

Global Forces, Local Perceptions:
Measuring the Normalization Effects of University Rankings in China

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ABSTRACT

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China has become one of the most important players in the landscape of higher education worldwide. The nation is home to the largest tertiary sector in the world, is the leading sender of international students, the third largest receiver of international students, and its government has aggressively pushed internationalization policies at its top universities. Policymakers and educational stakeholders in China have been implementing these strategies in order to chase world-class status for the nation's universities. While the world-class university concept is ubiquitous across the globe, there has been no agreed upon definition for these elite institutions. In China, though, rankings have been adopted to make sense of this elite status. This dissertation explores the impact that university rankings have had on the Chinese higher education system.

There has been considerable research on university rankings in China, but some gaps remain. Studies have explored Chinese universities' ambitions for world-class status, but rankings are often marginalized within these studies. Studies on the impact of university rankings have mostly focused on their connection to Chinese international students, as league tables have key tools in decision-making for this population. Conversely, research that has focused on domestic students has emphasized geographic biases in university admissions and affluence advantages in the system, and usually has not engaged with global or local rankings. To fill these gaps, my study centers university rankings within the intersection of the local and global settings.

I used two original datasets to engage this exploration of how university rankings impact Chinese universities. First, I interviewed 48 faculty and staff members from the elite spectrum of the Chinese higher education sector. Through the interviews, I investigated how the concept of the world-class university relates to university rankings in China. I confirmed that these league tables have provided a concrete, commensurate indicator for decision-makers to make sense of the global higher education hierarchy, with specific cut-offs to be considered world-class. Further, I examined the intersection between global ranking ambitions of Chinese universities coupled with stringent control from the central government through the striving model. I found that while international forces have had considerable impact on these institutions, local characteristics are highly filtered through a Chinese domestic lens, as governmental distinction has dominated the focus of elite universities. Concurrently, I surveyed over 900 students from across Chinese universities in an exploration of ranking familiarity and knowledge. Through multivariate analysis, I found that students from affluent classes, elite universities, and those with study abroad ambitions were all more familiar with rankings. However, in an actual test of knowledge, I discovered that elite university students actually did worse in regards to global ranking knowledge, while the associations to affluence and study abroad ambition disappeared. The findings in this research have centered rankings in a comparative perspective of higher education in China and the lessons learned can be adapted to future studies in other societies or sectors.

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ACRONYMS

| | |
|--------------|--|
| A&HCI | Arts & Humanities Citation Index |
| ARWU | Academic Ranking of World Universities |
| AAU | Association of American Universities |
| BNU | Beijing Normal University |
| BLR | Binary Logistic Regression |
| C9 League | China 9 University League |
| CCP | Chinese Communist Party |
| CDR | China Discipline Ranking |
| CEC | China Education Center |
| CSC | China Scholarship Council |
| CUAA | Chinese Universities Alumni Association |
| GIMS | Guangdong Institute of Management Science |
| Go8 | Group of Eight |
| ICEF Monitor | International Consultants for Education and Fairs (ICEF) |
| ILSAs | International Large-Scale Assessments |
| INGOs | International Non-Governmental Organizations |
| IIE | Institute of International Education |
| IOs | International Organizations |
| IRB | Institutional Review Board |
| MoE | Ministry of Education |
| MIT | Massachusetts Institute of Technology |
| MLR | Multinomial Logistic Regression |

| | |
|--------|--|
| NGOs | Non-Governmental Organizations |
| OECD | Organisation for Economic Co-operation and Development |
| OLR | Ordered Logistic Regression |
| PISA | Programme for International Student Assessment |
| PRC | People's Republic of China |
| QS | Quacquarelli Symonds Limited |
| RAE | Research Assessment Exercise |
| REF | Research Excellence Framework |
| RMB | <i>Renminbi</i> |
| SCI | Science Citation Index |
| SSCI | Social Sciences Citation Index |
| THE | Times Higher Education |
| UCL | University College London |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |

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CHAPTER ONE: Introduction

What would a world look like without university rankings? Students would not be able to simply whittle a list of prospective universities from the ones that made the cover of a magazine. University administrators would not have an individual metric to determine which institutional partners they should pursue for joint projects. Faculty members could not easily gauge a possible graduate candidate educated from an unfamiliar country to work under them. In each of these scenarios, these stakeholders would have to do a little bit more work in order to understand their predicament. In reality, these decisions by higher education stakeholders are difficult, and require nuance and insight, but university rankings are now commonly used in these kinds of decisions and for making sense of the complex higher education systems. Rankings provide a simple, yet powerful metric commonly used in higher education, even if these indicators are biased or flawed, and they promote a narrow standard for what a university looks like.

Although the world is now familiar with university ranking, this phenomenon only emerged in 1983. *US News & World Report* introduced the first influential university ranking scheme in 1983 with its "America's Best Colleges" issue. Since 1987, the magazine has continuously published the coveted league table issue every year, and it has only gained influence since its early inception (Ehrenberg, 2005). This ranking system measures graduation and retention numbers, university reputations via survey with sector stakeholders, university characteristics like class size or faculty salaries, selectivity as determined by SAT and ACT scores, financial resources, and alumni giving. Similar to other commensuration practices, the *US News* ranking reduces the complexity of higher education by focusing on certain aspects of universities, while marginalizing other domains, such as ignoring missions of diversity in favor of standardized test scores (Espeland & Sauder, 2007). While the scheme is tweaked each year, the categories have

mostly remained static. Despite critiques from educators that the metrics cannot properly gauge complex university systems, students, parents, alumni, and other stakeholders consume the findings upon release, forcing institutions to take heed (Dill, 2007).

With the popularization of *US News* in the United States, other nations soon followed with their own domestic rankings. *MacLean's* in Canada was founded in 1991 and has virtually identical metrics as its North American counterpart, aside from a few minor alterations (Salmi & Saroyan, 2007). The next year, in 1992, the *Times* newspaper published the first influential university ranking in the United Kingdom, which was also quite similarly constructed as *US News* (Bowden, 2000). Similar domestic rankings to the ones in the Anglo-West rapidly spread around the world. For instance, China was an early adaptor of national league tables for its universities. Since 1987, there have been 17 different domestic Chinese rankings that have gained some influence in the sector; though, many of these league tables have ceased operations and faded away in the intervening years since (Jin & Shen, 2012). While these domestic Chinese rankings have had similar metrics as their Western counterparts, such as reputational surveys and financial resources; they also put a heavier focus on measures of research output in highly cited journals or indices (Liu & Liu, 2005).

Global University Rankings

Aside from the spread of domestic league tables to other sectors, another aspect of the internationalization rankings arose in the early 2000s. In 2003, the Academic Ranking of World Universities (ARWU) was founded by the Institute of Higher Education at Shanghai Jiao Tong University, becoming the first global university rankings scheme in the world (Liu & Cheng, 2005). The founding of this ranking changed the landscape of how higher education functioned

internationally, as it allowed for instant comparison of very different educational systems and institutions (Hazelkorn, 2015). The organization has used publicly available data to rank institutions across the world, releasing the results of the top 500 universities globally in an ordinal rank order. The metrics in ARWU have relied heavily on research capacities, such as faculty publications in *Nature*, *Science*, and journals listed in the Social Sciences Citation Index (SSCI). Unlike its domestic counterparts, ARWU does not factor in any peer survey scores for the metric; but like its domestic counterparts, there are also no measures of academic freedom accounted for in the ranking.

Quickly following ARWU, in 2004, British-based *Times Higher Education (THE)* and QS released a joint global university ranking scheme that became highly cited in the sector (Rust & Kim, 2015). Different from ARWU, the British firms' ranking included institutional reputation as a key indicator, compiled through a massive survey of academics and business people around the world. These reputational surveys asked actors in the higher education sector to rate various institutions that they were familiar, which the agencies heavily weighed in their metric. In 2009, the two organizations ended the cooperation, but each continued producing rankings independently, and both still hold considerable influence in the sector (Marginson, 2014). Currently, both the *THE* and QS ranking schemes still use the reputational surveys issued to sector stakeholders to rate peer institutions in their varying schemes. These schemes also consider research capacity, financial resources, and other university characteristics, such as internationalization. In a trend common across the other popular rankings, neither *THE* nor QS accounts for any measures of academic freedom or social missions.

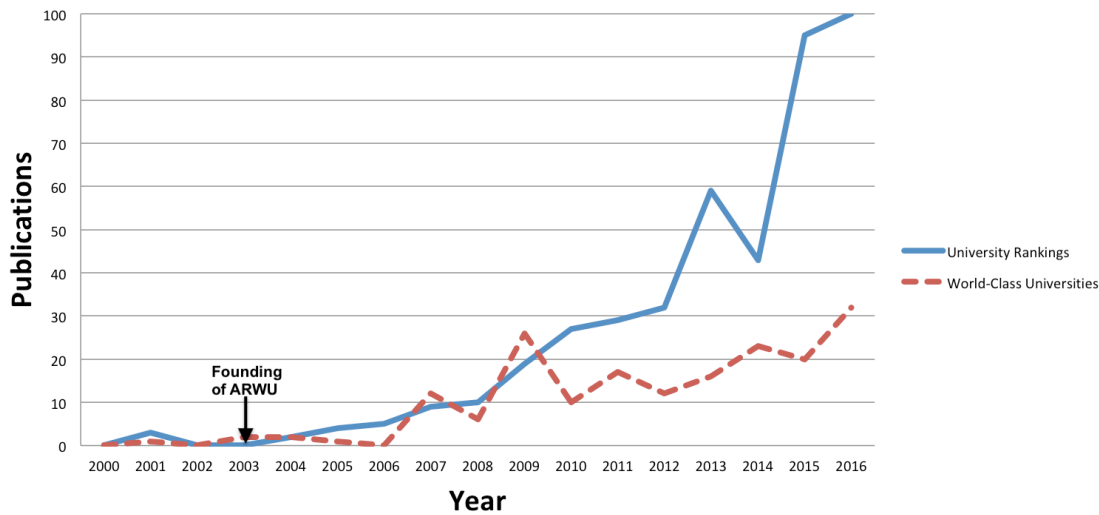
The inundation of global university rankings has not been without criticisms. These league tables have been critiqued for forcing universities around the world to comport to standards

established by Western nations (Shahjahan et al., 2017). Anglo-Western universities have dominated global university rankings, as the top positions in these league tables have mostly been filled with American or British intuitions. The metrics that are used in the rankings, such as research output and reputation, favor traditional, elite research universities in the US and Britain. The journals that are counted in the global ranking metrics are mostly English-language publications housed in the US or Commonwealth nations (Chou, 2014). Even strong, traditional academic systems like in Germany, France, and Japan have been marginalized in the rankings because of the metric bias for research conducted in English (Shin & Kehm, 2013).

Another critique of global university rankings stems from their close association to world-class university status (Cremonini et al., 2014). These kinds of elite global institutions are much sought after by almost every society, yet there is no universally agreed-upon definition of this concept (Ramirez & Meyer, 2013). Rankings have provided some sense making to understand this world-class status, and even the World Bank suggests policymakers use league tables in their higher education benchmarking (Salmi, 2009). *Fig. 1.1* shows how research on university rankings and the concept of world-class universities have risen together in academic literature in recent decades.¹ With the establishment of ARWU and the proliferation of these types of rankings, there has been a steady rise of research pertaining to the world-class concept. Ordorika and Lloyd (2014) argued that the Western-style, research-intensive university often considered the model for world-class status and favored by the rankings, is a barrier for developing nations because these societies have other priorities, such as expanding access or equity.

¹ I utilized the Web of Science Core Collection database containing indices of top journals—including Social Sciences Citation Index (SSCI) and Arts & Humanities Citation Index (A&HCI)—to explore publications with specific key terms from 2000 to 2016: “university rankings,” “world-class universities,” and related variations. Ramirez and Tiplic (2013) used similar methods in the exploration of world-class universities and higher education development.

Fig. 1.1: Count of Publications on University Rankings and World-Class Universities, 2000-2016



Source: Web of Science

As illustrated in *Fig. 1*, the past three decades saw a growing interest in university rankings, both domestic and global. Scholars writing about the American higher education, for example, have documented the pervasive impact that rankings have had on the sector. Bowman and Bastedo (2009) discovered that rankings have a strong impact on student decisions; called the *front-page* effect, if a university makes it in the top-25 of *US News* publication, the following year it will see a spike in the quality and number of student applicants. Because students are so attuned to rankings, universities are forced to pay attention to their position. Espeland and Sauder (2007) found that chasing rankings has hindered higher educational diversity efforts, as *US News* does not account for these kinds of social missions. If a university wants to move up in league table positioning, it must follow the narrowly defined metrics established by the ranking publication. Though, scholars have also contended that not every university reacts to rankings in the same manner. O’Meara (2007) dubbed universities that most focus on rankings as “strivers,” and reported the extreme pressures placed on their faculties from rank-related initiatives; though, this work on strivers has been focused on domestic rankings.

Research and Gaps in Understanding Rankings

There has also been considerable research conducted on global university rankings, including on their emergence and reactions to them by various stakeholders. ARWU, the first prominent global ranking, was established with the explicit goal to “assess the gap between Chinese universities and world-class universities” (Liu & Cheng, 2005, p. 127). The researchers at the Chinese university were attempting to find a model to measure rapid changes in the Chinese higher education system by comparing the nation’s institutions to those abroad. The scholars were unaware of the influence that this first ranking would have on other sectors around the world. The UK-based rankings were quickly launched after ARWU in part because British universities did not get “the recognition they deserve[d]” in the China-based ranking (Rust & Kim, 2015, p. 167). Others schemes have emerged in recent years, and some have even carried specific critiques against the dominant ranking agencies, such as U-Multirank’s ambitious goal of operating without ordinal ranks in its scheme (Marginson, 2014a). Nonetheless, the most popular schemes (ARWU, THE, and QS) have had a critical impact on higher education around the world.

The impact of these global league tables was quickly felt across the world. Salmi and Saroyan (2007) reported that policymakers and university leaders in developing nations were especially intent on moving their universities up in these league tables because of perceptions in catching up with the West. Similar to Bowman and Bastedo’s top-25 in domestic rankings, Hazelkorn (2015) witnessed through in-depth interviews with university stakeholders from across the world that institutions viewed the top-100 as a crucial maker of global elite status. In the early years of global university rankings, scholars noted that Western nations, especially the United States, held clear advantages, dominating these top ranks. However, more recently, other

nations, especially China, have been rapidly rising in the rankings (Altbach, 2016). The ordinal positioning and competition are crucial for universities with any global ambitions because research has shown international students are especially drawn to these metrics (Liu et al., 2013).

While there is considerable research already considering how rankings have impacted universities, gaps still remain in the understanding of their impacts. First, the most highly cited ranking literature comes from Western countries, mostly focusing on domestic league tables (such as Ehrenberg, 2005; Sauder & Espeland, 2009; Bastedo & Bowman, 2009). In the US especially, global rankings are marginalized in the higher education sector because of the dominance of *US News*. Research on the American sector has focused on stakeholders dealing with these domestic forces (O'Meara, 2007). Furthermore, in other highly cited works looking that consider global rankings, such as Hazelkorn (2015) and Salmi and Saroyan (2007), the effects of rankings are referred to in general terms only, rather than delineating the specific impact of global rankings versus the specific impact from the domestic versions. Therefore very little is known about the role of rankings in non-western contexts that might simultaneously emphasize both domestic and global rankings. A key example comes from China, a society in which its higher education actors face strict national hierarchies while also chasing global ranking ambitions. Living in this kind of ranking condition has been marginalized in the understanding of these pressures.

There are specific gaps in research pertaining to university rankings in China, too. Studies on Chinese higher education have often focused on internationalization efforts, publishing issues, and the concept of world-class universities, with rankings as a secondary concern or even simply in the research (see Rhoads et al., 2014; Tian et al., 2016; Kim et al., 2017). Rankings have been key factors in the high profile internationalization efforts and provide sense making in the

complex global system, meaning that there should be a greater awareness of how stakeholders work under ranking pressures in China. Likewise, the literature on university stakeholders in regards to domestic rankings has also been sparse, and none have considered how these pressures intersect with global rankings. Similarly, much of the research on Chinese student reaction to rankings has only focused on the population's usage of global league tables in decisions to attend universities abroad. Almost none of the domestic-focused research on students in China has contemplated rankings, either the global or local versions. I consider both in regards to the domestic sector in China.

In this dissertation, I attempt to address these gaps in the literature by highlighting the intersections between the global and the local in Chinese higher education. Using literature on rankings, I have organized a framework for how universities have reacted to university league tables. Much of the foundational studies used to organize the framework have been focused on Western systems and there could be key differences in the unique Chinese setting. Chinese universities have operated in a society considerably different than in the West, as the former has had to balance a dominant central government while also chasing international ambitions. The focus on both the global and local from the Chinese higher education sector should impact how these universities have reacted to ranking forces. Therefore, the overall research question for this dissertation is: How have university rankings impacted Chinese universities?

Because this is a large and expansive topic, I have honed the study's focus to two sets of actors within the sector. First, I have explored the reactions of faculty and staff at Chinese universities. Specifically, I asked two sub-questions: 1) How have Chinese universities balanced between global striving ambitions and a dominant central government? 2) To what extent have university rankings been used by Chinese university stakeholders as credentials in navigating the

quest for world-class universities? Next, I also explored students within this setting. For these actors, I asked: What factors determine students knowing or not knowing their approximate university rank? Through these questions, I have been able to understand how university rankings have impacted Chinese institutions from the actors that live, operate, or work from within them.

China and Rankings

The case of China is noteworthy and beneficial for the study of global university rankings for six specific reasons. First, unlike many other educational trends, the global ranking phenomenon has its origins in a non-Western nation, as a Chinese university initiated the practice of global university ranking with the founding of ARWU in 2003. It is important to understand the society that produced such a global phenomenon that has impacted universities across the world. Next, scholars have argued that Chinese society has had reverence for social hierarchies through its Confucian tradition (Walton, 1989). These social cues and expectations have been guiding principals in China for thousands of years, permeating all classes and groups of people even today. The reverence for rankings in Chinese culture has permeated across to higher education sectors globally in the form of the aforementioned ranking. Third, the structure of the state in China has a history of administrative rankings, rooted in indicators borrowed from Soviet structures following the takeover of the nation by the Chinese Communist Party in 1949 (Lü, 2000). In the Soviet system borrowed in the early foundation of the PRC, these planned policies led to strict uses of measures to ascertain all aspects of industrial capacities. For education in the centrally planned economy, the number of students enrolled in specialized universities and

majors was tied to the government's industrial development planning because the Party needed to understand how many workers would fill certain roles and positions (Hayhoe, 1996).

The fourth point stems from the dramatic changes from the late 1970s, as the Chinese government began to incrementally move from away from tight controls that defined the post-1940 era with the adoption of reforms rooted in marketization and privatization (Mok & Lo, 2007; Hayhoe et al., 2012). These approaches eroded the Soviet state to some extent, but the governmental structure has remained highly centralized. Even today, many sectors are still dominated by state-owned enterprises and the government plays a central role in most policies. In accordance, the fifth reason centers on public institutions dominating the Chinese higher education sector, a dramatic difference from the American environment. The best universities in China, all of which are public, have been boosted by governmental elite-making policies, namely through the Project 985 and Project 211 (Mok & Chan, 2007). Moreover, the allocation of public money to higher education institutions is informed by domestic ranking conducted by the Ministry of Education. Finally, in recent years, China has become the most important actor in the international higher education space. The nation by far accounts for the most international students sent to universities abroad, with over 700,000 according to UNESCO. Conversely, China has now become the third large recipient of international students, only behind the US and UK, according to the Institute of International Education.

Through these combinations of characteristics in the Chinese setting, studying rankings in China offer unique insight into a highly centralized system that has a perversion to rankings, and that is consistently seeking status globally. Researchers cannot just assume that in this differing environment, universities and their stakeholders will operate in the exact same manner as Western peers, the societies that currently underpin many foundational studies on rankings. Just

as research on the neoliberal movements in the US showed that audit culture helped to give rise and proliferation of domestic rankings, China's combination of historical culture, governmental structures, and future ambitions has helped to give rise and proliferation of global rankings. Understanding how rankings operate in this kind of environment is important to all future research on the topic.

Dissertation Overview

In order to address the research questions that guide this dissertation, I conducted in-depth field research on the Chinese higher education sector during the spring and summer of 2018. I interviewed 48 academics and administrators from various Chinese universities regarding their experiences with university rankings. Additionally, I surveyed over 1,000 university students from across China on their knowledge and familiarity with university rankings. Through these data, I have answered the overarching research question, along with the specific sub-questions as outlined by each empirical chapter.

In Chapter 2, I have explored the larger literature related to university rankings, and the logic underpinning the pervasive use of these indicators by decision makers across the world. Furthermore, I have provided background information on Chinese society and its education system, showing how it fits into the larger global trends in ranking studies. Using this literature, I have illustrated a framework for how universities and their stakeholders are affected by university rankings, including students, academics, and administrators.

Chapter 3 has provided the data and methodological approaches used in the analytical chapters. I have first offered the sample breakdowns for both the qualitative and quantitative datasets, followed by cleaning and coding, respectively. For the qualitative research, I

interviewed 48 stakeholders from Chinese universities across China on their experiences with rankings and other aspects of higher education. The interview sample cuts across various academic fields and administrative positions, but it is centered on the elite end of the Chinese higher education sector. For the quantitative data, I surveyed over 1,000 Chinese university students for this project. The survey gathered information on student familiarity with rankings, factors in their university selection, and basic demographic characteristics. The limitations that have arisen from the nature of this type of study will also be addressed.

In Chapter 4, the first empirical chapter, I asked to what extent have university rankings been used by Chinese university stakeholders as credentials in navigating the quest for world-class universities? Through interviews with academics and administrators, I explored the intersection of the global and local in an attempt to understand how world-class universities in China differ from their Western counterparts. Because there is no agreed-upon definition of the world-class university, I argued that rankings have filled the vacuum and have provided stakeholders with a concrete measure. I argue that league tables, in this complex environment, have provided a commensurate proxy for the world-class conception. Indeed, my findings showed that rankings have provided an outlet for Chinese institutions to continue gaining global recognition through a specific metric and that they are regularly used as decision-making tools by administrators.

In Chapter 5, I ascribed O'Meara's striving model to the elite Chinese university sector, while adding an emphasis on international rankings. I particularly asked how have these actors in Chinese universities balanced global striving ambitions and a dominant central government. Through analysis of my faculty and staff interviews, I identified how global rankings have pushed isomorphism on the higher education sector, altering research goals, but I also showed that local characteristics have mitigated some of these influences, namely through the stunting of

the C9 League, the elite coalition of universities sometimes compared to the Ivy League. Indeed, in this competitive environment, distinction and rankings from the central government have promoted the most intense striving behaviors from universities in China.

Chapter 6, the final empirical chapter, turned the focus to students. In this chapter, I explored which factors determined students' engagement with university ranking and what determined if students know or not know their approximate university rank? Specifically, I had students to gauge their own familiarity with rankings and their importance to the college-going decision. Furthermore, I tested the participants' knowledge by asking them to estimate their own universities' global and local ranking. From the results of my multivariate analysis, it appears that rankings do indeed have significant influences on this student population, but the impact is more apparent on the students in elite institutions. Students from elite universities better know their domestic ranking, but scored much worse when gauging their global ranking, while the opposite is true for local or regional university students.

