation of a university in relation to their public good activities, and to measure the popularisation of higher education by census, as this would show how many people directly benefit from higher education.

PSL2: These goods, if you want to measure them, you can use some index system, like who trains the talents, how many talents they trained, also, the enrollment rate, number of graduates, if you ask how knowledge is measured, maybe knowledge creation and innovation... there is also a word of mouth, I mean, reputation, it is really important.

PSL3: We measure the public good contributions of universities... in my opinions, the first is to measure the popularisation of higher education in the society. This is very important, it is very important to improve the quality of the nation through higher education.

In conclusion, university leaders saw the country and the government as playing a leading and positive role in higher education. Because government was the major financial supporter of higher education, this in turn determined the public character of higher education in China, its role in serving the country and the society. Participants assumed that universities should be autonomous in areas such as the model of talent cultivation, the content and direction of research, and so on. The participants agreed that higher education contributed to (global) public and common goods, and that the most important public goods were new knowledge and the tools of knowledge dissemination which were generated through universities' functions. The major stake-holders with requirements in relation to the universities' public good contributions were government and universities themselves. Participants also suggested practical means of measuring such contributions.

### **4.3 Perspectives of university academics (N = 12)**

As noted, the interview questions for university academics were more specific, relating to their universities and disciplines, and with emphasis on their own working experiences.

#### **4.3.1 Relations between government and higher education**

The questions for academics were less concerned with relations between government and higher education, focusing more on country, society and higher education. Many participants ( $N = 7$ ) agreed that Chinese universities had a public nature, to a large extent served the country's needs, and promoted social and economic development. Universities had an unshakable responsibility to the country, society and the public. The most obvious point was that universities delivered high-quality talents to the society. Universities also acted as role models. In a sense, they were the brand of the country, and of their city, and had a profound influence. On this basis, the academics advised that scientific research in universities should never be profit-oriented; it should wear a more "public" colour and play a role in guiding and promoting the development of the society. In addition, top research universities took responsibility for serving the whole country, while local universities often attached more importance to strengthening the local economy.

PSA5: The university is very responsible...for the country, the demand for the talents should be combined with the demand for scientific research, yes, the university can meet this need. Therefore, it is necessary to serve the development and progress of our country and the society... our university is just a local institution. Compared with other universities, we should base ourselves on serving the local economy or our city, then we will contribute to the economic development in our Province, and then maybe the whole country.

PSA7: Our university has obvious responsibilities for our country and is dedicated to making national contributions... as for the public, I guess a university is first a brand with great influence, not only for the country, but also for many common people...

### 4.3.2 Higher education and (global) public goods

For most academics in the interviews ( $N = 9$ ), with respect to the current situation in China, higher education was seen as neither a pure public good nor a private good, but as a quasi-public good, because China's higher education was mainly funded by the government and catered for the needs of the public. There was no private, elite education in the Chinese context (perhaps Westlake University was the only one). For most people, higher education in China was more like social welfare. But it was not a pure public good, because students paid a portion of the tuition fee and the higher education system involved selection, which was also a virtuous competition mechanism.

PSA5: But higher education would not be a public good. It has public nature... because the most and the best universities in China are public universities. Our tuition fees are very low... in principle, I don't agree that higher education is a private good... we should allow some private universities and some cooperatively-run universities to develop together... I think higher education must insist on its public nature, especially in our country where the government and public ownership are the pillars. I can't imagine what will happen to the social mobility if all universities become private...

PNA10: In my mind, private education could be provided by an upper-class institution with great excludability. This kind of private schools often charge very high tuition fees, and then give accordingly high-quality education resources... nonetheless, in China, we have few such institutions, if Westlake university is the only one, I am not sure. So I guess higher education in China should not be regarded as a private good... our country's universities are mainly financed by the government, it is a social welfare... generally speaking, higher education itself, is not for-profit, also, as teachers, our salary is very low...

The interview participants also agreed that charging tuition fees was defensible in China, since higher education had costs. It could not entirely bank on government inputs and students should pay part of their tuition fees ( $N = 9$ ). Also, China's national conditions meant that it was unrealistic to introduce free higher education.