Finally, in the concluding chapter, I recapped the larger research question in this dissertation. I noted how the findings from the empirical chapters have informed this inquiry by highlighting the intersections of local and global rank forces. I also considered the implications that this comparative study brings to research on league tables in the US and other Western nations, as much of the literature is rooted in these societies, and I provide a discussion on the differences and similarities. Furthermore, this era of internationalization of higher education is likely to see China continue and increase its dominance of the sector. Conceptions by other nations for Chinese universities' usage of rankings are likely to have reverberating effects throughout the world, redefining perceived best practices in the sector. Given these conclusions and findings, I

posited new directions that can be taken with the study of university rankings, especially in regards to media, young Chinese academics, and other comparative studies of this nature.

CHAPTER TWO: Theorizing University Rankings in Global and Local Contexts

Introduction

University rankings changed the landscape of higher education first in 1983 with the establishment of *US News & World Report* and then again in 2003 with the founding of Academic Ranking of World Universities (ARWU), the first prominent global university ranking. Over the past decade and a half, the influences from these league tables have proliferated to higher education sectors across the world. Popular league tables have stimulated standardization across institutions worldwide, even for those systems with very little in common (Altbach, 2015a). University leaders and educators have heavily criticized the ranking phenomenon because the narrow metrics used have forced institutions to align with a standard defined by the ranking agencies (Espeland & Sauder, 2007). Despite critique, though, universities have had to pay attention to league table position because students, parents, and even policymakers have all utilized the rankings in decision-making processes (Ehrenberg, 1999; Salmi & Saroyan, 2007; Hazelkorn, 2015).

There are several noteworthy reasons to study the case of China in regards to university rankings. First, the global university ranking phenomenon originated in China, with the establishment of the ARWU by Shanghai Jiao Tong University. Historically, hierarchical structure and organization have been an important aspect of Chinese sociopolitical culture because of its Confucian roots (Walton, 1989). Further, with the establishment of the People's Republic of China by the CCP, the nation reorganized Soviet model of bureaucratization and central planning that lionized practical science.

After the Reforms and Opening in the late 1970s, the nation again went through a transformation as it moved to a market economic system characterized by incremental privatization efforts (Lü, 2000). In this era, students were sent across the world to learn from Western nations, and expected to return to China with new ideals to modernize the nations. Despite these privatization efforts, though, the nation is still heavily centralized and government-led, especially in comparison to the United States (Mok & Chan, 2007). Finally, in recent years, the nation has become the most influential player for higher education globally, leading initiatives in exchanges, dual degrees, and student exchanges.

Considering these unique characteristics for the case of China, the experiences with university rankings in this nation is crucial to the understanding the impacts of university rankings in a context dramatically differing from the West. Thus, the overarching research question that guides this project is: How have university rankings impacted Chinese universities? To answer this larger research question, I have focused my inquiry into three sub-questions and onto specific actors, university faculty, staff, and university students. Through the faculty and staff, I first asked, how have Chinese universities balanced between global striving ambitions and a dominant central government? Likewise, I next examined the question of to what extent have university rankings been used by Chinese university stakeholders as credentials in navigating the quest for world-class universities? Finally, through a dataset of Chinese students, I explored what factors determine students knowing or not knowing their approximate university rank?

Before answering these research questions, I first needed to understand the literature on how university rankings have operated throughout the world, which I have used to organize a framework for my inquiry. In this chapter, I placed keen focus on literature

and studies on university rankings in the United States, which has two more decades of experience with domestically compared to global university ranking. I also explored the literature related to global university rankings from around the world, which is commonly tied to the world-class university concept. While ranking literature is heavily rooted in the Western setting, especially the US, there are a few, limited studies in regards to China, which have been considered here, too. Moreover, I also provided the background for the case of China and its education system, tying educational trends in the nation to that on the international stage. Finally, I concluded this chapter with a framework for how university rankings have impacted universities and their actors.

University Rankings and Their Impacts

The quantification of any complex idea, such as the quality of entire national education system, into a simplified measurement is known as commensuration (Espeland & Stevens, 1998). The process of commensuration occurs when various sets of information are compartmentalized, converged, or organized into simplified units. The commensuration concept is part of a larger movement in so-called policy by numbers, in which indicators, targets, and league tables are used by various decision makers to form, create, or react to policy (Cooley & Snyder, 2015; Kelley et al., 2015). In the West, this movement has its roots in neoliberal ideals related to the regimes of Ronald Reagan in the US and Margaret Thatcher in the UK. Harvey (2007) defined neoliberalism as “a theory of political economic practices proposing that human well-being can best be advanced by the maximization of entrepreneurial freedoms within an institutional framework characterized by private property rights, individual liberty, unencumbered markets, and

free trade” (p. 22). This dominant discourse has inundated governments and policymakers across the world, and has been especially attractive in post-Soviet societies because of their past lionization of practical sciences through central planning (Steiner-Khamsi & Stolpe, 2006; Kojevnikov, 2008). The phenomenon promoted audits through performance indicators and accountably measures to leaders and decision makers in societies around the world. In this setting, commensurate indicators have become glorified as scientific objectivity and considered to be subjective information for policymakers, especially those in the bureaucracy (see Porter, 1996; Steiner-Khamsi, 2003; Kelley et al., 2015; Shore et al., 2015).

University rankings have become a central commensurate measure in higher education, and educational researchers have long been studying their impact since the phenomenon’s rise in the 1980s (Johnes et al., 1987; Woodhouse & Goldstein, 1988; Welch, 1998). Bowden (2000) called university rankings the “fantasy higher education,” a riff on British football league tables (p. 41). In the US there has been a long history of measuring and ranking universities, but the organization that is often cited as being the most influential in terms of competition and clout is *US News and World Report (US News)*, with its annual ranking of American institutions, first started in 1983 (Monks & Ehrenberg, 1999; Rust & Kim, 2015). This small magazine forever altered the higher education landscape in the United States and across the world. Ehrenberg (2005) claimed that *US News* creates a cycle of addiction for universities and students by releasing the ranking each year. The organization’s ordinal rank of every institution, as opposed to just providing different tiers, overinflates the differences between rank positions. Even as the key components have mostly remained stable (academic reputation, students selectivity,

faculty resources, graduation and retention rates, financial resources, alumni giving, and graduation rates), the metrics are slightly tweaked every year, causing shifts that are out of universities' control. Volkwein and Gruing (2005) reasoned that the subtle changes purposely incite intrigue and buzz within the sector every year, boosting sales and relevance for the publication.

Scholars have identified pressures to conform to a standard structure or organization, known as isomorphism, resulting from tactics in chasing these metrics (see DiMaggio & Powell, 1989; Sauder & Lancaster, 2006; Espeland & Sauder, 2007). Because the league table metrics are narrowly defined, little variation can happen in the sector. Programs with missions that do not align with the elite indicators lose out on rank position, and are pressured to alter policy from leaders, alumni, or policymakers; in some cases, Espeland and Sauder (2007) found that chasing rankings has hindered diversity efforts, as *US News* does not account for these kinds of social missions. In general, the competition creates incentives to game the system, such as admitting low scoring students in semesters that are not counted in the metric, encouraging students with no chance to be admitted to apply, and even falsifying information (Ehrenberg, 2005; Volkwein & Gruing, 2005; Bush & Peterson, 2012).

In one of the most cited studies related to university rankings, using fixed effects regression on college admissions data, Bowman and Bastedo (2009) discovered the “front-page” effect from the *US News* ranking publication. Moving on or off the front page of the magazine's ranking issue, meaning ranked in the top-25, had effects on class SAT scores, application numbers, and admitted rates. However, the impact of rankings did vary by tier of the institution. The study suggested that students use rankings as a tool

to create a perspective list, and that those very high achieving students mostly make their lists from the top-25 of *US News*. Recognizing these effects, intuitions must jockey for position, breeding more competition in an already competitive environment. Because students have been using rankings in their college selection processes, university administrators and policymakers are forced pay attention. Bastedo and Bowman (2009) used structural equation modeling to show that peer assessment ratings in *US News* were affected by the previous year's rankings. These results show that the reputation from previous years follows institutions, certifying a self-fulfilling cycle that is called the "halo effect" (Marginson, 2014a). These consequences lead universities to heavily focus on areas that they think will boost rank scores.

The Striving Model

Despite complaints and drawbacks, universities are still highly attuned to rankings as status-seeking symbols. Bok (2003) said, "Although every college president can recite the many weaknesses of these ratings, they do provide a highly visible index of success, and competition is always quickened by such measures, especially among institutions like universities whose work is too intangible to permit more reliable means of evaluation" (p. 14). Some universities, though, are more attuned to the ranking game than others. In a highly cited market research report from RAND, Brewer et al. (2002) identified three types of universities that react to rankings in different ways (p. 35):

- (1) prestigious: those already atop the hierarchy;
- (2) prestige-seeking: those investing in status;
- (3) reputation-based: other types of institutions.

Building from Brewer et al.'s work, O'Meara (2007) called universities that are more attuned to rankings "strivers." She defined this characteristic as "the pursuit of prestige within the academic hierarchy. Striving behavior might include campuses amending their admissions process, reward structures, and resource allocation decisions" (O'Meara, 2007, p. 122). She contended that the institutions that are most likely to engage in striving behaviors are comprehensive universities expanding their research capacity, non-elite liberal arts institutions, and research universities ranked just under their top-ranked peers (though, she does not offer any specific rank cut-off criteria). Striving universities spend massive amounts of resources, time, and initiatives chasing league table position. For instance, Morphew and Baker (2004) found that these universities dramatically expand administrative costs in order to move into the top of the Carnegie Foundation classification.

The pressures resulting from university striving behaviors are often captured through the experiences of institutional stakeholders, such as academics, administrators, and university leaders. O'Meara et al. (2011) provided a framework for understanding these types of experiences in studies of faculty members. The model was specifically constructed for inquiries into "faculty agency," but it can also be used to explore larger outcomes or other phenomena in higher education. The researchers define faculty agency as a "form of resistance to or in line with organizational, field, or social norms" in a "specific domain... taking strategic or intentional actions or perspectives towards goals that matter to oneself" (as cited in Campbell & O'Meara, 2013, p. 52). In the model, as illustrated on *Table 2.1*, O'Meara et al. (2011) posited that these perspectives can be

shaped and influenced on three levels: individual, organizational, or field/ societal. Pressures onto each level can clearly be connected to rankings, such as the increased burden to publish for many individual academics in striving universities. Building upon the framework, Campbell and O’Meara (2013) added several departmental contexts: professional development resources, work-life climate, perceptions of the tenure process, transparency, and person-department fit.

Table 2.1: Faculty Perspective Framework

| Influences | Descriptions | Outcomes | Example Ranking Connections |
|-------------------|---|--|--|
| Individual | Psychological traits, internal resource, social capital, identity | Satisfaction, productivity, retention, advancements, professional growth | Pressures to publish, present at elite conferences |
| Organizational | Norms and expectations, climates, resources, policies, leadership | Changes organization characteristics | Competition and comparisons with peers |
| Field/ societal | Social stratification, norms and expectations | Changes to field, societal changes | Standardized model of a university |

Source: Adapted from O’Meara et al. (2011).

Other studies have taken similar approaches by utilizing university stakeholder interviews in research on higher educational striving environments. Lamont (2009) described how she used faculty interviews in understanding aspects of evaluation, publishing, or peer review, saying that it was akin to opening the “black box” of an opaque sector (p. 12). Likewise, O’Meara and Bloomgarden (2011) agreed that interviewing a targeted group of academics provides the “ideal vehicle to examine faculty perceptions of their work environment” (p. 46). They found that the leaders at the liberal arts university in their study had placed uncomfortable pressures on the faculty that increased dissatisfaction across the university body. These behaviors are not relegated to private liberal arts colleges; Gonzales (2014) explored similar consternations from

professors at a working-class American university that had begun to chase elite status. Likewise, these are not just American issues; Philpott et al. (2011) tracked how faculty struggled in European universities that were pursuing more entrepreneurial business tactics in recent year. While these studies do focus on domestic rankings in the West, I will later discuss this type of research in a global context, as well as for the case of China.

Global Rankings and World-Class Universities

After Shanghai Jiao Tong University founded the first influential global ranking in 2003, schemes in Britain soon followed. Like their counterparts that only measure domestic hierarchies, these international league tables also promote narrow parameters for higher education institutions. Unlike with domestic rankings, though, global rankings force comparison and benchmarking across the world, in societies and systems that often come from completely different contexts. Yudkevich et al. (2015) even referred to ranking competition as the “Olympic Games” of higher education, as nations jockey for a few coveted positions (p. 412). Some of the findings from domestic rankings have even been carried over to global university rankings, with some degrees of variation.

Similar to American setting top-25 effects (Bowman & Bastedo, 2009), scholars have contended that there is a similar perception with the top-100 in the global rankings (Hazelkorn, 2015; Gong & Huybers, 2015). Hazelkorn (2015) contended that every nation desires at least one university to reach this elite point, which has beget funding initiatives into the top end of domestic hierarchies worldwide. Governments have placed explicit standards for international scholarships or other partnerships given specific global rank criteria, too. For instance, Qatar’s Institutional Standards Office formerly had

a list of 250 approved universities for exchanges that was based on the AWRU and *THE* rankings (Salmi & Saroyan, 2007). Similarly, Mongolia, Brazil, Chile, and Ecuador have used the rankings as bureaucratic determinants in scholarship funding (Salmi & Saroyan, 2007; Ordorika & Lloyd, 2014). Global rankings have provided important and direct decision-making tools for bureaucrats and administrators across the world.

Hazelkorn (2015) contended that powerful university positions are even decided by how well (or bad) a university fares in league table standings, such as the selection of rectors, presidents, or other leadership posts. Highlighting the pressures that university leaders and policymakers feel from global university rankings, Salmi (2009) described how Malaysia's top two universities fell 100 spots in the 2005 *THE* rankings. The drops created a national outcry and the Vice-Chancellor of the University of Malaya was pressured to resign. Malaysia's dramatic drop actually resulted from the ranking agency rejiggering its metric that year, and not because of any problem with the universities, but this nuance was lost in the scandal. In another case, in 2004, a group of New Zealand universities actually sued their own government in order to stop the release of a ranking that placed local institutions below peers in Australia and the UK (Salmi & Saroyan, 2007).

Policymakers and university leaders have feared that low rankings will inhibit recruitment or other important global connections. In 2011, the European Commission issued a warning to its members that too few of their institutions were recognized in global ranking schemes, and suggested a boost through national intervention and a more competitive model (Erkkilä, 2014). From a survey of higher education leaders from across the world, Hazelkorn (2008) reported that over 70% of the respondents understood

that they needed to be in the top 25% of the international rankings. Most of these presidents or other leaders were worried about possible bad press for their institution if they did not achieve a desired position. This sample of leaders was especially concerned with the impact that rankings and the coverage would have on student decisions.

Media, too, has played a significant role in how global university rankings are perceived locally. In a study of ranking reactions in Italy, Blasi et al. (2007) noticed that media considerably simplifies ranking results, mostly focusing on only the very top positions. Nuances to biased metric constructions are forgotten with scandalization, and, instead, policy prescriptions to issues in the systems are presented as solutions to the poor results. In another example from Europe, France, with its strong academic history, has not fared well in the English-language dominated global ranking sphere. Salmi and Saroyan (2007) cited that, in 2004, *Le Monde* published an article lambasting the perceived bleak showing of the best French universities, entitled “The Great Misery of French Universities.” The problems were mostly pegged on budgetary cuts or admission policies inherent to the French system, while biased methodology was largely ignored. National anxieties over being left behind in global league tables, often fueled by pushes from the elites, has led to the development of higher education excellence initiatives in nations across the world, such as in Poland, Ukraine, Czech Republic, Germany, Japan, Russia, and Korea (Salmi & Saroyan, 2007; Antonowicz et al., 2017; Hazelkorn, 2015). Through these elite-making policies, governments have funneled massive funding injections to a select few universities, leading to elite university groupings in many societies, sometimes called the “Ivy League of X”—even for those with traditionally equitable higher education systems.

Unsurprisingly, there has been some pushback around the world to this global rank phenomenon. Before the true global ranking craze began, *Asiaweek* attempted to establish an Asian regional league table, but failed after 35 leading universities refused to participate (Salmi & Saroyan, 2007). Some French observers have decried the rankings as an “Anglo-Saxon” system (Salmi & Saroyan, 2007, p. 26). Relatedly, in a critical study of rankings in Latin America, Ordorika and Lloyd (2014) reported that rankings have been heavily criticized in the region as “neoliberal higher education policies” from the US (p. 387). Mexico has even witnessed student-led protests against the influence of rankings. Nonetheless, university leaders and policymakers in all of these societies have still had to grapple with the global pressures looming over their sectors. As far as I can tell, there has been no research on any society that has successfully eschewed the global university ranking game; though, it is possible that there are some exceptions.

As illustrated in the previous chapter, university rankings and the concept of the world-class university are conjoined. With the development and maturation of a competitive environment dominated by rankings and comparison, the notion of a world-class university has become globally prevalent, often characterized as large and comprehensive research universities (Altbach & Knight, 2007). Altbach (2013a) argued that these institutions are seen as pinnacles of the modern state that must have a properly educated citizenry. However, the *exact* definition of world-class remains elusive. Deem et al. (2008) claimed that the vagueness in definition allows for global malleability with a common language for the sector. This has led to different tactics around the world in the race for global universities: governments have poured massive investments into the top levels of the sectors (Altbach, 2015b); some nations have ramped up efforts to recruit

international students and foreign faculty; all-English language programs have even opened in nations where English is not the native tongue (Altbach & Knight, 2007; Knight, 2012; Kim, 2015). China has actually attempted a mishmash of all of these policies and more in its world-class quest (Luo, 2013).

The expectation of having these elite global universities is not only sought by rich and developed societies, as Altbach (2013b) noted, the chase for world-class institutions has permeated to still-developing nations. The World Bank has helped to popularize the norm through their prescribed version of these types of elite universities. In a report by Salmi (2009) for World Bank, these institutions are defined to have three characteristics: a concentration of talent, abundant resources, and favorable governance. Similarly, Shin and Kehm (2012) recognized four key characteristics in world-class institutions. First, the institutions should be considering global competition rather than just regional or domestic (similar to Marginson, 2006). Second, the main focus of the current competition should be on economic benefits, rather than on quality enhancement. Third, this recent competition should focus more on research productivity, rather than on learning outcomes. Finally, the competitiveness of these elite universities should be measured by global ranking schemes that reinforce the first three characteristics. While some of the factors overlap, there is still no single, agreed-upon definition for world-class.

Because of the difficulties in finding a common definition, rankings have naturally provided a proxy for elite status. Unlike in domestic sectors, there are no accreditation agencies affirming world-class credentials. Salmi and Saroyan (2007) reasoned, “without established evaluation or accreditation mechanisms, rankings can be used effectively to monitor and enhance quality” (p. 22). Indeed, the competition for world-class universities

can be observed in various systems around the world, which scholars have connected to the reverence for commensuration and benchmarks that began in the US and UK (Cooley & Snyder, 2015). Rankings, then, are the only perceived objective measure to truly ascertain global elite status, especially for bureaucrats or other decision makers. I will further explore rankings as a kind of world-class credential in a later analytical chapter.

Rankings and Higher Education in China

China has had historical an affinity to rankings through its Confucian heritage, manifesting in strict sociopolitical hierarchies and illustrated most notably through its Imperial Examination (*Keju*) system. Confucianism can be described as “lessons in practical ethics without any religious content” and a set of “pragmatic rules for daily life” (Hofstede & Bond, 1988, pp. 7-8). With the Confucian teachings, the stability of society should be based upon hierarchical relationships between a ruler to subjects, and even organized down to familial bonds. According to Hofstede and Bond (1988), “hierarchical dualities and interrelatedness lie at the heart of the Chinese” social structure (p. 18). This hierarchical reverence most notably manifested itself in Chinese education through the Imperial Examination system, in which the Chinese dynasties used to centrally control their various empires through bureaucratic order until the early twentieth century (Hayhoe, 1996). The system of examinations dominated the elite segments of society and was central to the nation’s leaders, literati, and bureaucrats for over a thousand years until it ended with the fall of the final Chinese dynasty in the early twentieth century.

With the Communist takeover of China in 1949, the CCP radically restructured the nation’s economic, social, and political systems through socialist ideology, mirroring

structures in the Soviet Union (Kojevnikov, 2008). Under this Soviet system, the entire sociopolitical economy was centrally planned through, what Kojevnikov (2008) described as the “cult of science and technology as the key to achieving their primary economic objectives—industrialization and modernization of the country” (p. 118). The CCP used indicators such as grain yields and steel production to rank and gauge performance of local cadres and their administrative work units. Higher education played a key role in the CCP’s central planning, as comprehensive universities were contracted into specialized institutes that were mostly focused on practical sciences. Student intake and majors were carefully selected and allocated to match local, regional, and national needs as determined by the Party (Hayhoe, 1989). This educational period saw an emphasis on technical experts that could be slotted throughout the national bureaucracy to push Soviet modernization efforts.

By the 1960s, the CCP’s relationship with the U.S.S.R had deteriorated, and Mao retreated from some of the so-called Soviet “bureaucratization” of this era (Lü, 2000). Mao still envisioned modernizing China through science and industrialization, but he also attempted to decrease the focus on ranking. During the Cultural Revolution cadre rankings were attacked as being “feudal” holdover (Lü, 2000). Chaos from the Cultural Revolution plunged the higher education system into utter tumult, the university entrance exam was discontinued in 1966, and most universities were closed until 1972 (Hayhoe, 1989). Academics, teachers, scientists, and other intellectuals were persecuted for their so-called bourgeois elements, often sent to do rural, manual labor or killed. The chaos of this era would not truly end until after Mao died, his close associates were arrested, and Deng Xiaoping took over (Hayhoe, 1996).

In 1978, Deng initiated incremental marketization and privatization reforms of the Chinese economy that slowly opened the nation to the world (Hayhoe, 1995). During this era, many state-owned enterprises were privatized, the economy was opened to foreign investment or local entrepreneurs, and rural China was decollectivized. Science and technology were key focuses of the reforms, and labeled as one of the “Four Modernizations” by the CCP (Lü, 2000). To recover from the damage done to education during the Cultural Revolution, students were sent across the world to learn from foreign universities, especially to the US. These students, called sea turtles, were expected to return home to help lead the modernization efforts of the Chinese economy, business, and other industry (Li, 2004b). With the influence from the West, Mok and Lo (2007) argued that “this has also led to the growing prominence of ideas and strategies along the lines of neoliberalism being adopted not only in reforming the economic sector but also in managing the public sector and in delivering social policy” (p. 316). With the reforms, performance rankings for CCP administration became more important, and added some desperation from officials to game the numbers to mask poor performances (Lü, 2000).

Despite marketization reforms of Chinese economic and social structures, the central government still has been predominant in society and CCP leaders have been characterized as technocratic managers (Hayhoe, 1995). For education, personal freedoms and choices were expanded, such abolishment of career allotments by the government and opening of student major selection in colleges, but the higher education sector has remained mostly public and less open than Western universities (Hayhoe, 1996). While some private (or *minban*) universities have been allowed to open in the post-opening decades, these institutions are seen as second-tier compared to public

universities (Mok & Lo, 2007). In 1985, the Ministry of Education was raised in status to a state commission, certifying its centralized authority over curriculum and management for all universities, even under those under other bureaucratic bodies (Hayhoe, 1989).