Universities could not recruit the right people without selection and a non-selective higher education system might result in a waste of public resources. In that way Chinese higher education maintained its public nature as a quasi-public good. Four of the participants believed that higher education should protect its public nature, taking into account disadvantaged groups, promoting the sound operation of society, and enhancing social fairness and equity. This point was reflected in higher education's contribution to social mobility. Most interviewees ( $N = 7$ ) considered that the facilitation of social mobility in universities was noteworthy. Two academics gave their personal experience as examples.

PNA6: Yes, higher education contributes to social mobility. For example, if a student is going to have higher education from the western part to the more developed eastern part of the country, and then stays in a more developed city, does this mean that he flows to the upper stream in social mobility? Of course, this may be what we call that knowledge changes destiny.

In relation to outreach/public engagement activities, most academics ( $N = 7$ ) thought that universities' outreach activities were beneficial to both their own research and their teaching. At the same time, universities' social engagement could also reflect their leading role in disseminating advanced cultural knowledge and outputs from the latest scientific research. Further, the cooperation between universities and cities was full of significance. For example, a top university could provide assistance to the economic and social development of cities in underdeveloped areas and this process would have a huge influence on China as a whole.

PSA7: Very important. For example, a university's cooperation with different cities... I think it is also very important... I think universities will have the idea of externalities... their assistance to different cities will finally bring the positive impacts on China as a whole... it can help the economic development of some undeveloped areas in China. Also, universities can make tremendous contributions in science and technology as well as the development of society. I guess, in the future, the exchange among universities, cities and local people will be increased.

In this set of interview questions, participants were asked about their disciplines' contributions to the public good. In general, the named contributions included the

delivery of educated talents ( $N = 4$ ); scientific outputs and technology development ( $N = 3$ ); policy suggestions to the country ( $N = 2$ ); the cultural and spiritual enrichment of the public ( $N = 3$ ) and the global influence on technology and culture ( $N = 2$ ). More specifically, academics in the top research university (S university) talked about international impacts, while academics in the local university (N university) laid more emphasis on local/national influences. There are also certain differences between the disciplines. The science and engineering disciplines often

contribute to social/national technological innovation; the humanities and social science paid more attention to spiritual and cultural enrichment.

PNA6: Our university is located in a small city... we may be more concerned about the local matters, because better international universities will consider national and international matters.

PNA9: Our country now has very fast economic and social development, and many departments are in great need of people with a history background... many people just say that they like technology products, but, what we need most is to have a kind of humanistic thinking and background to control these things. If technology is not well managed, it may become a nightmare, with negative effects on people's life. Yes, like the WeChat in China, people use it too much to forget talking with their families. We may have advanced technology and our work become more effective, but how about our happiness? Do we really feel happy? I am not sure. Sometimes, we need to turn to the inside for help and improve our happiness through some cultural and historic things, which enrich our spiritual world.

#### **4.3.3 Higher education and (global) common goods**

The questions for academics triggered little additional information for this theme, when compared with theme of higher education and (global) public goods.

#### **4.3.4 Monitoring, regulating and measuring such goods**

The questions for academics generated less information on the theme of monitoring, regulating and measuring public goods. However, the academics were also

interviewed about the responsibilities of universities, including the expectations and requirements placed on universities by students, the country and the public. Participants ( $N = 5$ ) noted that in relation to students, universities were responsible for promoting their ability, enhancing their good behaviour and sound attitude in their daily life, and ultimately perfecting their personal qualities. As for the country, participants ( $N = 6$ ) assumed that universities should carry out scientific and technological innovation, and promote core national competitiveness through the development of research and technology, thereby ensuring national security. In terms of social responsibility, six participants considered that universities should accelerate social progress. Universities were obliged to deliver high-quality talents with innovative thinking and high-level skills, with the ability to suggest national development strategies and cascade advanced values and cultural traditions. As for local economic development, universities should help enterprises develop and enhance their technology and management.

PSA5: The university is very responsible for the success of the students. Also, for the country, the demand for the talents should be combined with the demand for scientific research, yes, the university can meet this need. Therefore, it is necessary to serve the development and progress of our country and the society....

To summarise, the university academics considered that Chinese universities had a public nature and this nature should be well guaranteed and protected. Higher education in China was neither a pure public good nor a private good, but it was a quasi-public good. Still, for most people, higher education in China was more like social welfare though it was selective and fee-charging. The academics noted that higher education's contributions to public goods included talent delivery, scientific outputs, policy suggestions, the cultural and spiritual enrichment of the public, and the global influence on technology and culture. Most importantly, higher education was responsible to students, the country and the society.