International Ambitions of Chinese Universities

In recent decades, the government has attempted to bolster its top universities through key elite-making policies. With a push from General Secretary Jiang Zemin, the nation's supreme leader, the government proposed the high-profile 211 Project in the Ninth Five-Year (1996-2000) Plan (Mok & Chan, 2008). The project's name was derived from the goal of successfully managing 100 universities for the 21st century. This project targeted investment at the top tiers of the higher education sector, with explicit goals of meeting a "world standard" in teaching and research (Ngok & Guo, 2008, p. 546). The initial institutions with this status had access to project funding of around 2.2 billion USD from 1996-2000 (Li, 2004a). The project later expanded to 116 universities and this inclusion granted these institutions higher status in the Chinese domestic sector.

Following the success of 211 Project, in 1998, while making a speech at Peking University's centennial anniversary, Jiang declared that the nation should have many globally recognized institutions, saying, "China must have a number of first-rate universities of international advanced level" (cited by Li, 2004a, p. 17). In the following year, the government officially unveiled another elite-making project to inject major investment into its higher education subsector known as the 985 Project (Li, 2004a; Ngok & Guo, 2008). The name was derived from the date the plan was first announced, May (5), 1998. Unlike with Project 211, the funding was targeted at a select few key elite

institutions, beginning with just two, Tsinghua University and Peking University, then to nine, and later to 34 in the initial stage of the project (Zhang et al., 2013). The first nine of these institutions have been organized into a grouping called “China 9 University League” (C9 League), which has been dubbed the “Ivy League” of China (Yang & Xie, 2015)

While the 985 and 211 projects focused holistically on university excellence and are non-ordinal classifications, the MoE has now moved focus to individual field or discipline rankings. Every four years, the Ministry has released the National Subjects Evaluation (NSE), a government ranking of subjects that is tied to funding for university researching (Song, 2017). In 2015, it was announced that both the 985 and 211 Projects would be phased out, and replaced by the new Double First Class (sometimes referred to as World Class 2.0), which would, like the NSE, focus on disciplines (Sharma, 2016). The Double First Class is a direct translation of the phrase 双一流 (*shuang yi liu*), which is a reference to the program’s focus on both universities and individual disciplines being world-class. Officially revealed in 2017, the project has basically retained the same hierarchies as the previous elite-making projects, with 42 universities¹ designated in the top tier and another 95 in a second lower tier, according to the *People’s Daily*.² The top tier universities have a focus on making the entire university world-class, while the second tier institutions only have a world-class distinction for designated disciplines. Furthermore, the government has installed ranking mechanisms for moving into or falling out of the various tiers depending on an assessment.

¹ There are 36 institutions in the top of the first tier and another six in a second, lower class of the top tier.

² China to develop 42 world-class universities. (2017, September 21). *People's Daily*. Retrieved December 5, 2017.

These elite projects domestically are connected with China's ambitions abroad. Chinese higher education has become increasingly global, with steady growth from international students populations, joint-research by scholars around the world, and other global collaborations from its universities (Bodycott & Lai, 2012). For decades, China has been characterized for sending its students abroad, fueling foreign student numbers in universities across the globe, but especially in the US and other Western nations, with over 700,000 outbound students per year according to UNESCO. In recent years, though, it has also become a world leader in inbound student intake, sitting only behind the US and UK in terms of international students with over 440,000, according to Institute of International Education. Furthermore, the higher education sector is leading in internationalization efforts like branch campuses or other joint ventures (Song, 2017).

Domestic Rankings and Chinese Education

Similar to the US, China also has domestic institutional ranking systems; unlike in the US, these local league tables have somewhat struggled to gain a foothold (Liu & Liu, 2005). In the 1990s, the first Chinese domestic ranking was released, called NETBIG and the other Guangdong Institute of Management Science (GIMS). However, these league tables have subsequently shuttered. One major scandal occurred surrounding domestic rankings when Wu Shulian, a famous Chinese economist associated with league tables in China, was accused of operating a pay-for-rank racket at the Chinese Academy of Management Science. The outcry sullied Wu and his ranking system. The Chinese People's Political Consultative Conference even considered outlawing unsanctioned university rankings, but has never fully committed to a ban (Wang, 2009). In recent

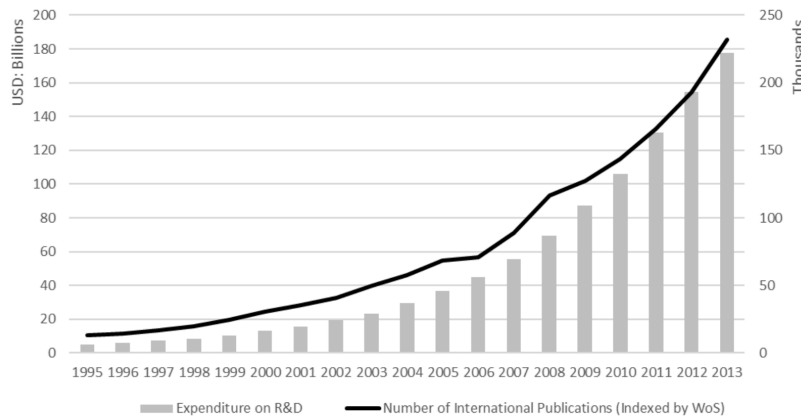
years, the Chinese Universities Alumni Association (CUAA)'s domestic ranking has gained popularity in the sector, measuring institutional research output, faculty member and student awards, program offerings, governmental project status, and reputation (Luo et al., 2016). Jin and Shen (2012) have argued that these domestic rankings are potentially more influential than global rankings in China, though, this may vary depending on the institution.

While domestic rankings have been muted compared to *US News*, China did spark the global ranking craze. In 2005, the Ministry of Education founded the Research Institute of Higher Education at Shanghai Jiao Tong University in April 2005, which hosts the Center for World-Class Universities, the original producers of the ARWU (Liu & Cheng, 2005). While the government has not specifically indicated benchmarking to universities abroad, individual Chinese universities have made clear indications to such references. Luo (2013) reported that Tsinghua University has benchmarked itself with MIT and other Association of American Universities institutions, even using this US-based institution as a guide for organizational planning. Similarly, in an analysis of partnerships between top Chinese universities, Yang and Xie (2015) found that the elite C9 League institutions are more likely to partner with other elite British institutions in the Russell Group. These global connections are fostered from the top Chinese institutions to the top Western institutions. However, it is unclear exactly how much rankings factor in these connections, and I will explore this gap in my analytical chapters.

The most substantial metric in popular global league table schemes comes from research measurements. Accordingly, Quan et al. (2017) reported a rapid increase in research and development expenditure related to Chinese higher education, illustrated on

Figure 2.1. These investments correlate with growth in research publications in the Web of Science by Chinese academics. To boost research capacity, the Chinese government and universities have attempted to recruit more researchers from abroad. In 2006, to boost the quality of researchers, the central government unveiled the Programme for Introducing Disciplinary Talents to Universities (Programme 111) with an aim to bring foreign trained experts to the 985 and 211 Project universities (Mok & Chan, 2015). Some institutions have turned to English language instruction to foster a better environment for foreign academics, and also to promote internationalization for domestic faculty (Ngok & Guo, 2008; Kim, 2015).

Figure 2.1: Research Funding in China (1995-2013)



Source: Quan et al. 2017

This pressure to publish has especially been felt by local Chinese faculty members in recent years. Professors are now expected to consistently publish in highly cited journals, which are mostly in English (Liu et al., 2015). Chou (2014) described this drive to publish in prestigious indices as the Social Sciences Citation Index (SSCI) Syndrome, which can be extended to all academic fields. She maintained, “the Asian region is continually affected by the strong managerial governance and academics are under intensified pressure to benchmark the international practices in the race of global

university ranking exercises” (p. xii). The demand for these publications is so great that universities have installed handsome incentives for academics. In a survey of the field across China, Quan et al. (2017) found that incentives range from a few hundred dollars in international journals to hundreds of thousands of dollars for publications in *Nature*. These parameters, though, call for professors to mostly be the lead author on these publications, with a few exceptions.

These forces placed on individuals from institutional and global standards have had adverse effects on research and practices. There have been high profile cases of cheating, plagiarism, and other academic fraud in the Chinese sector; Lin (2013) claimed, “Academic frauds in China can be attributed to three factors: lack of severe punishment in the evaluation system; excessive pursuit of personal profits; and a lack of scientific ethics” (p. 26). Further, he predicted that this problem would only get worse as the pressures of global competition continue. Though, the government has recently unveiled a concerted effort to curb these kinds of fraudulent practices within the sector, threatening harsh penalties for any academic caught committing an offense (Cyranoski, 2017).

Students in Chinese Higher Education

While research on the global forces like rankings has focused on policymakers and institutions, students are a crucial factor in higher education. Student perceptions force universities to react, begetting changes to policies that send ripples across the sector worldwide. These types of studies on rankings, choices, and reactions have been well documented in the US, as illustrated by this literature review, but this intersection has not been fully explored in the Chinese sector. There has been some research on student

choice and societal characteristics that affect student choice; though, it has placed considerable attention on Chinese international students, as they are the largest segment of this population in the world. In recent trends, parents have chosen to skip the high-stakes college entrance exam, *gaokao*, and focus on the SAT or other national tests (Yang, 2015b). College admission in China is solely based on *gaokao* score, so students with little promise of scoring highly have no hope of entering a prestigious university.

Because geography has been such a key issue in China in recent decades, issues related to location and domestic migration have been important works in this area (see Wang & Moffatt, 2008; He, 2016). The east coast areas and urban centers have grown rich and affluent through favorable governmental policies and economic liberalization. The inequities caused through regional and urban/ rural resource disparities inhibited massive migration from the poor areas and countryside to the affluent east and urban cities (Hayhoe, 2012). Education plays a central role in this process. Citizens cannot simply move from one province or city freely because the government binds people through household registration, called a *hukou* (Wang & Moffatt, 2008). For primary and secondary education, students are forced to study within the jurisdiction of their *hukou*, but are free to apply to other provinces for higher education via the *gaokao* (Yeung, 2013). The top universities, such as the 985 or 211 institutions, are mostly clustered in these desirable areas, especially in cities like Beijing or Shanghai. Residents in these cities with a local *hukou* have an advantage when applying to universities within the jurisdiction because other provinces or localities have smaller quotas; this means that for students hoping to gain entry to a top university in another province or city, they must

score astronomically high on the *gaokao* (Yang, 2015b). The uneven distribution of these universities within a few urban centers makes the competition fierce.

Higher education has been one of the few ways in which rural lower and middle classes could obtain a coveted urban *hukou*. Yeung (2013) stated, “in China, higher education is a golden ticket for rural youth to gain an urban *hukou* status” (p. 55). Though, as Wang and Moffatt (2008) noted, there are some *hukou* stipulations depending on job type. Nonetheless, it is no wonder that studies have found geography to be such a crucial aspect in college-going decisions. He et al. (2016) found that “first-tier regions” are the top destinations for students in this university decision-making process, and characteristics like amenities hardly factor into the decision. Further, even non-elite universities have gained more desirability if they are located in these areas that can provide post-graduation economic and career benefits. Once students make it to a university in a desired city, they must find employment after graduation to fulfill their *hukou* transfer. In a large-scale study of graduates in Wuhan, Wang and Moffatt (2008) discovered that people from families with rural *hukou* more intensely searched for jobs and accepted lower paying positions in order to keep the university granted registration status. In recent years, the government has looked to loosen *hukou* restrictions to address some of these geographic disparities.

Another crucial aspect of education is family background. In recent years, as inequalities have exacerbated in society, the divides between the Chinese upper and lower classes has widened. The class divide is growing in education, too, even as China’s examination system is a promise of social mobility. Affluent families can buy homes in the area with the best schools and can also invest in private tutoring or shadow education

(Yang, 2015b). By the time many students make it to high school where they will take the *gaokao*, the years of educational differences are too vast. Many studies have shown these parental background disparities. In a mixed-method study of postgraduate university choices, Liu and Morgan (2015) found that less affluent families are often daunted by the college-going process and do not have financial means or familiarity to navigate the system. Conversely, affluent families can wield their *guanxi*, personal connections or networks, to maximize their students' educational outcomes. In another mixed-methods study of over 1,900 students with 50 parental interviews in Beijing, Sheng (2017) used binomial logistic regression to illustrate that those with higher self-reported wealth assessments were more likely to choose elite universities. Some studies show differing strengths of the parental effect, though; for instance, Liu et al. (2013) analyzed a sample of over 12,000 students through multinomial logistic regression and found that social class effects only related to degree choices in terms of law and medicine. The researchers have suggested that this kind of result illustrates the inundation that has thoroughly penetrated Chinese higher education, meaning all parents expect success and career outcomes, not just those in the elite circles. Though, studies like Sheng (2017), Liu and Morgan (2015), and Yang (2015b) have provided ample evidence that those from more affluent backgrounds hold an advantage.

Because there are so many Chinese students choosing to study abroad for their education—including undergraduate, graduate, and increasingly secondary levels—international mobility of Chinese students has been a popular research topic. In an in-depth study of international school choices in China, Yang (2015b) reported that middle-class to upper-class parents have the means to move their students abroad if they feel they

cannot score well enough to enter a prestigious university, while working-class parents had little knowledge or resources to provide this outlet. In a survey of 780 students at three different universities in China, Cao et al. (2016) found through hierarchical regression modeling that the impact from parents was the greatest predictor for students' desire to study abroad. This means that with higher degrees of education, parents were more likely to push for schooling abroad. Reputation of academic quality, as defined by university rankings, was the next most important factor in the study. In qualitative studies of Chinese parents, Spires et al. (2017) and Gong and Huybers (2015) reported that pull factors, such as perceptions of education quality abroad, rather than push factors, like poor economic opportunities at home, were leading characteristics in the choice to send children abroad.

Pull factors for Chinese students and parents are related to the perception that Western nations have superior academic institutions and technological advantages. However, the economic benefits for students are quickly falling. In an in-depth ethnographic study of international high schools with an explicit goal of sending students abroad, Yang (2015b) reported that families wanted to send their child abroad because it gave them a kind of elite status marker of wealth; the economic boosts that were formerly so attractive to Chinese families was a muted factor. In fact, much of the economic gains from studying abroad have dropped in recent years for Chinese returnees (Yang, 2015b.). Nonetheless, there is still some cultural cachet attached to the ability to send students abroad, which means rankings are especially more important in this status-seeking act.

Critiques and the Future of Chinese Higher Education

Despite the decades of looking towards the US, UK, or other educational powerhouses, there has recently been a growing pushback and reexamination of internationalization policies. In a study of China's recent initiatives, Song (2017) quoted Chinese president Xi Jinping, saying that the nation needed "world-class universities... with Chinese characteristics" during a 2016 conference on higher education. Similarly, Li (2012) argued, the elite Chinese universities "are leading to the emergence of a distinctive model of the university" (p. 329). It is unclear exactly how these kinds of institutions differ from their Western counterparts. Yet, there are apparent differences that manifest themselves in significant disagreements of philosophy for education, such as government control, which I will further explore in the analytical chapters.

A growing friction connected with China's rise in the context of global higher education stems from differing conceptions of academic freedom. Some scholars have questioned whether China can truly compete globally without having true academic freedom (see arguments in Bawa, 2009; Altbach, 2012; Mohrman, 2013). Furthermore, Song (2017) added, "Although compared to previous years, academics have more freedom to express their opinions and comments, it is not easy for them to play the role of adversarial critics in social development and political reform, for the state consistently puts a strong emphasis on stability and unity" (online). While Western universities have instilled intellectual freedom within the academy for centuries, these ideals are hardly universal; and the authoritarian environment of China offers a direct counter to the more open institutions in Western traditions. Many important appointments in the Chinese university structure still go through the Party, such as university presidents, hindering

academic freedom (Altbach, 2012; Luo, 2013). The issue of Chinese institutional academic freedom has also arisen from both scholars outside of China and from stakeholders within. Weifang Min, professor of education and Party Secretary of Peking University, a high-ranking position, has even argued for expanding academic freedom in order to keep up with global pressures on research for faculty (as cited by Ngok & Guo, 2008).

Some scholars have defended China's version of academic freedom as simply being different from the West. Through an analysis of the "Sinic or post-Confucian tradition," Marginson (2014b) argued, the "Sinic research university is less independent, on the whole less entrepreneurial, and more directly tied to policy agendas and state governance," even if there can be frank discussion and debates within a university (pp. 31-33). Similarly, Zha (2012) noted, in general, "the majority of Chinese scholars appear to be content with... a high level of articulation between their academic pursuits and the national interest, rather than seeking to be independent and functioning as a critical voice in national or global affairs" (p. 209). These arguments are closer to supporting national interests rather than free inquiry of the Western academy.

For Western observers, the trend in Chinese higher education is moving further away from intellectual freedom. Metzgar (2016) lauded Chinese efforts of public diplomacy through higher education, but she still argued that the nation will be hindered in its educational outreach efforts due to the restrictions within academic inquiry. "Promoting China as a country with a rich history, an appealing culture, and a strong economy does not alter the reality of restricted political freedoms on the ground," she said (p. 235). In 2013, a high profile directive from the Communist Party that warned against anti-Chinese

principles seeping into the nation, including educational institutions, as reported by the *ChinaFile*. “When facing sensitive events and complex puzzles in the ideological sphere, we should implement the principle that the people in charge assume responsibility and use territorial management,” argued the directive. This so-called “territorial management” can be described as censorship. Signs of this directive affecting actual policy arose in 2017, when famous journals such as *Nature* and the *China Quarterly* were found to have removed sensitive articles from their Chinese websites, as reported by the *New York Times* (Tian et al., 2016). These new developments in Chinese education policy seem counter to past decades’ internationalization efforts. In a later chapter, I will explore the intersections between China’s global ambitions in higher education and strict local control at home.

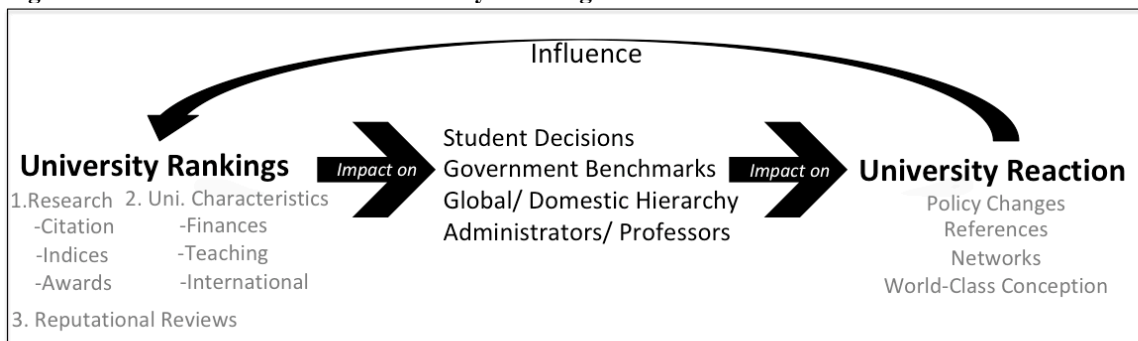
Synthesizing a Framework to Study the Impacts of University Rankings

After considering various studies on university rankings, I have devised a framework for how these forces can impact universities. The model below offers a comprehensive understanding of the mechanism that drives reactions to university rankings by universities. Given the literature, universities do not directly react to their league table position, but rather they respond to the perceptions of other stakeholders: students, governments, peers, and administrators or faculty. These actors react and change behavior depending on the university ranking.

The first step in the model comes from the ranking metrics constructed by the various agencies. While all of the popular rankings have their own commensuration formulas, they all share some common traits that are usually weighted slightly different depending

on the agency. I have broken down these metrics into three categories: research, university characteristics, and reputational reviews. Research is the most dominant aspect in the most influential ranking schemes, ranging at a high of 90% of the metric in ARWU to 20% in QS. The rankings also attempt to capture various aspects of university characteristics through internationalization numbers, finances, and even teaching in some cases, such as student-to-faculty ratio. Finally, reputational reviews or surveys also heavily factor into university rankings, with, for example, QS weighing 50% of its metric on surveys sent out to actors in the sector. Each of these items is collected, processed, and produced into a final commensurate ordinal ranking that dramatically impacts the higher education sector. For my study, I am only focusing on students and university actors given the limited scope of this inquiry. However, through this model, any of these assumptions can be tested and measured in future projects.

Fig. 2.3: Model for Reactions to University Rankings



Source: Synthesized by the author using ranking literature.

Considering O’Meara et al.’s (2011) framework for understanding universities through stakeholders, in my model, the impact that university rankings have onto university faculty or staff is important to institutional actions or responses. University administrators have been shown to make decisions using the rankings for various projects, such as on academic exchange partnerships. The top-100 has been posited as an important cut point that administrators use in these types of decisions (Hazelkorn, 2015).

Likewise, academics must consider the rankings when conducting research, as the various metrics often emphasize highly cited journals such as *Nature* or other important indices such as SSCI (Chou, 2014). Because these indices are dominated by English language publications, researchers have been forced to publish in their non-native tongue or on topics that are more appealing to a global audience.

Students, too, have been crucial in understanding the impacts of university rankings. Students are highly attuned to rankings for sense-making, especially those with elite-going aspirations and international students. On the domestic level, the top-25 has been recognized as an important status that drives elite student decisions (Bowman & Bastedo, 2009). On the global level, there has been some evidence that students have a similar conception for the top-100 in international rankings (Gong & Huybers, 2015). International students have been attracted to these types of rankings in their decision-making process because they lack the local understanding of a higher education system. Further, they need the foreign university that they attend to be able to translate back to their home country as a respected credential. Rankings provide this kind of commensurate information for students.

Conclusion

While the model presented here can be used to generally understand how rankings can impact universities, much of the literature underpinning the mechanisms is rooted in the Western setting. Thus, it is crucial to test for localization in the model (see Ball, 2012). Scholars have aptly likened the localization of global forces through a metaphor of light beaming through a prism. “The light beam represents a global script formulated in

and coming from world society,” asserted Pizmony-Levy (2011), “The prism represents an individual nation-state... as well as subnational elements. The refracted light... represents the global script after it has been negotiated and appropriated within the nation-state” (p. 604). Marginson (2017) used a similar metaphor in a description of global higher education convergences, which he alleged are only atheistic, contending that structures and policies may appear the same but actually reflect highly local characteristics. Because of this local “prism” conception, it is important to test ranking reactions from universities in diverse systems, and China provides an important comparison in this regard.

As mentioned, China provides an interesting case for the understanding of university rankings for a variety of reasons. Chinese society has had recent and long-term historical reverence for hierarchies, reputation, and bureaucracy that has manifested within the educational structures. While the nation has had incremental marketization, the nation is still much more centralized than other Western nations, such as the US. The elite public universities have had global ambitions in recent decades, and their faculty and staff have had to balance both global with local expectations. Research has been missing some of the key connections to these actors and rankings, instead focusing on general internationalization aspects or local government controls. Within my model, these elite actors are important to the reaction that rankings have had on universities in China. Likewise, Chinese students are often considered in international mobility research, but rarely has the domestic intersection of these forces been understood through this population. Given how important students have been in understanding university rankings elsewhere, Chinese students should be considered as a key mechanism in China,

too. Given the prism metaphor, it should be no surprise that Chinese stakeholders will operate somewhat differently than their Western counterparts, capturing these localizations will be key for this research.

CHAPTER THREE: Methodological Approach to Understanding the Impacts of University Rankings in China

Introduction

The purpose of this study is to understand how university rankings have impacted the Chinese higher education sector. The effects from this phenomenon in China have been studied, but there are considerable gaps in the research, and much of the foundational understanding for reactions to league tables has centered on American or Western higher education settings. The model that I have constructed via this literature was heavily informed from these Western environments, though other geographic areas of research were also considered. Actors in other societies or areas may not react in the same manner as those in the US or Europe, which offered an opportunity to test these assumptions through comparative research. As argued in the previous chapter, the case of China presented an important imperative for this kind of inquiry, with its unique history and growing importance to the world.

This research has been broken down into three separate empirical chapters, and their methods will be outlined in this chapter, with two focusing on administrators and academics while another uses student subjects. The first of these inquiries comes in Chapter 4 and considers the relationship between university rankings and the world-class university concept, illustrating how these metrics have been key tools in decision-making for Chinese universities. Next, Chapter 5 explores the intersections between global striving universities in China, such as the C9 League grouping, and the strong central government control of the domestic higher education sector. These two chapters have

incorporated interviews from faculty and staff who work for Chinese universities in the analysis. In the final analytical chapter, Chapter 6, I have switched gears from university employees to student perspectives of ranking effects. In this chapter, I tested student knowledge and familiarity with league tables, utilizing multivariate analysis.

While the three individual chapters are separated and can stand alone, they are all still interlinked together through the overarching exploration of how university rankings impact Chinese universities, assessing the established comparative model from Chapter 2. They each fill a distinct gap to the larger literature, but work together as one cohesive study. As the study relied upon multiple methods for the research design, with both interview and survey data collected, Chapter 3 will present both the qualitative and quantitative methodology used in the analysis. Likewise, the limitations associated with this kind of research design, topic area, and analyses will also be discussed and addressed in detail to conclude the chapter.

Research Design: A Tale of Two Methods

This study relied upon a multiple methods approach to the inquiry and incorporated both qualitative and quantitative data. Creswell (2008) argued that qualitative and quantitative methods should not be viewed as “polar opposites or dichotomies,” and instead can work together along a continuum (p. 3). A summary of my data and methods can be seen on *Table 3.1*. The individual analytical chapters have focused on one methodology—the qualitative interviewing was used in the analysis in Chapter 4 and Chapter 5, while Chapter 6 was carried out via quantitative survey analysis. In the concluding chapter, these results will be synthesized to support the larger investigation.

Through both qualitative and quantitative methodologies, this study maximizes the strengths of each to gain an in-depth understanding of the impacts of rankings on this sector (Matveev, 2002).

Table 3.1: Summary of Data and Methods

| Research Method | Data Type | Data Source | Chapters Analyzed |
|------------------------|------------------|--------------------|--------------------------|
| Qualitative | Interviews | Academics/ | Chapter 4 |
| | | Administrators | Chapter 5 |
| Quantitative | Survey | Students | Chapter 6 |

Source: Personal data collection for this research.

The combination of quantitative and qualitative studies provides expanded insight into social phenomenon (Creswell, 2008). This project relied upon “concurrent” study the impact of university rankings in China to match the “timing” of the multiple actors included in the analysis (Creswell, 2008, p. 2016). Creswell (2008) suggested that research of this nature should make examinations from “multiple levels” and methods (p. 219). This study uses qualitative faculty and administration from inside the operations of the university, while the student quantitative survey offers consumer-like perspective. The individual chapters only focus on one method and population, while the final chapter will synthesize the results from the three empirical chapters, providing a “mixing” of the analysis (p. 220). The construction of these multiple sources and methods standing separate, but linked in the findings or conclusion is called “component design” (Greene, 2007, p. 122). These strategies allow researchers to paint a “comprehensive picture” of a given phenomenon, which is described as, “the quantitative and qualitative data were collected and analyzed separately” (Maxwell et al., 2015, p. 17-19). Collecting quantitative and qualitative data from the same subjects can make integration easier, but it is not necessary in this kind of research and multiple population types (such as students

and university employees) are acceptable if they together inform the larger study (Maxwell et al., 2015, p. 23)

Introduction to the Interviews

According to Creswell (2008), qualitative research has allowed for “exploring and understanding the meaning individuals or groups ascribe to a social or human problem” (p. 4). As illustrated in the previous chapter, university faculty, staff, or other stakeholder are often used as key research participants in qualitative studies looking at trends in higher education and larger social issues in the sector. There has been considerable research illustrating how these actors deal with prestige striving through the rankings in the West, especially in the US (see work by O’Meara, 2007). While there has been research on how local actors within Chinese elite higher education experience the current internationalizations of the sector (see Yang & Welch, 2012; Rhoads et al., 2014), this research overlooks the centrality of rankings to the greater phenomenon.

I build upon the important tradition of using lived experiences in education research or other social sciences (Alvesson, 2010). This exploratory research gains valuable insight into this increasingly relevant sector in both China and on the world stage, one that is rapidly challenging Western domination in the sector. All participants provided a collective, localized view of the encroaching globalized forces, giving a more expansive perspective than could not be done through a similar study of just one institution or of quantitative approach (Creswell, 2008).

Interviews offer improvisation and adjustment throughout the process, in order to coax deeper responses that can be beneficial for the study (De Groot, 2002). This

advantage is especially beneficial in understanding complex systems like China's place in the global higher education sector. Individual professors or administrators offer personal experiences that might only offer one perspective of the larger puzzle. Weaving together the intricate tapestry from these perspectives allows for an in-depth understanding of the elite higher education sector, tying together knowledge and viewpoints from across the country. For instance, professors reported an increase in pressures to publish in highly cited research in recent years, but they did not always connect this practice to rankings. Yet, corresponding other interviews with more experienced stakeholders and to wider international education literature, I was able to make the connection to increased publication burdens and global rankings. This kind of interpretations would not be possible without in-depth interviews from a range of actors across the sector, a key advantage to the method (Blommaert & Dong, 2010).

Introduction to the Surveys

Quantitative research, according to Creswell (2008), has provided the “means for testing objective theories by examining the relationship among variables” (p. 4). For this study, I look to understand the relationship between students and rankings. As illustrated in the previous chapter, some of the most influential rankings literature has utilized quantitative data from students in a given sector. Oftentimes, these studies are focused on domestic rankings in the US or global rankings for Chinese students (see examples in Liu et al., 2013; Liu & Morgan, 2016; Bowman & Bastedo, 2009). Thus, similar to the impetus on faculty and staff interviews, because there have been few studies on the reactions to rankings from Chinese students within the domestic contexts, my study was

designed to rely on student survey responses. This data provides an unprecedented look into how students in China are affected by this global force, but while also accounting for localization.

Qualitative studies of this nature can help to confirm larger theoretical and exploratory research or assumptions (Rencher, 2003). The method brings precision to data across a large sample size, allowing comparable information that can be measured and analyzed in a variety of ways through statistical modeling (Matveev, 2002). Through these tools, this kind of research can be verified and replicated by the larger community of researchers, providing a higher degree of objectivism to the approach (Creswell, 2008). Though, scholars have long debated the reality of statistical objectivity (Berger & Berry, 1988); nonetheless, these methods have been central in social science research and I will continue that tradition. In recognizing the critiques, though, studies using qualitative methods must be concise and accountable given the specific rules of the selected statistical modeling.

Furthermore, while this project is deconstructed into three separate empirical inquiries (two using interview data and another using survey data), the research is aligned under one goal of understanding the impact of rankings on the Chinese higher education sector. The use of multiple methods undercuts the weaknesses inherent to both qualitative and quantitative studies, while maximizing their strengths (Matveev, 2002; Maxwell, 2013). Thus, I used two distinct samples (staff/ academics and students) in the larger inquiry, which decreases the possible biases that just one angle could have brought to this research.

Data Collection

Since the proposal stage of this research, I planned to collect both student survey data and qualitative academic/ administrator interviews together during a short tenure of fieldwork in China. Even before arriving in China, I had been working within Columbia University's larger community of China watchers for six years, building initial networks and laying the groundwork for this research project. As the early stages of fieldwork can be quite isolating and overwhelming (Blommaert & Dong, 2010), the success of the project was aided by contacts with academics and staff established before arriving at the site. Though, I knew that I could not solely rely on my New York connections, even as I intended to focus on the elite higher education spectrum, I wanted to attempt to minimize some bias in the sample selection.

During my field research, I was embedded at Beijing Normal University (BNU) for six months in 2017 sponsored under the Hanban's Confucius China Studies Program Fellowship. I was technically enrolled as a doctoral student at BNU's Faculty of Education. This campus in Beijing was my headquarters as I built my datasets during my six months in China. While at BNU, I was hosted under Dr. Baocun Liu, professor and Director of the Institute of International and Comparative Education. Through BNU and Dr. Liu, I was introduced into a network of students, faculty, and researchers that provided the foundation of my sampling.

While BNU was an important starting point, my research was not simply isolated to this campus. Beijing offered an ideal location for sampling the elite end of the Chinese higher education sector. The capital city hosts two of the top universities in the country (Tsinghua and Peking Universities, both only a short bus ride from my dorm room), the

most Project 985 institutions, the most Project 211 universities, and a range of other internationally-focused programs or institutions. To build a network, I immersed myself into educational and academic happenings across the city. Almost every night in Beijing, there was an opportunity to listen to lecturers from authors, academics, or other educators in some kind of public forum or meeting, such as history lectures at Peking's Yenching Institute or author chats at the Bookworm, a popular English bookstore. At these events, I would meet local academics or other researchers to build my network. While not every event or interaction was fruitful for sampling, the process was nonetheless insightful in understanding these larger elite academic and intellectual spaces.

Of course, even as Beijing was one of the most active intellectual hubs in the country, it is still just one Chinese city. The advantage of field research through the fellowship was that I had time and money for traveling to other parts of the country. I was able to use these resources to travel to several other cities in Greater China for more sampling: Nanjing, Jinan, Shanghai, Ningbo, Xiamen, Shenzhen, and Hong Kong. The high-speed rail network in China made it logistically possible for me to move across the country for interviewing and surveying. Furthermore, I was able to attend several conferences that brought together attendees from other cities across China, too. While my research cannot be considered ethnographic, field research embedded inside the elite sector has offered me a viewpoint and reach similar to that of ethnographers.

Qualitative Data: Interviews with Faculty and Staff

During the sampling for qualitative interviews of professors and administrators, I gathered informants in two ways using a snowball method (Dilly, 2000). First, I would

meet people face-to-face at the various events that I described above and would trade contact information. In China, this often meant communicating via WeChat, a WhatsApp-like system that is ubiquitously used throughout the country. I never got fully comfortable using WeChat in a formal academic way, as it is much more informal than email correspondence. Nonetheless, in alignment with IRB protocol, I would solicit these contacts that I already met in person for an interview. For the second method, a contact that I had met would make an introduction to me through email, WeChat, or sometimes in person, hence the “snowballing” of informants. Once the first introduction was complete, I would follow the same IRB-approved correspondence to gather interviewees. I will on elaborate the limitations of this method in a later section.

Interview Sample Description

The characteristics of the qualitative interview sample can be found on *Table 3.2*. The sample contains 48 total university stakeholders from across the elite segment of the Chinese higher education sector. Illustrated on *Chart 3.1*, I interviewed 12 participants from the C9 League, 17 from 985 Project universities, seven from 211 Project universities, and 12 from other globally focused institutions, which include universities that emphasize international connections, host considerable foreign students and faculty, organized as branch campuses, and teach mostly in English. Further, my sample contains 11 administrators and 37 academics, illustrated on *Chart 3.2*. For the academics, I accounted for a range of subjects: 12 from the social science or humanities, seven from the natural sciences, and 17 from the field of education, illustrated on *Chart 3.3*. While 44 of the interviewees were Chinese nationals, a total of 17 of the informants had

received at least one degree abroad, while the other 31 were educated completely in China, illustrated on *Chart 3.4*. Of the four foreign faculty members interviewed in the study, one had received his Ph.D. from a Chinese university. These participants also represented a variety of experience levels: 18 early career, 16 mid-career, and 14 late career.

Table 3.2: Full Sample Breakdown

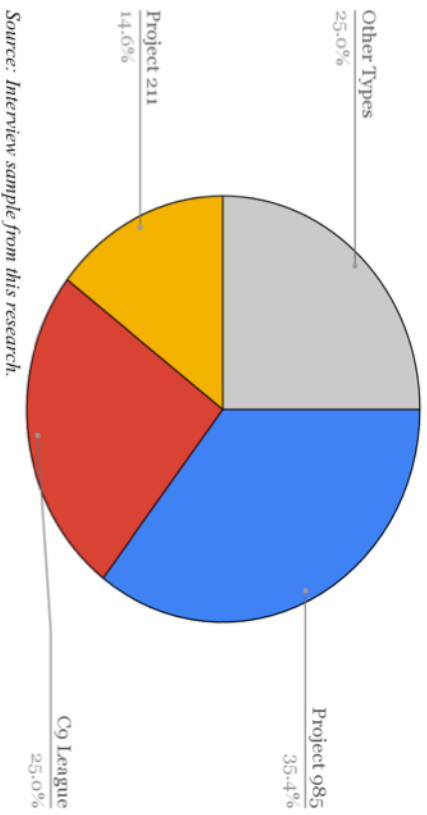
| <i>University Type</i> | <i>Career Point</i> | <i>Position</i> | <i>Location of highest degree</i> | <i>Discipline*</i> | <i>Chinese National</i> |
|------------------------|---------------------|-----------------|-----------------------------------|--------------------|-------------------------|
| None | Early career | Academic | China | SS | Yes |
| None | Late career | Academic | China | SS | Yes |
| 211 | Late career | Academic | China | S | Yes |
| 211 | Early career | Academic | UK | S | Yes |
| 985 | Late career | Academic | China | SS | Yes |
| C9 | Mid-career | Academic | US | S | Yes |
| 985 | Mid-career | Academic | China | SS | Yes |
| 985 | Mid-career | Academic | China | SS | Yes |
| C9 | Early career | Academic | China | SS | Yes |
| C9 | Late career | Academic | China | SS | Yes |
| None | Early career | Admin | US | A | Yes |
| None | Early career | Admin | Canada | A | Yes |
| 985 | Mid-career | Admin | China | A | Yes |
| 985 | Early career | Academic | China | E | Yes |
| C9 | Late career | Academic | China | E | Yes |
| C9 | Mid-career | Academic | China | S | Yes |
| None | Early career | Academic | UK/China | E | Yes |
| 985 | Mid-career | Admin | China | A | Yes |
| 985 | Mid-career | Academic | US | E | No |
| 985 | Late career | Academic | UK | E | No |
| C9 | Late career | Academic | China | E | Yes |
| 211 | Early career | Academic | US | E | Yes |
| 211 | Early career | Academic | UK | S | Yes |
| 985 | Late career | Academic | China | E | Yes |
| 985 | Mid-career | Academic | China | S | Yes |
| C9 | Late career | Academic | China | E | Yes |
| 985 | Late career | Academic | Australia | SS | No |
| None | Mid-career | Academic | China | E | Yes |
| 211 | Early career | Admin | UK | A | Yes |
| 211 | Mid-career | Academic | China | SS | Yes |
| C9 | Mid-career | Academic | China | E | Yes |

| | | | | | |
|------|--------------|----------|-------|----|-----|
| None | Late career | Academic | US | A | Yes |
| C9 | Mid-career | Academic | China | E | Yes |
| None | Late career | Admin | US | A | Yes |
| 985 | Mid-career | Academic | UK | E | Yes |
| C9 | Early career | Admin | China | A | Yes |
| None | Late career | Admin | China | A | Yes |
| None | Early career | Admin | China | A | Yes |
| 985 | Mid-career | Academic | China | E | Yes |
| 985 | Early career | Academic | China | E | Yes |
| 985 | Early career | Academic | China | SS | Yes |
| 211 | Early career | Academic | US | E | Yes |
| C9 | Late career | Academic | Japan | E | Yes |
| 985 | Early career | Academic | Korea | SS | No |
| C9 | Mid-career | Admin | China | A | Yes |
| None | Early career | Academic | China | S | Yes |
| None | Early career | Academic | China | S | Yes |
| 985 | Mid-career | Admin | China | A | Yes |

Data source: Research gathered by the author.

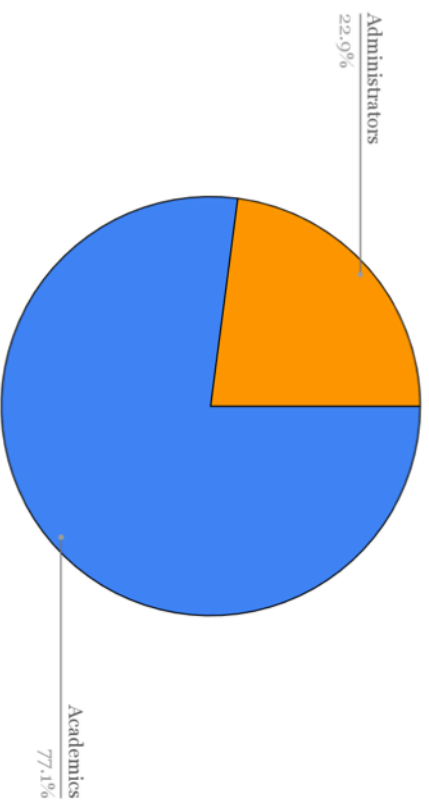
* Social Science = SS; Natural Science = S; E = Education; A = Administration

Chart 3.1: Sample Characteristics by University Type



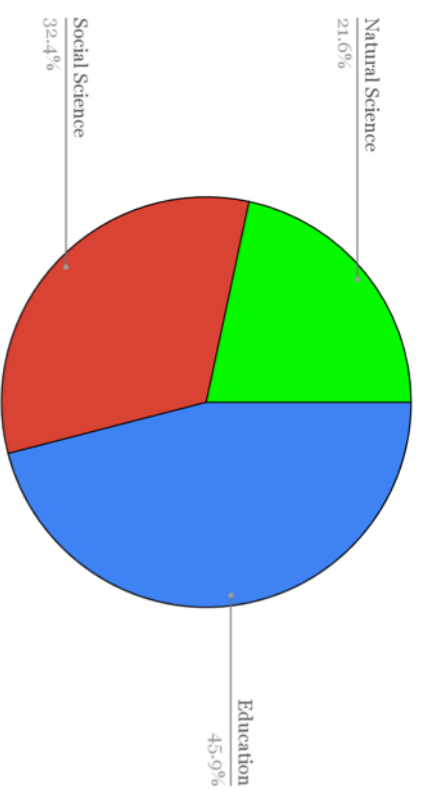
Source: Interview sample from this research.

Chart 3.2: Sample Characteristics by Position



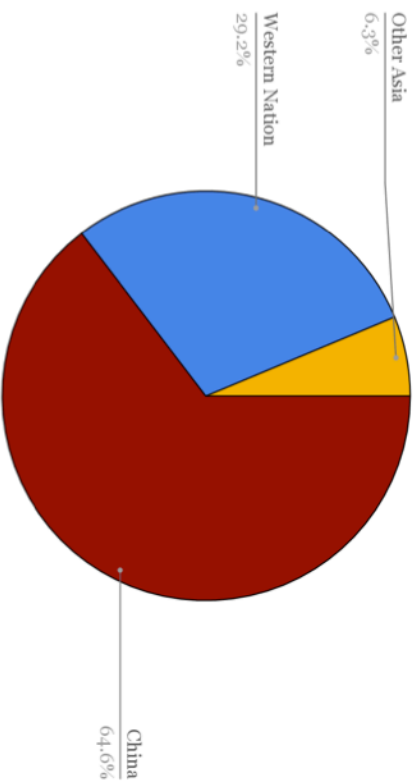
Source: Interview sample from this research.

Chart 3.3: Sample Characteristics of Faculty by Discipline



Source: Interview sample from this research.

Chart 3.4: Sample Characteristics by Location of Highest Degree



Source: Interview sample from this research.

Interview Design

For the interviews, I crafted a semi-structured, one-on-one protocol, which can be found in its entirety in the Appendix. The method of development for my interview protocol was based upon the “main branches of a tree” interview style, which is a style that divides the research questions into roughly equal parts (Kvale, 2008; Rubin & Rubin, 2011). With this construction, I focused on broad, expansive questions, and then followed up with more in-depth or nuanced probing questions, depending on the answer. The protocol included five broad categories: background, ranking conception, world-class conception, Chinese elite-making policies, and what-if scenarios. In this method, it is important to understand the logic and structure of each section of questioning, which needs to be anchored by a core question, tied together with probes. Transitioning is especially imperative, as jumping from core question to the next can be awkward and incoherent, which I tried to minimize through improvisation to other questions if an interviewee preempted the inquiry (Rubin & Rubin, 2011).

The preparation of the instrument went through several rounds of tests, edits, and revisions before implementation. First, in the writing stage, I adapted questions and methods from related educational research (Capobianco, 2009; Pizmony-Levy & Doan, 2016). The protocol was pretested by researchers in both China and the United States for preparation before the fieldwork. All of the interview materials were approved by the university’s Institutional Review Board (IRB), which can be found in the appendix. Likewise, the project was also approved by the Hanban before I was awarded the research fellowship; however, this quasi-governmental organization did not screen my questions at any time during the project.

To create a more comfortable interview environment, I used the first part of the interviews as the demographic collection. By focusing on easy personal experiences to begin with, I warmed up each interviewee to get them at ease with what-could-be an uncomfortable process (Blommaert & Dong, 2010). On many occasions, frosty professors began the interview with me cold and blunt, but soon warmed up as they dove into their own stories. Furthermore, my research is directly related to their experiences and education—it made sense in my design to listen to the telling of these details.

The qualitative interviews were conducted in two different methods. First, I conducted one-on-one interviews in person or over the phone. These interviews were mostly in English, but I did use my student research assistant for a few interviews where the interviewees requested a translator. All of the in-person interviews were held in a location of the informant's choosing, often in their campus office, a “natural setting” for these academics (Creswell, 2008). The second method was through email exchanges. I only utilized this second method of interviewing for three informants who preferred not to speak in English and who also did not want to utilize a translator. I tried to offer the most convenience to the interviewees, as they were not gaining anything from participating. I made myself available at any time of the day for the interviews, sometimes meeting in the very early morning or late at night.

All of the meetings were standard, following a semi-structured protocol. As required by IRB guidelines, each of the interviewees gave explicit permission for me to interview them. The paperwork approved from IRB can be found in the appendix. The interviews lasted anywhere from 20 minutes to an hour and a half, with an average of about one hour long. I used an audio recording device (either a smartphone or laptop) to capture the

audio dialogue from the interviews. The files were stored in a password-protected folder on my personal computer, which was also password-protected. My research assistant translated any of the Mandarin interviews into English. None of the identities of my informants can be attained through a reading of this research, as I have anonymized all characteristics and my analysis only offers vague descriptors. In accordance with IRB, all materials will be destroyed once the project is complete.

Interview Coding

All of the recorded audio from the interviews was fully transcribed utilizing private contracting professionals from the Fiverr network. Once I received an initial transcription, I individually confirmed the validity by listening to audio while reading along the transcripts, ensuring the accuracy of each recording. Upon the completion of the transcriptions, I uploaded the data into the NVivo for Mac (version 11.4.2) to allow for a coding analysis. My research assistant converted all audio Mandarin conversations into English transcripts for the analysis.