## 5. Discussion

The objective of this research is to establish a generic framework for defining, observing, monitoring and where possible measuring public/common goods in higher education in China. The findings of this study show that the vast majority of participants assumed that government was still at the helm of higher education in China. The market might be marginalised in the higher education supply system. Participants considered that public good(s) were closely related to government funding, featuring non-profit, non-excludability and non-rivalry, whereas common good(s) might be confined to a certain group. The market and government were ineffective in relation to such goods. Given the current situation, higher education in China tended towards a quasi-public good, as it was fee-charging and selective, but it contributed to the (global) public/common good in many aspects (e.g., cultivating global citizens and producing advanced research outputs), and embraced responsibility for enhancing human wellbeing and life quality. The measurement of these public or common goods depended on their attributes. People also agreed that the public nature of higher education should be maintained in China, and shaped by the requirements of both the national government and the universities themselves. Hence, some people suggested that higher education in China might be better described in relation to common good(s), as it was deeply affected by collective culture and government policies. However, participants in this study found it difficult to differentiate global public goods and global common goods.

Our results summarise the government's roles in higher education as including planning, guiding, guaranteeing and monitoring/regulating the higher education system. As the primary funder of higher education, government provided top-level design and the general arrangement of higher education. It created national development strategies and policies concerning higher education; it provided a large amount of funding for the operation of higher education, with special projects in certain universities; it also monitored and regulated the quality and operation of the whole educational system, with specific evaluation every year. Though China now encourages social/private investment, as a supplement for educational funding, this kind of investment, like private education, still took a backseat in the higher education system. This agrees with the findings of Lao (2002) and Wang (2007), that the government dominates the higher education system in many aspects, with less

intervention of market forces. This model is also a combination of Marginson's (2018, p. 331) Quadrant 2 (social democracy) and Quadrant 3 (state quasi-market). Higher education in China is shaped, controlled and largely financed by the government; while at the same time it can be partially provided by the private sector, and the logic of the market has a legal presence in the field of higher education. The development and improvement of higher education in China needs diversified financial sources. This is also one of the characteristics of modern universities. This confirms Mi and Li's (2009) idea that multiple funding sources would become one of the directions for higher education reform in China.

Universities in China share the purpose of promoting national and local development, in many aspects. For high-level universities, making contributions to the prosperity of the entire nation is a priority, with an emphasis on the interests of the whole world. Local and regional universities want to become top-level national universities and to support local and regional development. Our results show that universities' autonomy is limited in some aspects, for example, resource allocation and student recruiting. The high-level university highlights the need for research autonomy, while the local university emphasises autonomy in talent cultivation.

Given the complex situation in China (e.g., the unbalanced development between Eastern and Western parts of the country; the diversified student groups), in relation to higher education, government needs to take into account equity, efficiency, reform, development and stability. These areas also define the priorities in different stages of development in China's higher education. The scope and the range of autonomy in the higher education system hinges on both the national development priorities and the developmental level. Currently, China highlights *intensive development* in higher education. Hence the autonomy of universities can be expected to increase, which bodes well for China's higher education system.

Our results also suggest that higher education in China is not a pure public good since it is merit-based and fee-charging. However, the public nature of higher education will not change, which means higher education continues to serve the public good and produces public goods. This is consistent with many Chinese scholars' studies and reaffirms the public role of higher education in China (Yuan, 2009; Su, 2009). Also, this long-cherished public nature of higher education is guaranteed by relevant policies, for example, *Article 24 of the Higher Education Law*

of the *People's Republic of China*, which clearly states that the establishment of higher education institutions should be in line with national and social public interests (the Ministry of Education, 1998). Our results show that the private goods (benefits that are confined to individual students/graduates) and public goods of higher education can grow together. In fact, these private goods could be translated into public goods, as individuals live in society and they need to interact with each other. Hence the benefits that accrue to the individual student will be enjoyed by all at last. This finding may eliminate the concern of some scholars that higher education has narrowed its purpose to the enhancement of individual earnings and employability (Lao, 2003; Li, 2010).

Our research also gives a definition for the public good (*gong yi xing*) of higher education; that is, higher education is not just for individuals, but also for the benefit of the overall public. This is a long-lasting and intrinsic attribute of higher education. There is also a need to differentiate between the local and global public good. The so-called local public good is related to one country and people of that country, whereas the global public good is for all people worldwide. This concept is more generalised when compared with specific public goods.