The NVivo software helps to ensure data validity given certain procedures. First, I could easily check and fix any transcription mistakes in the interview texts even while coding (Creswell, 2008). Next, the software allows for notes and flexible coding to guard against coding drift, in which parameters widen or change in the coding process (Creswell, 2008). I made a habit to continually check back to the coded passages in each node as I progressed into my data. NVivo makes this process much simpler and more efficient than traditional methods. Likewise, re-reading through the interview transcripts

and codes is also an important step in this process. I continually built out new codes to incorporate emergent ideas during the process.

Qualitative research is often inductive in nature, which Creswell (2008) described as “generating meaning from the data collected in the field” (p. 9). However, because this research was already rooted in theoretical paradigms driven from the literature on the sector and society, I relied upon a deductive approach to coding. According to Newman (2014), in the deductive approach, “theory guides study design and the interpretation of results” (p. 87). Though, I maintained broad, open coding during the early rounds of the process in order to provide basic labels and to build overarching themes (Blommaert & Dong, 2010, p. 12). With this method, I followed the data with a more in-depth analysis to coalesce labels and expand themes into categories or concrete patterns. I was able to progress through the coding, moving from an open engagement into a more focused analysis that connected with the theoretical underpinnings proposed in the framework.

From the beginning sweeps of the data during the coding process, I identified three of overarching themes that I could organize all other data points under: ranking connections, world-class conceptions, and local policies. As my research design was heavily rooted in past literature, these three themes aligned closely with my interview questions (Newman, 2014). The basic coding chart can be seen on *Table 3.3*. As the process of coding progressed, though, I realized some quotes could be double coded. I decided to use Crilly et al. (2008)’s graphical representation of the data to show how subcoded nodes actually sit within two or even three thematic areas, which I will discuss towards the end of this section.

Table 3.3: Qualitative Coding Chart of Stakeholder Interviews

| <i>Codes</i> | <i>Subcodes Level 1</i> | <i>Subcodes Level 2</i> | |
|-------------------------|--------------------------|-------------------------------------|---|
| University Rankings | Interaction | Administration | |
| | | Benchmark | |
| | | Government | |
| | | Media | |
| | | Specific Rank | |
| | | Partnerships | |
| | | Subject Rank | |
| | Specific Rankings | Chinese Ranking | |
| | | Discipline | |
| | | Global Ranking | |
| | | QS | |
| | | Shanghai JT | |
| | | Times US News | |
| Consultant | Don't know about | | |
| | Isomorphism | | |
| | Journal | | |
| | Personal Use | | |
| | Ranking Problems | | |
| | Student | International Domestic | |
| Chinese Characteristics | Foreign influence | International Faculty Western | |
| | | MoE | WC 2.0 985/211 Projects Discipline Rank |
| | C9 League | Other Groupings | |
| | Teaching | | |
| | OBOR | | |
| | Soft Power | | |
| | Education System | | |
| | Censor | | |
| | Chinese | | |
| | Disadvantage | | |
| | World Class Universities | Peking/ Tsinghua | |
| | | Hierarchy | |
| | | References | |

Source: Coding for this project

Given that this research centered on ranking, “ranking conceptions” were established as the first high form code. Any mention of league tables was placed within this code, while nested subcategories quickly emerged. One of the obvious codes to have emerged was from specific ranking schemes. During the interview, I recorded the specific mentions of QS, *US News*, ARWU, *THE*, and another section on Chinese domestic

rankings. Likewise, any mentions of interactions or connections to agents or consultants from these schemes were also coded in the larger subcode; although, most interviewees had no dealings with these actors. Also during the early stages of coding, I used an “interaction” subcode for any reported behaviors and ideas that participants bestowed upon ranking. These were so abundant that I quickly began to nest other codes under this “interaction” heading, including items such as “benchmarking,” “administrative use,” “partnerships,” and “ranking cut-offs.”

Given the considerable critiques of ranking discussed in the previous chapter, it should be no surprise that another category that arose under rankings came from any complaints of these metrics. Professors and administration alike were quick to offer problems that they saw stemming from league tables. Stories of “isomorphism,” “gaming the system,” or other “publishing” complaints became codes.

Interestingly, interviewees oftentimes had either used rankings themselves during their student days or had a family member that had used them. This became the “personal use” code. Similarly, some professors reported on their own students’ reactions or interactions with rankings, which I split into both an “international” and “domestic” code. Though, despite the reports in the literature, “media” mentions surprisingly did not factor too heavily in my interviews, but I still tracked this code as a nested node under rank conceptions.

Because the localization of global forces is a central theme to this research inquiry, it was important to code for “local policies” germane to the Chinese sector. This large code had several nested codes within it. The Chinese university groupings were held within in this larger node. Likewise, a critical aspect of studying China has been the moniker

“something” with “Chinese characteristic,” such as the most famous example “Capitalism with Chinese characteristics.” This emergent concept did arise in an important way in the interview, providing a key code that also had several ideas nested within it: such as the issues related to “foreign policy,” “censorship,” and even the idea of “Western influence.” The “Ministry of Education” was revealed to be a key influence within the focus of the research. Any of the elite policies like the “985/211” Projects or the new “World Class 2.0” changes became codes. The MoE helped to shed light on the strong governmental involvement in the Chinese sector.

The third top-level node that I identified was the “world-class conception,” which was a central piece for almost every interview. Any descriptions for these types of elite universities were coded in this section. However, because this concept is actually highly dependent on the other two concepts, rankings and localized Chinese ideals, I actually did not fill this theme with a significant amount of subcodes. I only included specifically a code for “Peking and Tsinghua” Universities, as these universities seemed to occupy the world-class space on the Chinese hierarchy. Likewise, respondents would often mention a university that they considered to have this status, which I recorded under a “reference” subcode. Additionally, because these universities are seen as atop a given hierarchy, I also added a “hierarchies” subcode. However, all of these codes could have arguably been put into the other two groupings.

As I moved deeper into the coding, I began to realize that most of my categories could not simply be separated from the other larger nodes—they were all interconnected. Creswell (2008) stated that oftentimes “researchers interconnect” themes, going beyond “basic descriptions” for a more sophisticated analysis or narrative (p. 189). In my study,

for instance, the Ministry's discipline ranking could be labeled under both "Chinese characteristics" and "specific rankings" codes. A topic like "foreign faculty" could be connected to all three of my large thematic codes. This kind of crossover possibility was a factor for over half of my codes, yet it was not a problem. Instead, the connections revealed a complicated intersection produced by university rankings in the Chinese higher education sector.

In order to better understand the coding of the data and crossover of topics, I illustrated my codes and subcodes into a graphical representation using concentric circles on *Chart 3.5*. According to Crilly et al. (2008), this kind of graphical representation "offers the opportunity to thoroughly examine a problem from a number of perspectives using visual representations to both record and stimulate thought" (p. 345). Organizing, spacing, and illustrating these relationships are "formative" to the exploratory phase of the research project and it allows for deeper development for analysis (Crilly et al., 2008). The visualization forces researchers to consider data on multiple levels during the coding process (Bagnoli, 2009).

The center of these three concentric circles contains several important subcodes. The "interaction" code was the most obvious, as rankings were seen as key indicators of this status for professors and administrators. I included an intersection of "government" and university "administrative" leaders working within these three larger themes and under reactions. Furthermore, as rankings have had considerable isomorphic effects across the global, this phenomenon is also present in China and it became a key code for this analysis, which strongly connected to the publishing pressures, another important code in the center of the three themes. While I expected references to play a more central factor

Quantitative Sample: Surveying Students

For the quantitative sampling of students, I used two different collection phases. The instrument was built upon Qualtrics system in order to efficiently and widely sample students. I utilized my networks described above to disseminate the survey via the popular WeChat and other social media. Students could connect to the survey via a QR code, which is a common feature of WeChat in China, or simply through a shared link. Further, I also utilized in-class sampling in five Chinese universities in three different cities: Beijing, Nanjing, and Jinan. For the live sampling, I gave brief lectures to classes and then asked the students if they would like to participate in the survey. Students were free to opt-in/out to participate and, to entice recruitment, I offered a very small lottery reward of 20 Chinese RMB¹ that students could choose to enter. The small reward decreased the chances that someone would take the survey simply to enter the contest.

For the second phase of survey sampling, in order to bolster the sample beyond my personal network, I contracted a Shandong-based private research firm that specializes in using university students in market research. Similar to the growing use of Amazon's Mechanical Turk in the US, this small firm works with a large pool of student participants throughout China, offering potential respondents small fees to take online surveys on a range of various topics. In parallel to my personal data gathering, the students accessed the instrument via a link or QR and connected directly to my Qualtrics survey. In order to ensure the legitimacy and validity of the responses, I observed respondents' IP addresses, access time for the survey, and time of completion.

¹ This is roughly equal to a cup of Starbucks coffee.

Survey Design

I drafted the survey instrument using past studies and literature related to higher education, ranking impact, and explorations of education's normative effects (see surveys in Pizmony-Levy & Doan, 2016; Pizmony-Levy & Green-Saraisky, 2016). The instrument consisted of four sections: demographics, ranking experiences, world-class conceptions, and future plans/ scenarios. Most of the questions were multiple-choice, with a few fill-in-the-blanks to account for variation in some topics. I chose to minimize sensitive topics and attempted to focus only on conceptions of education or rankings.

Upon completion of the first draft of questions, I allowed professors to review the instrument in order to maximize the eventual data's relevance to the larger literature. I had all of the questions translated into native Chinese speaker and scholar familiar with the project. After this stage, I entered the pre-test phase by sending the pilot survey to a small group of Chinese students to ensure all of the questions were understandable and relatable. I went through this process a few times to hone a few specific questions that were causing confusion for the testers. After the pre-test, my survey was brief (10 minutes), easy-to-read, and assessable—aligned with optimal survey design according to Bradburn et al. (2004). The instrument was approved in both Mandarin and in English by the IRB. Further, all of the participants took the survey anonymously as prescribed in the guidelines.

For the demographics, I only asked standard questions often found in social science research: gender, parental education, which is often used as a proxy for affluence, geography, education level, and major. I also ask students to provide the name of their

university through a fill-in-the-blank question, as I wanted to make sure to capture every university type possible. I later standardized every one of these answers for data analysis.

For the ranking experience section, I first asked students to provide a couple of self-assessments: one related to the attention paid to educational media and another was on familiarity with rankings. These self-assessments are often used in social science research and provide important measures of experiences (Spector, 1994). However, given the flaws inherent to self-assessment survey response, I also implemented a check on these answers (Spector, 1994). To audit the responses, I had students guess their universities' rankings internationally and domestically with a range of five choices and an optional "I don't know." Because the respondents had provided their university, I was able to later crosscheck their answers within the most popular Chinese and international ranking schemes.

In other ranking related questions, I also had the students report which *specific* rankings that they were familiar with from a list of the most popular schemes (Marginson, 2014). Further, I gathered information on how students knew about rankings, derived from a list of popular sources like family or teachers (Hazelkorn, 2015). The final question in this section had students rate several factors on a Likert scale of importance in their college-going decision, including rankings. My goal for this question was to gauge how crucial rankings have been for Chinese students compared to other factors, such as amenities or majors.

The third section of my survey focused on world-class university conceptions. While a short section of only four questions, these were all carved out of past research on globalization and higher education, especially considering reference societies, as

illustrated in the previous chapter. These high-minded conceptual questions were considerably different from those in previous sections that directly related to student experience. The first question asked if the best Chinese universities were comparable to the best universities in the world. In conjunction, I asked if China has some of the best universities in Asia. I was hoping to tease out a regionalism from the population. Finally, I had the students consider if the best education equaled the top-ranked universities. In the end, I did not use these questions in any of the analysis because of limited space. I intend to consider these leftover data for future analysis, though.

Finally, for the section on future plans, I wanted to connect this survey to literature on international mobility. I asked students to gauge their interest in studying abroad in the future. As shown in the literature review, students who study abroad are much more attuned to rankings, so this factor was quite important for my research. With the respondent group who reported at least some interest in studying abroad, I added a few items for them to gauge as important in their future decision, such as location and ranking. However, given the domestic nature of this ultimate study, I did not use these extra responses. I will use the data in a future research project on international students from China.

Sample Demographics

For the total sample, I received a total of 1,120 students from Chinese universities, which included 500 respondents from the private firm. However, for the analysis of this research, I removed graduate and exchanges students because I wanted an *apples-to-apples* comparison across the respondents. Graduate students have differing experiences

than undergraduates, especially considering rankings. After this purposefully culling, the total sample of Chinese undergraduate students totaled 924. While not a generalizable sample, the robust number of responses can still provide insights into larger trends within the sector, as similar past research has argued (see comparable works by Chen, 2007; Gong & Huybers, 2015; Cao et al., 2016; Liu & Morgan, 2016).

Shown on *Table 3.4*, the sample contained wide range of demographics in the Chinese higher education sector. In the sample, 31.4% of students came from the elite 985 universities, an over-representation from the larger sector, and 7.7% from the 211 institutions. For the non-elite project universities, students from regional institutions accounted for 56% of the sample, while respondents from local institutions accounted for the other 11.5% of representation. Women were overrepresented by just under three to one in the sample, an undercount of men. China's tertiary education system is 1.19 female to one male, according to the World Bank data.² For population distribution, 47.4% of the sample came from provinces on the wealthy eastern coast, where a plurality of the elite and strong universities are located, around 29% were from the Western provinces, including Sichuan, 19% originated from the central inland areas, and only around 8.2% came from provinces in the industrial northeast.

² Data accessed from "School enrollment, tertiary (gross), gender parity index (GPI)" indicator on the World Bank website:
<<https://data.worldbank.org/indicator/SE.ENR.TERT.FM.ZS?end=2015&locations=CN>>

Table 3.4: Student Survey Sample Demographics

| Variable | Definition and Metrics | Frequency (%) |
|--------------------|------------------------|---------------|
| University Type | Local | 10.2 |
| | Regional | 51.9 |
| | 211 Project | 6.1 |
| | 985 Project | 31.8 |
| Gender | Female | 67.8 |
| | Male | 32.3 |
| Grade level | Freshman | 19.9 |
| | Sophomore | 45.0 |
| | Upperclassmen | 35.2 |
| Region | East coast | 43.5 |
| | Central | 18.5 |
| | Northeast | 8.2 |
| | West | 27.9 |
| | Other | 1.9 |
| Parental education | Below high school | 24.3 |
| | High school | 22.7 |
| | Some college | 27.4 |
| | College degree | 19.1 |
| | Graduate school | 6.5 |

Source: Compiled for this research by the author.

Multivariate Analysis

Multivariate analysis has been a key methodology used in some of the most influential studies in the impact of rankings (see Ehrenberg, 2005; Espeland & Sauder, 2007; Bowman & Bastedo, 2009). According to Rencher (2003), multivariate analysis has allowed researchers to “peer beneath the tangled web of variables on the surface and extract the essence of the system” (p. xv). Because my study is looking to understand a phenomenon sector-wide, the analysis provides an understanding of complex outcomes of almost 1000 different experiences. Analyzing the collective measurements from the students has provided a rich insight of the localization in global forces.

In recent decades, statistical software has proliferated rigorous methods like multivariate analysis. For this research, I utilized StataSE software. I downloaded my

dataset from Qualtrics and first uploaded it to excel for cleaning. I removed the respondents without any data.³ I also relabeled the variable headings to prepare for modeling. After the initial cleaning, I uploaded the dataset into Stata. Upon first exploring the dataset, such as checking basic frequencies and other descriptive statistics, I began to organize variables for testing. This initial variable organization is saved as a Do-File that I called *Dissertation Data Cleaning*. In order to minimize mistakes, I created a code for any changes that I made to my variables and used CLEAR to revert these changes during a new session with the dataset. Every time I opened Stata for analysis, this cleaning file had to be run first. For the actual modeling, I had a separate Do-File called *Final Model* that I only used after running *Dissertation Data Cleaning*.

For the analysis in Chapter 6, I utilized two types of multivariate analysis: multinomial logistic regression (MLR) and binary logistic regression (BLR). These are models that can be used with either categorical (Ex: *yes, no, maybe*) or binary (Ex: *yes, no*) outcome variables. In this kind of logistic regression, the relationship between the independent variables (the predictors) and the dependent variables (outcome) is predicted. In the model, all of the predictors are considered together to assess the predictability while controlling for each effect (Williams, 2017). My results were reported through odds ratios, meaning the constant effect of the predictor on the models' outcome.

There are a set of assumptions that must be met in various multivariate tests. The make-up and nature of my data led me to the selection of multinomial and binary logistic regression in my analysis. First, the relationships that I tested were not linear, meaning

³ Some respondents opened the survey and answered none of the questions, which provides me with no data. These were removed from the dataset.

that I could not use linear regression analysis. Further, my predicted variables were also binary and unordered categorical; thus, I could not use ordered logistic regression (OLR) analysis because it operates under strict rules and it was not feasible due to my sample distribution (Peterson & Harrell, 1990; Stokes et al., 2012). I ensured that my models did not meet the proportional odds/parallelism test that would be needed to use OLR (Brant, 1999). Likewise, OLR is ideal when predicted outcomes have a clear hierarchy. My models did, though, pass multicollinearity tests that are needed for both MLR and BLR.

In Chapter 6, I used two types of multivariate analysis for this study. For the MLR, I used the variable of how familiar students were with rankings in three different tiers: *familiar*, *somewhat familiar*, and *totally unfamiliar*. This test has allowed me to understand the kinds of characteristics that predict ranking familiarity. The model contains both demographic and ranking-related traits for each student. In the second test of Chapter 6, I use BLR modeling with the outcome variable of students' tested rank knowledge and, again, reported via odds ratios. On the survey, I tested whether students actually knew their universities' local and global rankings. Through the BLR modeling, I am able to infer which type of students could actually pass this test, which is analysis that has never been conducted before. Similar to the MLR analysis, the model contains demographic and ranking-related traits for each student, with a few variations. I will provide further details for the statistical modeling and analysis used in Chapter 6.

Limitations

There are several limitations to my study, as every study contains some set of limitations. Despite any of these issues, the research is still relevant to the wider literature

on university rankings and comparable to other studies in this area. Furthermore, none of the limitations discussed are outside the normal scope of research as listed by Creswell (2008).

This study naturally contains some bias germane to issues in social science research validity. As the lead and lone investigator, my conceptions, analyses of the data, and results have my own personal partiality imprinted onto them (George & Bennett, 2005). Like in other social science studies, I have attempted to minimize these personal biases through two key steps. First, I have rooted the inquiry in established and vetted theories, as cited in the previous chapter and throughout the analytical sections. Building upon influential research and important studies has provided guidance in all phases of this project, from implementation to the write-up. Next, I have considered the advice and feedback of my advisor and others during the entire process (Maxwell, 2013). They are expert researchers with years of social science experience. Following their advice has allowed me to avoid pitfalls that could threaten the research validity (Maxwell, 2013). While these are all important steps to minimize my personal bias, there will always be some partiality in research. Yet, I believe that despite these limitations in personal bias, this dissertation research is an overall valid and additive to the field in the understanding of global university rankings and the Chinese experience.

Another issue is that the findings produced cannot be taken as generalizable because of biases within the samples (George & Bennett, 2005). First, qualitative studies do not aspire to be generalizable (Creswell, 2008); instead, these types of researcher look to paint pictures or provide snapshots into societal phenomenon—my interview data can provide these narratives. However, qualitative studies do often aspire for generalizability

(Creswell, 2008). My dataset, unfortunately, is not a true representative sample to the larger Chinese higher education population. The lack of any true experimental design and the overrepresentation and underrepresentation from certain populations disallows any generalizability.

Survey research in China is expensive and quite difficult. Even with my access and fellowship funding, I could not replicate scientific polling in universities throughout the county. During my proposal stage, a professor offering advice for my project told me that she had a team of graduate students and years of funding to gain a generalizable survey sample in a study of Chinese urbanization. Because of these barriers, other studies similar to my own have simply used non-generalizable samples, in methods comparable to my design (Chen, 2007; Gong & Huybers, 2015; Cao et al., 2016; Liu & Morgan, 2016). My study can still provide strong understandings of the higher education sector in China, just as other studies have done in the past.

Furthermore, in survey research, respondents sometimes lose interests and hurry through or simply quit in the middle (Bradburn et al., 2004). I minimized these issues by keeping the surveys tight and crisp. Likewise, I pre-tested multiple versions of the survey to address issues in readability. If the survey is readable, understandable, and relatable to the target audience, then respondents will be more likely to finish (Creswell, 2008). While I did predictably have some participants drop out in the middle survey, there were actually not that many relative to the over 1,000 respondents who did finish.

In terms of interview research, my presence in the field as an investigator also provides some drawbacks (Creswell, 2008). Originally dubbed the Hawthorne Effect, this concept predicts that participants will alter behavior in order to contort researcher

expectations (Cook, 1962). Accordingly, informants in this kind of research have been known to attempt to please the interviewer (Blommaert & Dong, 2010). Participants may mask dissatisfactions or negativities for fear of retribution. Because China is a society more closed off to criticism than the Western system, I had always been concerned with these limitations of interviews since the project's inception.

I did attempt to minimize any masking or interviewer effects in a few ways. While there might have been some aspects of my research that could be considered sensitive, I did not really focus on problematic aspects of Chinese society during my inquiry, such as regime stability. Instead, I have focused on conceptions of experience with internationalization and domestic pressures, which seem to be topics that have been freely discussed in China. After all, the Hanban vetted my project proposal by granting me the fellowship to study in the country. Likewise, I only interviewed people through a snowball method, giving me an extra layer of acceptability as a researcher (Dilly, 2000). I built on this familiarity by conducting interviews in the most comfortable manner the informants requested, such as in their offices and at any time of the day. My education-focused research design, connections with BNU or the Hanban, and interview flexibility allowed me to maximize trust for the interviewees.

Another limitation stemming from the interviews comes from my weak Chinese language ability. While I studied for two years to prepare for my fieldwork, gaining the skills needed to communicate on the academic level would have delayed my process by another five years. I had to make due with my elementary communication skills in Chinese, help from my assistant, and the English ability of my informants. During the interviews, we mostly spoke in English, but I could understand some key higher

education terms and other basic communications. A few interviews were done through a translator, most often with my research assistant. Given that English dominates the global higher education sector, there are expectations that professionals should have basic English communication skills. Indeed, most of my contacts and connections could speak English. In fact, this dominance was even a topic of discussion for my research.

For the analysis of the interviews, the coding of data was rooted in the logic behind my instrument, as theoretical and methodological considerations provided the foundations to my research design. Researchers do not simply show up without background knowledge for fieldwork, despite aspirations to inductive research (Creswell, 2008). During coding, I attempted to stay open to themes or concepts that may have not been expected in the initial design. Using NVivo's capabilities and tight guidelines for coding were important ways for me to stay somewhat neutral in the process and analysis. I could successfully and efficiently re-read my interviews for more coding without having to start all the way over again. Further, the visual mapping of my codes helped to comprehend and interact with the data through a complex perspective. Social science often attempts to fit society into measurable boxes, but the real world is not always that simple (Creswell, 2008).

Finally, the findings in my study are not static, as Chinese society and education sector have been going through considerable dynamism in the past thirty years. These changes may actually increase in the coming decade, too. Thus, it will be important to consider these results as a snapshot of a temporal period within the Chinese setting. But, even within the more stable American system, there have been considerable changes that provided impetus for constant study and analysis. Concurrently, given the very nature of

the annual release of new rankings, there is an expected movement of every institution listed on the league tables. Responses to the fluidity are exactly what this study is trying to capture. Yet, it can only be captured for years that have already happened. New results lead to new responses, which beget new trends. There will be a continued need for studies like my own to provide snapshots of the sector for decades to come.

CHAPTER FOUR: Making Sense of the World-Class University Concept through Rankings: Commensuration and Elite Global Status in China

Abstract

The concept of the world-class university has proliferated throughout the global higher education sector, yet there is no universal consensus on how to define these elite institutions. Some scholars have argued that these globally elite universities are the large, research-intensive kinds that are often found in the United States or Britain, but that have also popped up in places across East Asia. Others have argued that world-class universities can only be found in learning environments that are intellectually open, free, and innovative. Because there is no agreed upon definition for this concept, I argue that rankings have become a proxy sense-making in the global higher education sector. League tables have provided a commensurate indicator that decision-makers can use to understand the world-class concept. Through interviews with 48 stakeholders from the Chinese higher education sector, I explore how institutions in China conceptualize world-class status through university rankings. First, I show that the sector in China has intently focused on league table positioning, with the top-100 as a popular credential for guaranteed world-class status. Next, explore which global rankings have been the most influential—QS, *THE*, ARWU, and *US News*. Finally, I discuss how actors living in this competitive higher education environment have changed research behaviors to align with the global ranking metrics.

Introduction

Educators, administrators, and policymakers across the globe have been chasing world-class university status in recent decades (Deem et al., 2008; Salmi & Liu, 2011). Yet, a universal definition for this concept is difficult to determine (Shin & Kehm, 2012; Marginson, 2017). In this same period, higher education has witnessed a rapid increase in global engagement through international student and scholar mobility, branch campuses, multinational research partnerships, and other global projects (see Montgomery & McDowell, 2014; Cantwell, 2015; Kolesnikov et al., 2017; Altbach & Yudkevich, 2017). How, then, do universities determine which school abroad to partner with, which international faculty to hire, or what other universities are world-class? While national hierarchies are steeped in familiarity of tradition, culture, and history, these factors are muted on the global stage (Hazelkorn, 2015). The global higher education system is complex and immense. There is no recognized global regulatory agency that grants university status and an expertise in education on a global scale is elusive because the system is far too complex. Aside from Harvard, Oxford, and a few other ubiquitously recognized global universities, it is perplexing to fully comprehend the global system of higher education (Altbach & Knight, 2007; Hazelkorn, 2012). Even an astute scholar of international education might be unfamiliar with universities of certain regions where they lack knowledge

Given a complex environment, such as the global higher education sector, decision-makers in education have been attracted to simplified measures or indicators to make sense of a system (Dill, 2007). Espeland and Stevens (1998) called this quantification of abstract ideas into smaller, easier-to-define measurements “commensuration.” These

simplified commensurate concepts often manifest into kinds of rankings that can be used for direct comparison to other systems, including global university rankings. While global league tables have only been around since 2003, these indicators have quickly proliferated across the world (Rust & Kim, 2015). Effects from global rankings vary widely depending on institution type, stakeholder, or other contexts. For instance, local community colleges have likely ignored global league table; conversely, the elite end of the spectrum in almost every nation has been intently glued to the rankings (Hazelkorn, 2015). Parents and students, especially the international variety, use rankings¹ in the college-going decision process (Drewes & Michael, 2006; Perraton, 2017). Policymakers and alumni, too, have been monitoring their respective sectors or institutions to ensure they are keeping up with peers (Salmi, 2009). Universities themselves, despite critiques, must stay attuned to league table positioning.

While scholars have noted the connection between global university rankings and the world-class university conception, there has been little research that shows how these indicators are actually used as a tool for sense-making by stakeholders (see Salmi, 2009; Shin & Kehm, 2012; Kim et al., 2017). For instance, Bowman and Bastedo (2009) illustrated how *US News & World Report* ranking creates a commensurate elite top-25 grouping from those institutions that make the “front-page” of that year’s ranking issue. The effect has dramatic impact on student application behaviors, causing a frenzy of completion from institutions to join or stay in the top-25. Hazelkorn (2015) posited that a similar effect exists for the top-100 of global university rankings, but the concept has not been empirically tested. Given these gaps, it is unclear exactly how stakeholders in higher

¹ In literature on university rankings, studies and pieces from domestic and global league table research is often used interchangeably. While the two types of rankings can be distinct, their presences are seen to have similar affects on higher education sectors (see Altbach, 2013; Hazelkorn, 2015; Marginson, 2014).

education have used global rankings as sense-making for the world-class concept and the multitude of decisions related to it, such as hiring, scholar exchanges, joint-partnerships, research, or other international cooperative measures.

Chinese universities offer important cases for understanding the centrality of university rankings to the world-class conception for a few reasons. First, Chinese society has had historical reverence for top-down hierarchal structures, with affinity for status and ranking, such as through the *keju* or the Imperial Examination System (Hayhoe, 1996; Lü, 2000). Furthermore, the nation has had a strong, centralized governmental structure with recent history of technocratic rule by the Chinese Communist Party, especially throughout the Reform and Opening Era (Hayhoe, 1989). Next, as Deng Xiaoping opened China to the world, it sent its students out to learn from Western nations like the United States; the goal was for these students to return to China in order to modernize various sectors, especially the education system (Li, 2004b). Indeed, Chinese universities have undergone unprecedented transformations during this era in attempts to reaching a perceived international standard (Mok & Chan, 2008).

Since the early 2000s, many Chinese institutions have skyrocketed in the rankings, as policymakers there have invested heavily in the top range of the sector (Liu et al., 2016; Altbach, 2016). Through high profile government initiatives, Chinese universities have been besieged with research funding and have pushed internationalization ventures that can be accounted for in rank metrics (Ngok & Guo, 2008). The aspirations of Chinese institutions and the Chinese Communist Party (CCP or the Party) are backed behind investments into global recognition and prestige (see Schneider & Hwang, 2014). While there has been considerable research looking at these elite-making initiatives in China

and the nation's quest for world-class universities, the effects of global league tables in the sector have not fully been explored (see Rhoads et al., 2014; Tian et al., 2016; Kim et al., 2017). There has been no research on Chinese universities considering the role of commensuration in terms of higher education globally, which has been a crucial concept for how universities in the US have made sense of domestic higher education (Kelley et al., 2015).

To fill these gaps in the research, I explore how global rankings have become commensurate measures to the world-class university conception in China. In my inquiry, I specifically ask two questions: 1) What kinds of global ranking metrics are important to the Chinese conception of world-class universities? 2) To what extent have university rankings been used by Chinese university stakeholders as credentials in navigating the quest for world-class universities? Through interviews with university faculty and staff, I illustrate the ways in which actors in China have used league tables as an important sense-making tool in understanding the global higher education hierarchy. Given the commensurate power of rankings, league table positioning has provided a kind of world-class credential for Chinese universities.

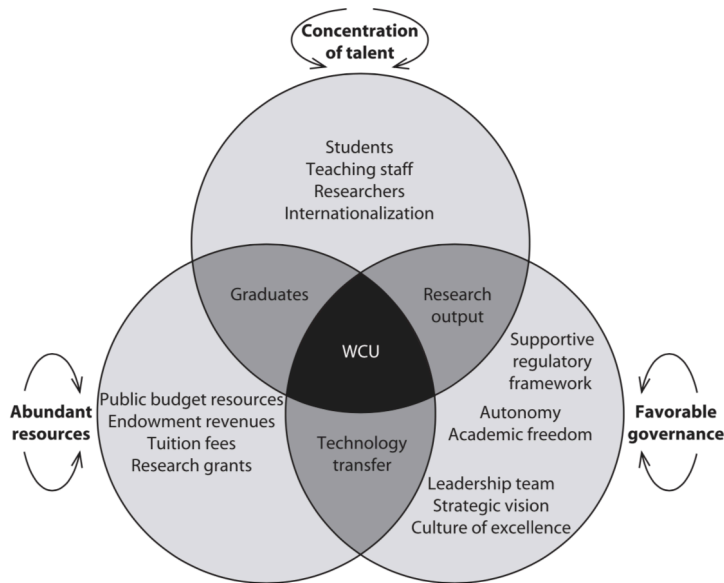
The World-Class University

The concept of the world-class university has proliferated across higher education sectors worldwide. Scholars have argued that nations across the world have some policy or goal of establishing or maintaining these types of institutions (Altbach & Knight, 2007; Salmi, 2009). The vagueness in definition may actually allow for global malleability to local characteristics (Deem et al., 2008). The Western-style research

university has been the preferred model for emulation in world-class university races and these institutions are often large, research focused, including master's degree and Ph.D. programs, and contain a full range of disciplines (Hazelkorn, 2012). While first appearing in the West, particularly in the United States, institutions that fit this description can be found across the world now, especially in East Asia, where governments have heavily invested into the upper echelons of their university sectors (Marginson, 2011).

Policies surrounding these world-class institutions have often reflected a human capital approach to development (Shin & Kehm, 2012). These elite kinds of institutions around the world foster research, development, and the knowledge economy, key facets to human capital theory. Likewise, universities are have been considered as key mechanisms in fostering knowledge economies (Philpott et al., 2011). A report by Salmi (2009) for the World Bank promoted the university as an economic engine model in terms of the world-class university. The highly cited report summarized the concept into three broad qualities as displayed in *Fig. 4.1*: concentration of talent, abundant resources, and favorable governance. The combination of financial resources and research capacity encompass many aspects of the characteristics that the World Bank advocates in these types of universities.

Figure 4.1: Characteristics of a World-Class University: Alignment of Key Factors



Source: Salmi (2009).

There are other aspects, of course, that help to characterize general world-class status. University affiliation can factor into this conception—peer universities will band together with other global elite institution to reinforce the status (Hazelkorn, 2015). For instance, in the US, the Ivy League or Association of American Universities are sets of universities with common missions, which collectively consider themselves an elite peer group (Graham & Diamond, 2007; Altbach, 2015). Likewise, there are global affiliations with similar characteristics, without the same pedigree, though. In the summer of 2017, Tsinghua University led an initiative of 15 regional universities called the Asian Universities Alliance, as documented by the *International Consultants for Education and Fairs (ICEF) Monitor*. This grouping coalesced the top regional universities into a peer grouping to boost mobility, research, and other collaborative efforts. Age and location have also been attributes associated with these elite types of universities. Hazelkorn (2015) argued that the older an institution, the more likely it is to be considered

prestigious; while this “time-lag” (p. 82) advantage is not always present, most of the top institutions in the world are also some of the oldest. Relatedly, location is rooted in the dominance of Western colonial history, as the US, UK, and the rest of West tend to have a disproportional concentration of elite institutions (Deem et al., 2008). Some scholars have argued that Western higher education systems attained excellence built on a foundation of academic freedom (Altbach, 2013; Marginson, 2014b); to innovate and create at a world-class level, researchers and thinkers must be free of any reprisal from a government. Yet, not every elite global university is located in the West, and societies such as the Asian Tigers have grown some globally respected universities (Lo, 2011). As the global sector becomes more complicated, these traditional characteristics have become less used in world-class conceptions in favor of ranking metrics (Hazelkorn, 2015).

Theorizing Rankings as a World-Class Credential

The process of simplifying complex sectors, systems, or institutions into more fathomable metrics is known as commensuration (Espeland & Stevens, 1998). Porter (1996) contended that there is a growing “governance by numbers” whereby policymakers use indicators in formulation of various policies because these indicators are considered more objective. Shore and Wright (2015) described this movement in education as an audit culture, defined as, “The use of indicators, measurements, and rankings have become increasingly pervasive, both as instruments in the internal management of organizations and in the external representations of their quality, efficiency, and accountability to the wider public” (p. 421). Some critical examples

include: the creation of the Research Excellence Framework (REF) to spur accountability and competition in the United Kingdom higher education sector and nations making policy decisions by PISA benchmarking (Dill, 2007; Takayama, 2010)

Conceptions of policy and governance have spread across the world, not just in Western societies. Post-Soviet nations have had histories of relying on indicators for bureaucratic decision-making, lionizing these methods as scientific rationality (Steiner-Khamsi, 2003; Kojevnikov, 2008). China has been especially keen on this kind of technocratic rule after it began to adopt more free marketizations into its economic system in the 1980s and beyond (Lee, 1991). In recent years, Cooley (2015) argued that global rank metrics have gained importance across the globe because of the proliferation in (1) “techniques of performance evaluation in modern political and social life” (2) “strengthening of global governance networks,” (3) and “new information technologies and open data sources” (p. 10). Commensurate league table indicators provide powerful influences onto domestic policies because they are seen as objective tools in decision-making (Porter, 1996 Steiner-Khamsi, 2003). These policy tools simultaneously simplify information, while also providing an authoritative foundation for decisions.

Organizations and nations use rankings to exert pressures onto other societies or states in order to establish norms and standards that are shared globally. These indicators are used for “naming and shaming” or by forcing comparisons against other peer states (Cooley, 2015, p. 6). Oftentimes, these are tools of Western powers to constrain behaviors that are deemed unfit for the current world order, such as Human Rights Watch (Risse-Kappen et al., 1999). Nations that have ranked poorly on various lists have been coerced to change behaviors or national policies in order to regain reputation. The

process promotes systems and institutions around the world to look more similar, which is a theory referred to as isomorphism (Schofer and Meyer, 2005). China has even been influenced to some degree in terms of human rights by this *stick* and *carrot* approach of the international community (He, 2002).

Using indicators for decision-making has been an international widespread trend for education sectors in recent decades. Because the global higher education sector is highly stratified, and within systems that are highly stratified, credentials are critical in identifying one stratosphere from another (see Collins, 1979). Collins (2002) stated that “credentialling indeed is a manifestation of organizational myth, and it has come to define the respectable culture of modernity” (p. 230). While Collins’ theory was conceived in regards to individual students in the sector, credentialism can also be useful to conceptualize university-wide action and responses. Students in elite universities feed credentialism by building networks that allow them to advance in prestigious career positions (Tholen et al., 2013), just as elite global universities build their networks and partnerships to provide distinctions. O’Meara (2007) described universities that chase this kind of prestige as “strivers” (p. 122). She contended that these types of institutions are much more attuned to rankings because of the focus on elite symbols like rankings. High league table position has arguably become the credential for institutional ambitions in these striving universities, signifying membership to an exclusive club.

University rankings deliver concrete evidence for prestige by organizing an anarchic, complex system of higher education and simplifying it into a neat, ordered hierarchy. According to Salmi (2009), these schemes have produced “more systematic ways of identifying and classifying world-class universities” (p. 6). The leading rankings, such as

AWRU, Times, and QS, often measure research output as the key foundation for the metrics, but there are also aspects of internationalization, peer recognition, and sometimes even subjective evaluations from stakeholders within the sector (Marginson, 2014a). Parents, students, alumni, business, and a range of actors all utilize college league tables for various decisions and processes (Drewes & Michael, 2006; Hazelkorn, 2015; Perraton, 2017). Because of their importance, college league tables have also been powerful norm agents (see Espeland & Sauder, 2007; Sauder & Espeland, 2009; Hazelkorn, 2012). Stakeholders must comport to the narrow metrics that are used for measurements, sometimes changing institutional missions in order to align (see Bowman & Bastedo, 2009). With pressures from influential international organizations like the World Bank, there are intense normative forces and real consequences bearing on local actors (Ball, 2012).

The various metrics on the most popular ranking schemes are quite powerful, as universities comport to standards in order to vie for position. The most influential global university rankings (Marginson, 2014a), their metrics, and weights are displayed on *Chart 4.1*, including ARWU, QS, THE, and *US News*. While the organizations might have different labels for their indicators, I have reorganized the factors into four distinct categories: Reputation, Research, Internationalization, and University Characteristics. None of the rankings are exactly the same, but there are considerable overlaps. All of the schemas give at least some weight to research, from a high of 90% in ARWU to a lower of 20% in QS. Three of them account for reputation, internationalization, and university characteristics. Relevant for this research, none of the rankings directly consider academic freedom, a key tenet of Western conceptions of the world-class university.

| Chart 4.1 : Leading Global University Ranking Schemas with Weights | | | | | | | | |
|---|--|----------|---|----------|--|----------|---|----------|
| Criteria | ARWU | % | QS | % | THE | % | U/S News | % |
| <i>Reputational Research</i> | Nobel Prizes/ Medals; highly cited research; journal indices; <i>Nature/ Science</i> | 90 | Reputation surveys Scopus publications | 50 20 | Reputation surveys Research | 33 42 | Reputation surveys Publications, books, conferences, impact, citations, and highly cited research. | 25 65 |
| <i>Internationalization</i> | | | International faculty/ students | 10 | International faculty/ students; international collaborations. | 7.5 | International collaborations; joint-international publications. | 10 |
| <i>University Characteristics</i> | Performance relative to size | 10 | Student-to-faculty ratio | 20 | doctorate-to-bachelor's ratio; doctorates awarded-to-academic staff ratio; institutional income in PPP; industry income. | 17.5 | | |

Source: Compiled from organizations' websites for this research.

The Chinese Quest for World-Class Universities

China has been a keen player in global higher education over the past few decades. The CCP, with a history of technocratic rule, has been especially interested in high-level investments into the national knowledge economy, reflecting a highly human capitalistic conception (Tsang, 2000). Expanding the scientific capacity for the nation has been key in these endeavors. In the early 1990s, the government unveiled the high profile 211 Project, with the explicit goal of moving to “world standard” higher education (Ngok & Guo, 2008, p. 546). The selected 100 universities, later added over a dozen more, in the project have become key institutions in the domestic sector and have expanded their reach across the world through partnerships or other ventures. In 1998, following the success of the 211 Project, the Chinese government targeted an even smaller elite few for the 985 Project. Jiang Zemin, China’s supreme leader at the time, declared that the nation “must have a number of first-rate universities of international advanced level” (cited by Li, 2004a, p. 17). This grouping, which expanded to 39 universities, was established as the domestic elite and also became the most recognized internationally (Yang & Welch, 2012). The first nine of these 985 institutions also organized into a so-called “Chinese Ivy League,” dubbed the C9 League (Allen, 2017). All of the universities with any of these statuses became the de facto leaders in the Chinese higher education sector. While, in 2015, the government officially ended both projects, announcing a new venture, entitled *ShuangYiLiu* (World Class 2.0 or Double First Class), the new program has kept most of the established hierarchies of the past in place (Sharma, 2016).

Chinese institutions have been expressly interested in creating connections with others in the West (Song, 2017). Likewise, Western universities, too, have flocked to China in search of partnerships that could become lucrative pathways to students, such as NYU-Shanghai or Nottingham University-Ningbo. Chinese universities already have impressive global partnerships across the world, for instance, Oxford and Tsinghua announced a dual Master's program; MIT organizes an official "China Lab" program with four other Chinese universities; London School of Economics and Political Science has planned to launch a joint-degree with Shanghai's Fudan University by 2020. These are just but a few examples that encompass an inundated sector of Chinese-foreign collaborations (Kolesnikov, 2017). Further, these foreign institutions are ranked quite highly in the most popular ranking schemes.

The top universities in China are significantly competitive and professors are under significant pressure to publish. The Social Sciences Citation Index (SSCI) Syndrome is a term coined by Chou (2014), a scholar in Taiwan, describing how publishing in top journals drives intuitions, placing extreme pressures on academics. And while Chinese universities have rocketed up on highly cited academic publishing because of the funding and extreme pressures, this has also led to wholesale cheating, such as plagiarism and fraudulent data (Lin, 2013). Government agencies have taken notice recently and have been working to combat this kind of academic fraud, but the pressures remain (Cyranoski, 2017). In more recent years, instead of simply copying Western institutions, Chinese universities have made concerted overtures to carve domestic identities, even while keeping global standards. In 2016, at the National Conference on Ideological and Political Work in Universities, Chinese President Xi Jinping declared that a shift in policy

was needed in the creation of “world class universities” with “Chinese characteristics,” meaning that the nation did not need to simply copy the West (as cited in Song, 2017).

Despite these impressive developments since the reform and opening of the late 1970s, scholars have questioned the CCP’s ability to realistically foster world-class universities. Salmi (2009) admonished this as a “serious issue” in the nation’s push for elite institutions (p. 59). Altbach (2016) further provided critique of the Chinese system, saying that the elite universities would hit a “glass ceiling” due to an overbearing government and the lack of academic freedom. He argued that moving up in the rankings would not provide Chinese institutions with true elite status because of these barriers with academic freedom. However, a few scholars have contended with these critiques of China. The argument is that China already contains world-class universities such as Tsinghua University and Peking University, which are both perennially the highest ranked Chinese universities (see Yang & Welch, 2012; Rhoads et al., 2014; Yang, 2017). Though, the commensuration of this world-class conception through rankings in China remains unclear in the research.

Data Collection and Methods

Researchers have used interviews with university stakeholders in past studies in explorations of societal links or changes (Kvale, 2008; O’Meara et al., 2011). I conducted 48 one-on-one interviews with a purposeful sample of administrators and professors within the landscape of the elite end of the Chinese higher education over the period from February to August 2017. These participants are considered to be “elite” experts in the sector (Littig, 2009, p. 99). The interviewees provided quantitative data that allowed me

to capture the “social reality” of Chinese universities balancing both global and domestic forces in ways that cannot be done through quantitative methodology (Alvesson, 2010, p. 2660). I focused my sampling on stakeholders from elite Chinese universities as distinguished by government status and universities that are self-described as globally ambitious, including foreign partner campuses, often characterized by programming almost exclusively in English, hiring foreign staff, and recruiting large foreign student populations (Flowerdew & Li, 2009). I narrowed my focus on the elite sector of Chinese higher education because concern for rankings and international recognition are more crucial to these universities and actors.

I used a snowballing method to gather the sample, garnering interviews through networks and referrals (Dilly, 2000). I did not blindly solicit participation for this research; instead, I used six months of field research in China to build a network of interviewees through conferences, meetings, academic events, and public lectures. I was embedded as a visiting research doctoral fellow at Beijing Normal University (BNU) on the Chinese government’s Confucius China Studies Fellowship during the spring and summer of 2017. While my base at BNU provided ample research networks, I also branched far beyond Beijing to create a fuller sample. I traveled to several cities—Shanghai, Shenzhen, Hong Kong, Jinan, Nanjing, and Ningbo—to maximize sampling of the elite higher education sector.

The interviews were almost exclusively conducted in two ways: one-on-one in-person or through the phone in English. The in-person interviews mostly took place on campuses in the offices of the interviewees, and at basically any hour they requested (some were very early in the morning, others were late at night). I conducted phone interviews mostly

from my accommodations in Beijing, but a few were done in hotels (also at the time of the interviewees' preferences). I wanted to ensure these interactions were easy for the participants to keep them comfortable and open (Blommaet & Dong, 2010). However, three interviews were conducted via email to accommodate respondents' preferences. The meetings were recorded and took anywhere from a minimum of 20 minutes to a maximum of an hour and a half, with an average of around one hour. Almost all of these interactions were conducted in English; however, I also relied on a student research assistant for a few interviews where the participants were more comfortable speaking in Chinese.

As prescribed by the guidelines of Institutional Review Board (IRB), the participants in the study provided explicit permission to be part of the sample, this included audio recordings of the interactions. In alignment with the privacy guidelines, the identities of participants have been anonymized, along with any identifiable characteristics, such as university name or specific program. I have offered only vague descriptions in the analysis that cannot be used to trace back the informant. Additionally, all identifying materials will be destroyed, including the audio, at the conclusion of this project.