Public goods (*gong yi wu pin*) refers to more specific products and activities that are carried on a non-profit basis. They are not self-serving. In contrast, these activities, such as research outputs, should serve the country and the society. As for global public goods, they are of benefit for people throughout the world. Knowledge, culture, global awareness and global mobility are global public goods. This finding chimes well with some Western scholars' ideas (Tiebout, 1956; Kaul, et.al., 1999). Higher education's contributions to the (global) public good or (global) public goods can be observed in four areas: (1) talents (with global perspectives), who will serve the local area, the country and even the world, thereby enhancing social economic development; (2) research outputs, which solve challenging problems and improve human wellbeing; (3) public services, which include outreach/public engagement activities and policy suggestions; (4) cultural inheritance and innovation, which spread precious culture and tradition from generation to generation internationally. However, global public goods in higher education may not always be the same throughout the world and they are closely related to national power. Powerful nations tend to have more opportunities to enjoy such goods and they often produce more and better global public goods.

Our research provides evidence that higher education contributes to the (global) common good or (global) common goods, though this is a new topic in China. Common goods or the common good may be confined to a certain group, and the market and government are ineffective in relation to such goods. Their creation and production are processes of collective participation. People who participate in these processes can benefit from them and these participants form a community with common interest. This idea reinforces the idea of education as a common good as expressed by UNESCO: education is a dynamic process which requires shared participation (UNESCO, 2015). In light of this, global common goods or the global common good is related to all people worldwide. Though participants in our study take President Xi's "a community of shared future for mankind" (*ren lei ming yun gong tong ti*) as similar as the global public good, we believe it is more related to the global common good, since this Chinese concept implies that all humans live in the same planet and they shoulder the same responsibility to make their lives better. In other words, it emphasises that individuals in the global society belong to the same community of interest, underlining the growing interdependence and convergence between countries and regions. Everyone has unshakable responsibility for making a better world and the care of the earth, which falls in line with the ideas of *intrinsic value* and *shared participation* in the common good (Hollenbach, 2002; Deneulin & Townsend, 2007; UNESCO, 2015; Zhang, 2015).

According to UNESCO's interpretation of this concept, a principal contribution of higher education to the (global) common good is embodied in social mobility. This is also reflected in our research. The results suggest that higher education in China contributes significantly to social mobility, because: (1) low-cost education means that students' personal returns outweigh their own financial input; (2) in China, public universities are the main higher education providers, and the public nature of higher education has been maintained for many decades. Generally speaking, China's higher education pays more attention to the fairness and equity; (3) China has a unified college entrance examination system, which is a relatively open and fair selection mechanism. Students in impoverished areas can enter universities through their own efforts, and after acquiring professional knowledge and skills, they have the chance to stay in the developed areas for work, changing their living conditions and their life destinies.

In general, higher education is beneficial for all and encourages tolerance, equity, understanding, inclusion and so on. For example, in the “One Belt and One Road” initiative, there is a humanistic exchange mechanism that prioritises the relationship among states. The main bearer of this mechanism is higher education, which strives to propel mutually cultural understanding among young people. As a result, this initiative is a global common good, because the participants (individuals and countries) gain mutual understanding and benefits. Undoubtedly, this trend will continue and step up to a higher level, which implies a positive change in the role of higher education, due to its increasing power and influence. The government needs higher education, and universities also have the ability to serve the country.

Even though our research did not develop a mechanism for measuring public or common goods created by higher education, our findings make meaningful suggestions. The measurement of public or common goods differs according to the specific attributes of those goods. Scientific research outputs are readily measured by indicators, using quantitative methods (e.g., the number of publications and projects). However, this measurable attribute results in the overemphasis on scientific research, especially applied research, in universities. In relation to certain intangible goods, measurement is much more difficult. Surveys of university reputation, and a census concerning the popularisation of higher education, may be helpful.

## 6. Conclusion

In summary, this project indicates the dominant role of government in China’s higher education, confirms higher educations’ contributions to both (global) public goods and (global) common goods and proposes that the concept of “the global common good” is similar to the Chinese concept of “a community of shared future for mankind” (*ren lei ming yun gong tong ti*). The measurement of public and common goods depends on their attributes and it is more practical to measure goods such as research outputs.