Sample

As for the characteristics of the sample (n=48), a breakdown can be seen on *Table 1*. The sample includes 12 interviewees from the C9 League, 17 from 985 Project universities, seven from 211 Project universities, and 12 from other globally focused institutions. None of the respondents come from the bottom or middle tiers in this study and all of institutions included have clear global ambitions to varying degrees.

Furthermore, of the 48 interviewees, 44 were Chinese nationals, with an additional four from foreign stakeholders. But, only 31 of the respondents were educated in China for all of their degrees, while the other 17 received at least one degree abroad, mostly from Western institutions. I also had a range of academic backgrounds: 12 from the social sciences/ humanities, seven from the natural sciences, 17 from education, and 11 others were administrators. I additionally included people with varying level of experience in the sample, from early, mid-, to late-career stakeholders.

Coding

I transcribed the recorded interviews and entered the transcriptions into NVivo, a qualitative coding application. I first began by open coding through themes that were apparent via the focus of the interview instrument (which can be found in the appendix). Through these early observations, for instance, I coded any mentions of “rankings” from the interviewees, “world-class universities,” which included the basic definitions offered for these types of institutions, and any “governmental policies.” Through these observations, I established the larger codes for which I would nest more nuanced sub-codes under (Blommaert & Dong, 2010).

As the coding continued, I further subcategorized rankings that continued to arise in the interviews, such as “QS,” “ARWU,” “US News,” and “THE.” Likewise, the specific governmental policies, such as “Project 985,” “Project 211,” and the “World Class 2.0.” The discussions of these specific projects often led into new coding areas relate to “Chinese characteristic,” a larger code that I filled with important sub-codes, such as “censorship,” “foreign influences,” “Western,” and “foreign policy.” Furthermore, I sub-

coded for ranking “cutoffs” that interviewees mentioned universities needed to attain for elite status. While not every interview gave an exact number, I was able to later code “administrative” requirements related to rankings and “partnerships,” two sub-codes added under the larger code.

Once the coding was ready for a final analysis, I had identified three overarching themes: ranking conceptions, world-class conceptions, and the domestic setting. Within each of these larger themes nested specific codes that I mentioned above, but I discovered clear overlap between these different areas of the data. Exploring how these triangulated together allowed me to understand the intersections between global forces and local characteristics that stakeholders must balance in the Chinese higher education sector.

Limitations

Qualitative interviewing methodology does not aspire to have a representative sample (Blommaert & Dong, 2010). The method cannot offer generalizable claims that can be made through experimental design or scientific sampling in quantitative work. I focused on the elite end of the Chinese higher education sector, meaning the experiences of stakeholders in other parts of the sector have not been considered (see comparable studies with similar methods: Rhoads et al., 2014; Hazelkorn, 2015). Further, the interviewees in my study mostly could speak English and were willing to meet for a formal interview. While I had a translator for some of the interviews in order to minimize this issue, it remains an uncertainty that I must mention in the limitations.

Any research that relies on participant interviews faces some risk of capturing human error through misremembering, protecting the organization or themselves, or

misunderstanding of other kinds (Blommaert & Dong, 2010). For this research, there were no real risks involved, but some participants could have felt apprehension in critiques of their university or the Chinese higher education system. I attempted to minimize trust issues by sampling through the snowball method (Rubin & Rubin, 2011). I gained legitimization through referrals from other academics or other stakeholders. Comparable studies related to rankings have used similar sampling design (Rhoads & Hu, 2012; Kim et al., 2017; Song, 2017).

Finally, while there have been recent concerns and issues regarding Chinese censorship, this project was actually vetted by a government agency, the Hanban, before I was granted entry into China. One interviewee even mentioned that the topic was not controversial and that I should expand my sampling beyond universities and into stakeholders in the Ministry of Education. Through these steps, I believe that generally the respondents in my sample had mutual trust between the topic and myself, minimizing limitations from this kind of study in China.

Findings

World-Class University, a Difficult Conception

The concept of the world-class university is often debated, and without a consensus definition. Respondents in this qualitative exploration expressed the same uncertainty as reported previously in the literature, despite ubiquitous exposure—all the professors and administrators had heard the term on multiple occasions. One professor of education even said that he basically heard it “every day” during his work at an elite 985 university, even if he could not provide an exact definition. Others agreed that they could not provide a

definition for this term. “The definition? Wow, it’s very difficult. Personally, myself, I try to get a definition for a world-class university... But after all, no one agrees on the definition [laughs]. Nobody agrees,” explained a late career professor from a C9 university. Similarly, an early career administrator from a C9 university said, “In my personal idea, it is hard to give a definition for the world-class university. During the discussion with my colleagues, we do not think the definition for it is clear now.” This “vague” description mirrored the consternation in the research on this topic, and a few professors even specifically cited Jamil Salmi in their responses, one of the most famous scholars studying these kinds of universities. The ubiquity of the term should be no surprise because the Chinese higher education sector has put a critical emphasis on this ideal in recent years. However, just as in the varying conceptions of these types of universities across the world, the academics and administrators in this study also did not provide a unified definition.

Of course, respondents did attempt to conceptualize their idea of world-class university. These definitions were sometimes in relation to educational impact or institutional outcomes. A C9 professor said of the concept, “[It] means that what universities should have in the perspective of education, work, and culture; and how it impact on the human beings.” Another from a 211 university added, “I think in China, we define world-class, or famous university, or important university... is the rate of the graduates... If they can find a job after graduation, then it is higher,” Similarly, an academic from a non-elite university agreed that world-class institutions needed to “have some great academic performance or they are successful in teaching students or mentoring students,” adding that their “professor is famous in the world.” “Famous”

name universities such as “Harvard,” “Cambridge,” and “Columbia” often arose in these conversations as obvious world-class institutions

Many of the conceptions remained close to Western discourse on world-class universities. “I think world-class in every university is about talented people... then about your impact... The impact to the society, the impact academically and also when you talk about intellectual impact, which also means you are defining the new direction rather than following others,” said one administrator from a non-elite project university, 2017. Just over a third of the sample held a degree from a university abroad, mostly from the West. These interviewees who had more experience in other educational systems often cited characteristics from their previous institutions. “I have been in American institutions so long, I am trained there, I am educated there, transform there,” said an administrator from a non-elite university. “And I think about the University (of) Michigan is a great public institution and so that is the world-class to me. That is the meaning.” When I asked why Western universities are often considered world-class, an early career faculty who had trained in the UK complained about the bureaucracy of Chinese universities, saying that at his old British university, they “don’t need to spend too much time on the bureaucratic things,” while administrative duties take up a considerable portion of duties for professors in China. Another social science professor from the C9 pointed to the standards in doctoral research. “I do think in general the training is better... at least the American training. In the US, ...because there is so many thresholds to pass the PhD, otherwise you are just, you drop out or kicked out of the program.”

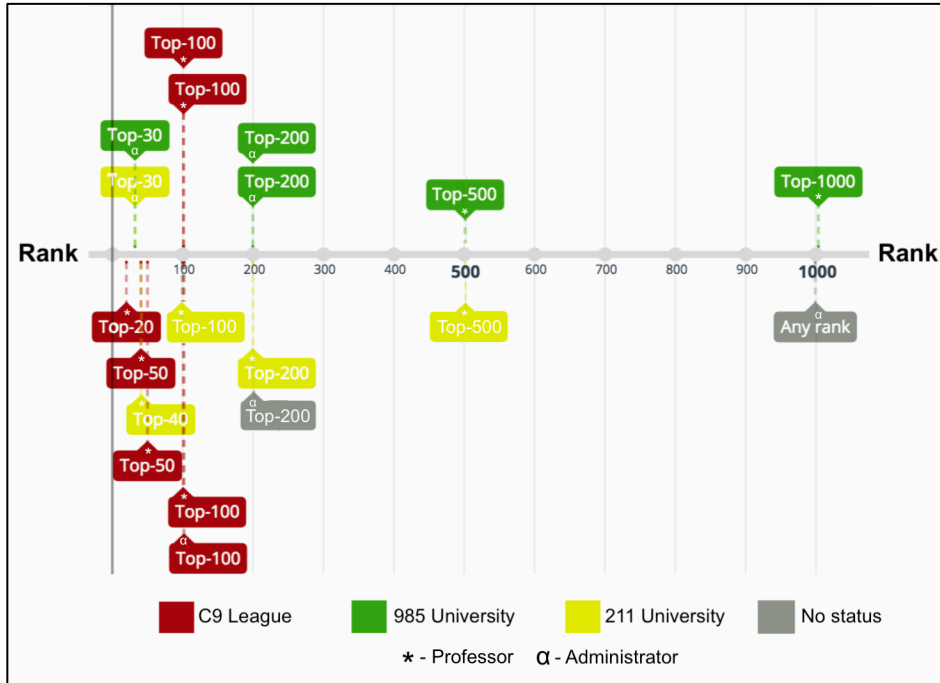
Even with some attempts to conceptualize the world-class idea, the interviewees in this study reflected the same uncertainties about this term as reported in past literature on the topic, providing differing viewpoints, standards, and ideals. Because of the vagueness and disagreement of the concept, simple commensurate metrics can be used to fill in the definition for decision makers. League tables, then, are operationalized to make sense of the world-class concept, which will be illustrated in the following sections.

Reaching a World-Class Rank

A consensus conception eluded the sample as a whole, as various actors in the study proposed multiple definitions or struggled with the question. Because of the disagreement, rankings have filled the operational role of understanding the world-class concept. Decisions often cannot be made upon amorphous definitions, and need clear indicators or measure for objectivity. League tables provided a tangible, actionable metric for the world-class university concept. Stakeholders in the Chinese institutions asserted that there was generally cutoff points in the league tables for world-class universities, meaning that rankings provide guidelines for some universities in conceptions of world-class. Of the 48 total stakeholders interviewed, 19 gave explicit concrete numbers on this cutoff, only two of the interviewees specifically stated that there was no ranking cut point for world-class, and the other 28 were either unsure of an answer or they were never directly asked about this issue. Given the nature of exploratory interviews in the qualitative process, I did not always follow the same line of questioning, but rather followed a growing exploratory method that allowed for variation (Rubin & Rubin, 2011). Still, over a third of the respondents gave a specific number used for their

institutions’ conception or for their general understanding of the status. The collected responses have been visualized in *Chart 4.2*.

Chart 4.2: The specific cut-off for determining world-class universities by university type



Source: *Qualitative interviews conducted in this research.*

As seen on *Chart 4.2*, the most common conception of world-class status was a ranking within the top-100. “Mostly I should say in the 100. 100 is world-class. The first 100 is world-class. So actually that produces a lot of tension,” said a late-career professor from an elite C9 university. A professor from a 211 university concurred, “World class just like the top-100 universities,” and added, “some people say only two universities in China could become world-class universities,” referring to Tsinghua and Beida. Though, a few of the observers believed that the only agreeable cutoff was in the top-50 and below. Few Chinese universities have made it to these top spots globally, such as the two mentioned in the previous quote, but others are rapidly rising to these ranks.

There were other cutoffs from the interviewees, as well. A few offered that a university could be world-class if it was listed within the top-200, top-500, and even top-1000, the latter would constitute simply being included in the rank scheme at all. Concurrently, some universities simply had a goal of joining the ranking, which provided a signal that the institution was amongst elite peers. One dean at a non-elite Chinese university described how his university has a specific cutoff of the top-500, though he was unsure of who established this metric, just that it was not from local Chinese rankings. He continued, “So that’s why China is trying to get more and more Chinese universities to rank inside the top-500, that’s the international ranking, as well as pushing towards the maybe top-100, the top-50, the top-30.” Another from a 985 institution agreed, “The best 500 [in the] world ranking, I think they are a world-class university.”

There were indeed a variety of responses to the cutoff and many respondents simply did not know. But, in a potential trend, all of the C9 League respondents who answered this question agreed that the top-100 was a cutoff, which could be explained through the collective global outlook of this elite grouping. These institutions, especially Tsinghua and Peking Universities, are all rapidly rising in the global rankings. Additionally, stakeholders from non-government project universities seemed to be less aware of this issue or could not provide an answer. These types of universities have other considerations or focuses, such as partnership, over the rankings. Despite disagreement, one professor at an elite C9 university attempted to synthesize the feeling of the sector: “The idea of world-class, it’s hard to define... But for practical usage, actually the top-100 is more or less agreed as world-class university. Not everyone agrees, but it’s a much more agreed than the definition itself. It’s much more difficult to get a definition for

world-class university itself than the practical use from ranking. So, top-100 is more or less.”

Because a precise definition of world-class university is elusive, the rankings become a de facto proxy. Although, some professors did attempt to push back against the importance of rankings, contending that higher education should move beyond simple metrics and focus on more holistic approaches. Even with the consternation of the interviewees, there was conceit that there were connections between league tables and world-class status. “In my mind [it] is much less measurable,” said a 985 professor. “[But] the concept is something that you can’t avoid and again it seems to me, the world-class university is a thing that is existing in people’s minds based on the world ranking.” Similarly, an early career administrator from a C9 League university thought it was difficult to define, but agreed, “Generally, for normal people, world-class university is more related with the rankings.” These measures are especially apparent for top universities, “the global ranking is more important for if you think we are world-class institution,” said a C9 League professor. The following section will show how these indicators have been operationalized as key decision-making aspects by these elite Chinese universities.

University Rankings and Partnerships

Many of the interviewees clearly saw the connection to rankings and world-class universities, and explicitly stated various cutoff points during interview sessions. However, the advantage of qualitative methods allows for the researcher to read between the lines of the responses through deeper analysis (Blommaert & Dong, 2010). Of course,

some respondents did not feel comfortable making the connection directly between rankings and world-class status for the institution. Yet, I found other signals that provide evidence of the coupling between the rankings and elite global status, especially related to university connections and partnerships. Through the interviews, it was reported that rankings provided concrete decision-making tools related to world-class conceptions for Chinese universities represented in this study.

The criteria for the complex decisions made by various bureaucratic and administrative bodies are uncertain. Sometimes, the reasons for a joint-program or faculty guest lecture simply related to connections, or *guanxi*: an administrator had attended a specific university for their undergraduate, for instance. An administrator from a non-elite university said, “we start with those whom we have personal connections, we start with who collaborate with us.” Rankings, though, were admittedly indicators used by many university administrators in their selections of partnerships. That same interviewee added, “of course everybody want to befriend those highly ranked institution.” Another specifically mentioned that connections were the “most important” aspect in building these relationships, but that league tables were indeed crucial to the process.

An administrator admitted that her university would not even consider any university partnership if they were not highly ranked. She stated, “because [our university is a] world-class oriented university and it aims highly to only pursue highly ranking universities all over the world, like in the US and all European countries, Hong Kong, Singapore. If the universities were not highly ranked, we would not consider them to be partners.” This is an institution that is not even ranked in any scheme, not locally or globally, but had extremely high goals for internationalization. Similarly, another 211

administrator said that her university would look for speakers and guest lecturers from highly ranked institutions first, and only later would they reach out or accept professors from low ranked colleges. Naturally, hiring decisions for faculty were also predicated on rankings. This same respondent said that they were exploring how to cut ties with an American university that they had a close partnership with because the ranking was too low. They would then seek a new higher ranked partner in the US.

Professors and administrators were aware that partnerships related to a university's *brand*. Institutional branding has been a key part of recruitment of students for universities in a rapidly competitive sector, both domestically and globally. Concurrently, being associated with top-ranked institutions provides a signal that a university is also in the elite club. This is why the choice to partner with an institution is seen as such a crucial decision. For universities not in this club, connections could be difficult to establish. Two administrators mentioned that their universities were not good enough to make high-level partnerships at that current time, but they would like to pursue them in the future. These lower or unranked universities were forced to seek partners that held similar status in their respective domestic context. Chinese policymakers have been especially pushing faculty to have international experience in recent years and partner institutions often make the mobility process simpler, either through recruitment of faculty or exchanges. There is considerable financing available for scholars to move abroad through the government and universities. Respondents said this funding often came from the China Scholarship Council (CSC), an appendage of the Ministry of Education. The CSC provides substantial financial contributions towards research, development, and

academic exchange for Chinese academics. Faculty members often go abroad for yearlong sabbaticals to boost international and research efforts.

Several of the respondents had received scholarships, funding, or were in the process of applying for resources. All of them mentioned that only proposals to highly ranked institutions would be granted. Professors claimed that they could not simply choose any institution abroad and that rankings played an overt factor in institutional approval. The destination universities abroad had to be highly ranked or else the money would likely not receive approval. In fact, some even mentioned that the administration had a cutoff at the top-100 for these kinds of overseas exchanges. “[S]ince government who funds those student going aboard requires us to cooperate with those university higher than top 100 globally, the rankings do affect our choices,” said one C9 League professor. Another 985 professor added, “We have students go to Columbia and Harvard every year as the exchange student, and since government who funds those student going aboard requires us to cooperate with those university higher than top-100 globally, the rankings do affect our choices.” This echoes the same top-100 mark reported by those with a world-class cutoff. It seems that the policy is using global rankings as a de facto measure for the concept.

Interestingly, partnership decisions through rankings are not just a one-way street. Western institutions are also concerned about their peer partnerships within China. One professor from a 211 university told me that he tried to establish a connection with a highly ranked UK institution that was keen on a partnership within China. However, the British institution rejected the proposal to formalize a relationship, even after their

programs had already unofficially worked together, because the British administration wanted one of the top Chinese universities with more global recognition.

Which Rankings?

League tables, in general, provide concrete, actionable boundaries for the amorphous world-class university conception. But, the number of university rankings has exploded in recent years, each with their own methodology and metrics. It is worthwhile to understand which of the schemes are even important to the Chinese sector because each one has differing metrics, which can have differing impact on actors and institutions in the sector.

The QS ranking scheme appears to be the most popular international league table according to the interviewees. This ranking is not the longest running continuous ranking, that distinction belongs to ARWU, but it has had the longest running specific discipline or subject ranking, since 2011. The professors I interviewed had an affinity towards this more nuanced measure, rather than the larger university number. Breaking down the larger university into specific departments has helped propel the scheme to industry eminence. Even leery professors must pay closer attention to these disciplinary scores because they more directly connect with their work. Not all professors viewed this ranking as the most crucial, though. Some professors complained that this ranking was too commercialized and their representatives were more disagreeable. While the QS ranking was the most mentioned, other schemes clearly have some foothold on the Chinese sector, such as *THE* and *US News*. The *THE* ranking was mentioned throughout the interviews, but it seemed to take a backseat to its British rival rankings, which split

from QS in 2009. But, there it took a clear backseat to the QS ranking in terms of recognition. Similarly, *US and World News Report* is also relevant to the Chinese sector, as many Chinese students use this indicator while choosing universities in the US. But, it has only had a global ranking since 2013, and most of the interviewees associated it with an American-only ranking. In this way, local actors or institution with a focus on the US are more likely to consider this ranking as opposed to the other peer schemes.

One major criticism of these three rankings was concerning the use of reputational indicators. QS, *THE*, and *US News* all include some kind of peer evaluation metric that is calculated with little transparency, accounting up to a half of the metric. The organizations send out peer assessment surveys across the world to various stakeholders in the sector. These scores are calculated and processed as part of the larger output metric. The opaque process did not sit well with interviewees. “QS is flawed. Among its many flaws, one of them is the halo effect, so people will say, ‘Cambridge has a great department of X,’ even if they don’t have one. These places have higher reputations, whether they actually teach a program or not. And QS is really about reputation primarily,” said a foreign faculty professor at a 985 university. In another complaint about this process, several interviewees had been solicited in recent years to participate in these ranking activities. “They send out questions, send out surveys. Asking you to rate!” said one annoyed professor. Because of the disillusionment, stakeholders reported that they have just ignored the requests because they do not want to be part of the process. One scholar even mentioned that his colleagues encouraged him to fill out the survey to have a voice in the results. Others agreed that peer reputational aspects have created a self-replicating cycle. For instance, an administrator told a story of her old university that

used to have a renowned physics department, but it had fallen down in quality. Despite the apparent drop, the department had remained high in the rankings because people simply recalled its glory days. This process is sometimes called the “halo effect” in higher education literature (Marginson, 2008).

Because of the halo effect, it can be difficult for universities to climb the rankings. Perceived as the most popular foreign ranking from the interviews, the QS ranking is the highest weighted reputation score, measuring in at 50% of the scoring output, with the other two holding at 33% and 25%. The inputs for these rankings rely on metrics completely outside the control of individual institutions. There are actions that a university can do to potentially boost their scores in the reputation surveys, such as establish partnerships, but these efforts are not directly transactional. It would, then, be more logical to focus efforts in areas that are under full intuitional control. One ranking, the ARWU, does discard these reputational survey factors, to a degree, but there are other trust issues for this Chinese-based scheme.

The ARWU is actually the longest running global ranking of relevance in the sector; but, one problem that was uncovered during the interviews was with ARWU’s Chinese roots. It was founded as a research tool of Shanghai Jiao Tong University, an elite Chinese university. But, because the reverence for Western know-how, some stakeholders in China do not trust a domestic-made system, favoring schemes from the US or UK. “I never believe that the Chinese has the capacity to evaluate great modern university, I do not believe that,” said one administrator from a non-elite university. Another professor mentioned this kind of attitude and specifically criticized it as a kind of impact from colonialism. While China was never colonized formally, there were aspects

and areas of total Western domination that affected education (Hayhoe, 2004). Even today, China is leading the world in international student outflows, according to Open Doors data from IIE. Because of these issues, it appears that the ARWU is somewhat discounted by actors in the Chinese system.

Despite concerns, ARWU still has considerable name recognition from many Chinese academics and staff. Because it has a keen research focus, over 90%, professors appreciated that it was measuring serious academic inquiry. One professor at a C9 League university specifically recalled that his institution perceived the Shanghai Ranking as being more “objective” than the others. Similarly, there was a shared appreciation of the value the scheme placed upon “academic research” compared to the others. Though, some also criticized it for too narrow and impossible metrics, specifically for the Nobel Prize metric included.

How Rankings Impact Academic Research

Research is a significant aspect measured in all of the global rankings schemes, accounting from 90% to 20% of the indicator depending on which league table. China has been powering up the charts of most cited research papers. Just in 2017, the nation ranked only behind the US and the UK on the Highly Cited Research List, defined as articles that “rank in the top one percent by citations for field and publication year,” according to a report from *Times Higher Education*. The top Chinese universities are catching up to traditional Western powers in scientific endeavors, with the government providing incentives and bonuses for publications. Several of the academics described potential bonuses equal to thousands of US dollars for publications in highly cited

journals. Professors did see the direct connection between these efforts and rankings. “The leaders will talk to us about being the world-class level, so we have to publish papers, we have to do our great research so we'll get high rank and what we should do is to do research and apply for grant and publish,” said one respondent. Another professor, annoyed by pushes from his “university president” and “college dean,” said he must publish “more papers in journals of higher Impact Factors, and less papers in journals of lower Impact Factors for it has little contribution into ranking.”

An interesting finding that came about through the interviews was that some professors claimed to reject the rankings or said that they were not really affected. Yet, when asked about research and publishing, all of them reported an intense pressure from administrations to publish in top journals. “It is a lot of pressure to publish or perish, we are adopting the US approach to tenure-track faculty,” said one professor from an elite 985 university. “So we are all sensitive to the ranking, the impact factor, on the journals we are submitting how much citation and etc.” SSCI or SCI journals were the most talked about, reflecting Chou’s (2014) SSCI Syndrome. These journals provide key indicators for all of the ranking metrics. A few faculty members even relayed the same joke, calling SCI the “stupid Chinese ideas.” Authorship dynamics, too, was a crucial concern, as some colleagues reported that if they were not the lead author, then a paper would not be counted by their administrations. Clearly, these stipulations are connected to ranking metrics, even if the professors did not fully make the connection.