Higher education in China is not a pure public good, but it contributes to the public good or public goods, under political and cultural influences. It is a collective endeavour and also common to all people. Given that China's higher education is neither a pure public good nor a pure private good, defining it as a common good(s) may be more reasonable. If higher education should be seen as a (global) common good, universities need to cooperate extensively with an open mind, breaking down the barriers erected by the protection of self-interest, and constructing a community with a shared future. Finally, making contributions to global goods should be on the basis of serving the local and the national public/common good at the same time as the global common good.

The present study has certain limitations. The findings in this research suggest general directions for measuring public or common goods, but they do not provide a practical and applicable framework, due to the lack of relevant information in the Chinese context. In order to develop an applicable framework for measurement, in our future work we may organise research using mixed research methods. Nevertheless, it is hoped that the insights gained from findings of this study will open the way to further investigation in relevant areas.

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## Appendix 1

### *the classification of interview questions, themes - dimensions of inquiry in relation to research questions*

Research questions	Themes - Dimensions of inquiry <sup>1</sup>	Interview questions (simplified)		
RQ1: Relations between government and higher education	1. The state and political culture 2. Relations between government and higher education 3. Social-educational culture 4. System organisation in higher education	Government & agencies	U leaders	U academics
		Q1, Q2, Q3,	Q1, Q2, Q3, Q8	Q1, Q3, Q4, Q5, Q8,
RQ2: Higher education and (global) public goods	5. the private sector and public goods 6. The global perspectives and activities of institutions and systems 7. Public goods in higher education 8. Global public goods in higher education: 9. the (global) public good of higher education	Q1, Q4, Q5, Q8, Q9, Q10, Q12, Q13, Q14, Q15	Q1, Q4, Q5, Q8, Q9, Q10, Q12, Q13, Q14, Q15	Q1, Q2, Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14
RQ3: Higher education and (global) common goods	6. The global perspectives and activities of institutions and systems 10. (global) common goods and the (global) common good of higher education	Q7, Q11, Q14, Q15?	Q7, Q11, Q14, Q15?	

<sup>1</sup> See more information on the 2<sup>nd</sup> page, which is cited from the outline of project 1.1 “*Project 1.1 Local, national and global public good contributions of higher education: A comparative study in six national systems*” by Simon Marginsion, 2017, p. 26.

RQ4: Monitoring and measuring (global) public goods	7. Public goods in higher education 8. Global public goods in higher education: 10. (global) common goods and the (global) common good	Q5, Q6, Q10	Q5, Q6, Q10	Q3
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*Notes: there may be overlaps in the above-listed sections, because the interview questions may cover different themes at the same time, and the information under each theme may be related to more than one research questions simultaneously.*

### ***Dimensions of inquiry***

It is expected that the outcomes of the research will assist policy makers, philanthropists and HEIs themselves to clarify public goods and think creatively about practices designed to optimise those public goods and their distribution.

In order to situate public goods effectively within each national system and cultural tradition, and also across national systems and in the extra-national global space, empirical data concerning the potentially ‘public activities’ of national systems, global consortia and partnerships, and individual HEIs, should be interrogated in terms of:

1. *The state and political culture*: Ideas and practices of the roles, responsibility and scope of government, state relations with economic markets and civil society, prevailing ideas of ‘society’ and ‘public’;
2. *Relations between government and higher education*: Higher education and state/society building, autonomy, regulation, funding, discursive/other practices of the social and economic roles of HEIs;
3. *Social-educational culture*: Social and economic expectations of higher education, family educational practices, examinations/ social selection, social mobility, school-university relations;

4. *System organisation in higher education*: Institutional stratification, competition and cooperation between HEIs, within national systems and within regional and global networks, and the diversification of public and private goods;
5. *The private sector and public goods*: State/society/higher education relations in the private sector;
6. *The global perspectives and activities of institutions and systems*: Global imaginings, global position and positioning, cross-border linkages and mobility, global policy borrowing and commonalities;
7. *Public goods in higher education*: Specific programmes and practices of institutions and systems, including measurement of relevant activities, that contribute to public goods (broadly defined) in the national system; and those that contribute to global public goods; the funding of those activities, and the relation between funding and activity;
8. *Global public goods in higher education*: Specific programmes and practices of institutions and systems, including measurement of the relevant activities, that contribute to global public goods, whether produced from one country or between countries; the funding of those activities, and relations between funding and activity. The next section looks at global public goods more closely.

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