Foreign faculty members are heavily recruited by Chinese programs to boost output in highly cited indices. Even this internationalization effort intersects with the intense focus on research output. *US News*’ global ranking uses joint-research internationally as

part of their metric. One foreign faculty at a 985 university echoed his Chinese peers in decrying the ranking, “I don’t plan my research in order to improve the ranking of the university.” Though, when I pushed on his role in the system, he added, “Well, in a way I do, because that’s what I’m here for, to improve the international profile of the university.” The most sought-after indices are mostly dominated by English journals and many Chinese faculty members have struggled with writing in the foreign language. All of the native English speaking academics have been expected to publish in these highly cited publications. One American faculty member working at a 985 university said that she is contractually obligated to publish one SSCI article per year. The expectations have left bewilderment on these foreign respondents because often the publishing cycle is out of their control.

The rankings have been factoring into Chinese academic research experiences whether they realize it or not. The pressures generated from the administration onto departments and individual faculty members to publish more in highly cited indices stem from ranking activities. While some researchers have highlighted the increases in academic fraud, such as plagiarism or falsifying data, stemming from these publishing pressures (Lin, 2013; Cyranoski, 2017), these issues were not reported during my interviews. Though, a few professors claimed to hear rumors of other impropriety in the ranking process, including the payment of “bribes” to move into better position. The real concern from the group was that research had been relegated to just a cog in a machine. Their work had become a simple indicator in the commensuration process. One professor summarized this collective frustration, “one of the things I’m critical of, in the ranking

system, they just take a lot of indicators and add them together, which is a stupid thing to do, it's a stupid way of doing it.”

Discussion and Conclusion

The conception of the world-class university is simultaneously ubiquitous across the global higher education sector and, at the same time, lacks a unified definition. The complexity of this expansive sector allows for local actors to envision their own characterizations for these types of elite institutions. With increases in global connections through multinational research projects, branch campuses, student and scholar mobility, and other international collaborations, stakeholders must have some mechanism for making sense of this global hierarchy. Commensuration is a process that simplifies complex systems or sectors through a calculation of indicators and measures, often producing a neat, unified ranking. Global league tables have become important commensurate credentials for decision making in higher education sectors across the world, whether students, parents, administrators, or even policymakers.

The content of league tables is important because these commensurate indicators give order and meaning to this messy landscape (Espeland & Sauder, 2007). Given the perception of objectivity and scientific authority of these simplified metrics, institutions across the world align to a standard university as measured by the schemes, which looks on the surface like a large, comprehensive Western university. Thus, institutions can rise in the rankings and gain world-class status in the same theoretical vein as a credential, even if this strategy has been criticized for being a “glass ceiling” (Altbach & Wang, 2012; Altbach, 2016). Accordingly, Chinese universities can continue moving up in the

rankings and gaining world-class status without incorporating the same openness seen in the West, especially from any of the four key schemes—QS, ARWU, THE, and *US News*—which are viewed as most authoritative in the global sector within China.

The stakeholders in the Chinese higher education sector contended that these rankings have provided a credential for the global elite status. There are even strong signals that entry into the top-100 of the four prominent ranking schemes guarantees world-class consideration, through explicit cutoffs or other bureaucratic markers, similar to studies on domestic rankings in the US (Bowman & Bastedo, 2009). Even university partnerships in China are heavily predicated upon these metrics, as institutions look for perceived peers that hold similar rank. Much of the findings for these decision-making processes align with Porter's (1996) contention of bureaucratic preference for indicators as objective measures. Future research should consider a replication in the exploration for these cutoff points in universities around the world to see if this top-100 line has proliferated through isomorphism.

Individual universities have been scrambling to move up in the rankings, with efforts centered on increased research capacity. Professors are burdened by their administrations to publish in SSCI or SCI because these indices are actively measured within the popular rankings. Because these highly cited journals are mostly in English, returnee Chinese and foreign faculty are heavily recruited to push out publications. The environment is so pressurized that there have been several high profile cases of academic fraud within the sector (Cyranoski, 2017). Though accounts of academic fraud were not widely reported in this sample. Their biggest collective complaint remained on the haphazard and narrow ranking metrics that forced accountability metrics onto their research output.

Despite the complaints by faculty and Albach's (2016) "glass ceiling" critique, there are signs that the intense focus on ranking metrics working to bring Chinese universities more prominence globally. Already, institutions like Tsinghua and Beida are considered to be some of the best universities in the world, with elite partners in the West lauding their academics (Yang & Welch, 2012; Rhoads et al., 2014). Likewise, other findings have shown that students, administrators, and policymakers are using ranking metrics for their decision-making, eschewing critiques by academics. It is likely that as Chinese universities continue their ascent, they will be the ones that are seen as the sector leaders, establishing standards and norms to other nations. As it has been illustrated in this research, will other societies accept the global rankings as a credential for world-class status like in China?

Given the focus on ranking metrics, future studies should look at how Chinese universities are perceived around the world by various actors. Mapping Chinese institutional reputation and relationships with peer universities could provide important measures of success to the quest for world-class status. Potentially, if other societies share the Chinese conception of world-class status through the ranking credential, then China might increasingly be viewed for emulation of best practices, as their universities have rocketed up the ranks in recent years. Similarly, these findings could dispel or entrench the concept that Chinese universities are only going to hit a "glass ceiling" if they do not adopt more open, Western educational practices (Albach, 2016). In divergence from the West, university rankings do not even account for any measures of academic freedom. As rankings have been shown to provide a commensurate measure for

world-class status, then future studies should look at the intersection between university league tables and academic freedom.

CHAPTER FIVE: Balancing Global Striving Ambitions and Influential Government Rankings: Lessons from Chinese Universities

Abstract

While university rankings have permeated across the globe to almost every higher education sector, not every university reacts the same to these metrics. O'Meara (2007) described universities that are more attuned to rankings as “strivers.” These striving universities chase prestige through rankings by altering policies to improve their metrics, such as tightening admission practices or reallocating resources to research-rich areas. These institutions also commonly benchmark and compare themselves to the elite in the sector, which has often been represented by the Ivy League in the United States. This model, though, has mostly been applied to universities in the US and little is known about how it operates in non-Western societies. Through interviews with 48 academics and administrators from Chinese universities, I explore striving behaviors in elite Chinese universities and expand the model to include international competition with international rankings. Different from their American counterparts, I find that striving universities in China have placed considerable emphasis on international ranking, but distinction and rankings associated with the central government have still dominated competition within the domestic hierarchy. These new considerations to the striving model can be considered in future studies across the world.

Introduction

University rankings have had considerable impact on universities across the world, but not every institution reacts the same way to these performance indicators. O'Meara (2007) described universities that are more attuned to rankings as "strivers." In her striving model, universities chase prestige within the hierarchy of higher education, as measured through league tables. Striving behaviors include changing admission practices, creating steep incentive structures for faculty or staff, and reallocating resources to areas of the university, all with the expectation of boosting institutional ranking (O'Meara, 2007, p. 122). Some of these universities have even attempted to game the system to move up in the league tables, including the use of data fabrication (Kim, 2018). O'Meara contended that these striving universities can be broadly defined as those with aspirations of becoming elite and that emulate and benchmark against prestigious universities that already dominate league tables. In the case of the United States, the Ivy League universities have often been these top elite institutions chased by strivers.

To date, O'Meara's striving model has only been applied in consideration to national hierarchies concerning domestic rankings in Western nations, and mostly in the United States with rankings from *US & World News Report*. Studies have, for example, chronicled a range of universities exhibiting striving behaviors, such as a working-class American university with newfound status in its region that looked to increase its prestige (Gonzales, 2014), a private liberal arts university with some history, but viewed as just outside of the very elite (O'Meara, 2011), and a land-grant university that sought to extend its research reputation (Gardner, 2013). In a case from outside of the United States, one study examined a recently-established Central European university that had

aspirations of elite status (Kascak, 2017). All of the universities in these studies displayed typical striving behaviors like funneling funding to research areas, increasing institutional publishing capacity, recruiting top faculty from elite universities, and increasing selectivity of students for admissions.

Despite the range of studies on types of striving universities, research has mostly been focused on national higher education hierarchies and domestic rankings in the West. We know little about the impact of global rankings on striving behaviors or how this model operates in non-Western contexts. For example, other societies have considerable differing government roles in their higher education sectors compared with the United States, which is exceptionally decentralized. Striving behaviors in other, non-Western societies might operate unlike those institutions examined in the United States. Furthermore, other systems do not necessarily have the same historic distinctions for elite Ivy League-like comparisons, with more recent hierarchies still maturing. On top of these expected differences in domestic experiences, in recent decades, the impacts of global university rankings have proliferated across the world (Hazelkorn, 2015). With a dramatic rise in foreign student mobility, branch campuses, and global research initiatives, comparisons through international rankings have become more prevalent and necessary. Because of these factors, the striving model should be considered beyond national contexts of domestic ranking, and viewed through an additional international lens with global rankings.

In this study, I explore how O'Meara's striving model operates in China through interviews with faculty and staff. China provides a productive case to consider striving through university rankings because it has long had historical reverence for hierarchical

structures, status and distinction within education, and a strong central government (Hayhoe, 1996; Lü, 2000). In recent decades, the government has initiated ambitious funding projects to boost the international standing for its universities (Mok & Chan, 2008). Much of these investments and development have gone to the elite end of the higher education sector, especially to universities in the C9 League, often referred to as the “Chinese Ivy League” (Yang & Xie, 2015). These nine public institutions were the first to be included in the government’s prestigious 985 Project that poured funding into a handful of universities in order to compete globally. However, little research has been conducted on the C9 League grouping, Chinese higher education elite hierarchy, and how stakeholders balance both global and local rankings in the sector. In contrast to the United States, the government in China has a much stronger role in the nation’s higher education sector. All of the very elite universities in the system are public rather than private, differing from the Ivy League experience, and run under the authority of the Ministry of Education.

In an exploration of the striving model in China, this study intends to examine two questions: 1) How have Chinese universities balanced between global striving ambitions and a dominant central government? 2) To what extent does the elite segment of higher education in China contribute to striving behaviors within a global context? Through faculty and staff interviews, I find that the O’Meara’s model does not quite operate in the same manner in China as in the United States. While there is clear reverence for global rankings, domestic government distinction and rankings promote the most critical striving behaviors in China. Furthermore, the C9 League as a grouping does not hold the

same comparative standing for striving institutions in China as the Ivy League does in the US.

Striving in Higher Education

In terms of university rankings, not every higher education institution will be impacted by these indicators in the same manner. Some universities are more attuned to league tables than others. In a research report for RAND, Brewer et al. (2002) identified three types of institutions. First are the *prestigious* types that already sit atop the national hierarchy. These top domestic universities do not focus on rankings, instead, deriving prestige from history, notoriety, and other local factors. Next, they identify *prestige-seeking* universities that crave status and are especially attuned to rankings. Finally, they introduce *reputation-based* institutions, which focus on aspects unrelated to status symbols (p. 35). The very elite and bottom tier institutions are less concerned with rankings compared to their *prestige-seeking* peers in the middle.

Building upon this taxonomy, O'Meara (2007) described these prestige-chasing institutions as "strivers." In her conception of these universities, she said, "Striving behavior might include campuses amending their admissions process, reward structures, and resource allocation decisions" (O'Meara, 2007, p. 122). These behaviors are all actions connected to isomorphic pressures in the sector. Furthermore, O'Meara and Bloomgarden (2011) argued that these strivers pursue those practices in order to rise in the "academic hierarchy" (p. 40). The scholars specifically contended that "prestige" refers to "external national rankings," (O'Meara & Bloomgarden, 2011, p. 40). Strivers especially rely on university rankings as benchmarks because they provide tangible

evidence of status. These behaviors have been illustrated in a variety of universities, but have mostly been studied in the context of the American higher education sector (see O'Meara, 2011; Gardner, 2013; Gonzales, 2014; Kim, 2018a).

O'Meara (2007) cautioned that it is difficult to isolate exactly which universities are strivers. She said, "striving decisions are inevitably linked to a specific history, market, competitors, institutional identity, and leadership at any given time. Every institutional decision or behavior is influenced by a complex set of internal and external forces" (p. 129). Further, she noted that contexts always matters, "there will be regional differences and ways in which public versus private institutions and institutions that are part of state systems are striving for different levels and kinds of prestige" (O'Meara, 2007, p. 129). In the model, though, institutions with elite ambitions are especially susceptible to striving through rankings in order to gain status.

Stakeholders within striving universities often make comparisons to the very elite of the sector through ranking benchmarks and best practice emulation. In the American setting, the Ivy League represents the top of the domestic hierarchy and these elite universities provide benchmarks for strivers. In an examination of the striving model, Kim (2018b) recounted, "with the connotations of elite institutions or Ivy League schools, there have been efforts to systemically determine institutions' standing" (p. 100). In a study of a striving liberal arts university, O'Meara and Bloomgarden (2011) found that faculty members who pushed for more academic rigor labeled the best students at their institutions as "Ivy League quality" (p. 57). In another study of a selective public university, an administrator told O'Meara (2014), "Ivy League institutions run the 'game' and places like [this] would always be playing catch up" (p. 291). Ivy League universities

have the historical legacy, but they also dominate positions in the rankings. While striving universities cannot manufacture history, they can dedicate resources to areas measured by league table indicators to improve their standing.

Characteristics of Global Striving

While O'Meara's (2007) striving model was theorized through national rankings in the American sector, this study ascribes the model in a global context by considering international rankings in China. National policymakers and individual institutions have displayed striving behaviors around the world, but often with desires of global prestige (Hazelkorn, 2015). In O'Meara's American-centric definition, these striving intuitions aspire to join their more elite peers, often manifested in comparisons to the Ivy League, by chasing domestic status symbols like *US News* rankings. These same attributes can be extrapolated to the global sector. Elite universities in nations around the world have been chasing their peers in the Western sector, relying on global rankings, instead of the domestic variety, as the prestige symbols (Hazelkorn, 2015). Just as with domestic strivers, universities around the world have attempted to move up in the global rankings through strategies like funneling funds to research-intensive projects (Kolesnikov et al., 2017), investing in top faculty from elite universities (Altbach & Yudkevich, 2017; Flowerdew & Li, 2009), boosting recruitment of international students (Cantwell, 2015), and creating global partners with other top-ranked universities (Montgomery & McDowell, 2014).

Table 5.1: Hierarchy of Domestic and Global Higher Education Striving

| <i>Hierarchy Location</i> | Domestic Striving Model | | | Global Striving Model | | |
|---------------------------|--------------------------------|--|--|------------------------------|---|--|
| | <i>Domestic Context</i> | <i>Description</i> | | <i>International Context</i> | <i>Description</i> | |
| <i>Top</i> | National Elite | Nationally prestigious universities. | | Global Elite | Globally prestigious universities. | |
| <i>Middle</i> | Strivers | Universities chasing prestige through domestic rankings. | | Global Strivers (2 types) | Tier I. Nationally prestigious universities chasing international prestige only through global rankings. Tier II. Other Universities chasing prestige through both global and domestic rankings. | |
| | | | | Domestic Strivers | Universities chasing prestige only through domestic rankings. | |
| <i>Bottom</i> | Reputation-based | Institutions not chasing prestige. | | Reputation-based | Institutions not chasing prestige. | |

Source: Adapted from O’Meara (2007) and Brewer et al. (2002) by the author.

As O’Meara’s striving conception is ascribed to the international space, the environment gains complication because national hierarchies must be considered alongside the global. Universities must simultaneously compete for status symbols nationally and globally. Illustrated in *Table 5.1*, there is a new dynamic that is not present in the nationally focused striving model. Mirroring O’Meara (2007) and Brewer et al. (2002), the international dynamic accounts for an additional university taxonomy. First, a few intuitions, such as Harvard or Oxford, represent the very elite in both the domestic and international hierarchies. They are not striving in either sector. But, there are other universities atop their own national hierarchies that are striving for international prestige, adding a complication not present in the domestic-focused conception. Conversely, other institutions may only have national striving expectations, completely ignoring the global

sector. China offers an important case for testing the global striving model, as the nation has been keen on boosting international standing in recent years.

The Chinese Higher Education Hierarchy

The Chinese government's approach to creating elite universities has mirrored the striving behaviors in the US system. The nation has been a key player in the global higher education sector for the past few decades through government elite-making efforts for its nations universities. In 1995, the Ministry of Education (MoE) first announced an ambitious project to overhaul the top end of the Chinese higher education sector in order for its institutions to meet the "world standard," called the 211 Project (Ngok & Guo, 2008, p. 546). Eventually, over 100 universities joined this project that came with billions of USD in research funding and status as National Key Universities. In an even more ambitious policy initiative, in 1998, at the centennial anniversary celebration of Peking University, General Secretary Jiang Zemin announced the 985 Project. This new plan was not only geared at meeting a global standard but also elevating institutions to "international advanced level" (as cited by Li, 2004a, p. 17). These universities were designated to be global leaders. The grouping was even more elite than the 211 Project, only 39 institutions reaching this status for the massive funding that would make these selected institutions world-class and the top of the domestic sector.

The 985 Project first began funding of only two universities, Tsinghua University and Peking University (Beida), and then expanded to seven more, before adding the other 30 (Rhoads et al., 2014). Along with Tsinghua and Beida, the next seven 985

universities became known as the China 9 (C9) League¹, a grouping of some of the oldest and most prestigious comprehensive research universities in China, all with enrollments of over 16,000, officially solidifying the grouping in 2009. Sometimes this grouping is known as “China’s Ivy League” (Allen, 2017). The initial plan for these universities featured many collaborative ventures, such as student-to-student exchange programs, cross-course listing, shared credit systems, and postgraduate training (Yang & Welch, 2012). However, since the establishment, there has been little research or information available on these collaborative efforts.

There are some common traits for the C9 League universities. All of the institutions are located in large metropolitan areas; Beijing and Shanghai host four of the nine universities; and another is located in Anhui, the smallest city with over seven million people. Research is critical for the C9 League universities—while these nine schools make up around 3% of China’s research and development output, they receive around 10% of all research and development funding, according to a report from a 2011 *Times Higher Education* report. Additionally, the league accounted for over 20% of Thomson Reuters indexed publications that year, and over 30% of all Chinese papers considered highly cited research.² By 2003, China had created high tech science parks throughout the nation that incubated free-market firms, and according to Shi and Ma (2014), of the 40 companies listed from these parks, 30 were affiliated with C9 League universities.

¹ This group consists of Tsinghua University, Peking University, Fudan University, Zhejiang University, University of Science and Technology of China, Nanjing University, Xian Jiaotong University, and Harbin Institute of Technology.

² According to Times Higher Education, highly cited papers are “those defined as ranking in the top 1 per cent by citations, after taking into account the year and field of the papers.”
<<https://www.timeshighereducation.com/news/eastern-stars-universities-of-chinas-c9-league-excel-in-select-fields/415193.article?storyCode=415193§ioncode=26>>

Despite various academic, university, and government lauds of this grouping, there is little research considering on C9 League. Some research has been done on the international partnerships for these institutions, as both Yang and Xie (2015) and Montgomery (2016) discovered that this group of elite Chinese universities has biased preferences for elite Western university global partnerships, often from the UK's Russell Group. In research considering the C9 League through elite hierarchies in higher education, Allen (2017) found that the elite Chinese universities showed separation from other top-ranked Chinese institutions and that the league was rapidly catching up to Western peers in terms of rankings. Research being a key factor for these global institutions, Zong and Wang (2017) explored output capacity of the C9 League compared to elite global peer groups, including the Association of American Universities (AAU), Russell Group, and the Group of Eight (Go8). The scholars contended that the C9 League still sits at the bottom of this peer comparison and suggested that there should be a focus on quality over quantity in journal research output.

In 2015, the Chinese government announced a new plan that phased out the 985 and 211 Projects, and there were reports that the C9 League could also be disbanded (Sharma, 2016). The new replacement project was called *ShuangYiLiu* (World-Class 2.0 or Double First Class), which was officially implemented in 2017. The new initiative combined the old projects into one entity, but still kept the tiered system with 42 institutions in the top segment³ and another 95 in the second-tier, according to a report from the *People's Daily*.⁴ Whereas the previous projects had holistic strategies of creating world-class universities, Double First Class emphasizes individual subjects, disciplines, or

³ There are 36 institutions in the top of the first tier and another six in a second, lower class of the top tier.

⁴ China to develop 42 world-class universities (2017, September 21). *People's Daily*. Retrieved December 5, 2017, from China to develop 42 world-class universities

departments, especially for second-tier institutions, according to a release from Ministry of Education, Ministry of Finance, National Development and Reform Commission in late 2017.⁵ The narrow focus aligns with the Ministry of Education’s discipline ranking, which will be discussed in detail in a later section. Additionally, with 985 and 211, universities were locked into the funding schemes and there were little mechanisms for oversight built into the awards. World-Class 2.0, however, is now based upon an audit funding mechanism for each level. It is unclear how the C9 will factor into the new hierarchy.

Data Collection and Methods

For the study, I used qualitative interviews with on-the-ground experts within the institutions, namely administrators and professors. The firsthand experiences of the interviewees provide an expert holistic account of the effects brought from the rankings (Littig, 2009). Past studies on Chinese universities and their international ambitions have been limited to singular institutions or limited cases studies, with many focusing on Tsinghua and Beida (see Yang & Welch, 2012; Rhoads et al., 2014; Kim et al., 2017). While these vertical case studies provide appreciated in-depth understanding of one university, a wider study of the unified sector can provide valuable insights in larger scale issues and phenomenon system-wide, particularly of those that are in global scale (Hazelkorn, 2015).

I replied upon a purposeful sample of professors and administrators to garner the “social reality” from the C9 League, 985 Project universities, 211 Project universities,

⁵ The press release announcing the project can be accessed via the MoE website: <http://www.moe.gov.cn/srcsite/A22/moe_843/201709/t20170921_314942.html>

and other universities that are considered either specialized or those with big global aspirations (Alvesson, 2010, p. 2660). With its wide scope, this study can uncover effects that transcend across institutions in the elite spaces of the sector. Moreover, the role of the academic in Chinese higher education actually is interlocked with the duties of administrators. Thus, the faculty members actually provide a sense of the administrations' thought process on these matters, with an added eye for wider scholarship and field. I employed snowball sampling for the data collection portion of this qualitative study (Dilly, 2000, p. 132). I gathered a total of 48 administrators and academics from the Chinese higher education sector, including 12 from the C9, 17 from 985, seven from 211, and 12 from the other type. Included in the sample are also a variety of fields: hard sciences, social sciences, and education, along with different positions, from early career to late career.

All of the interviews were conducted in a one-on-one phone or live discussion format, except three email exchange interviews. The interviews were mostly conducted in English, but I occasionally used a student assistant translator for those participants more comfortable speaking in their native language. The interviewees were recorded and provided their explicit permission to participate via guidelines prescribed by the Institutional Review Board. In order to ensure privacy, I have anonymized all of the universities and participants' exact programs. Every interviewee was well aware of the purpose of this research project. Any material that could be used to trace them down has been destroyed.

The interviews averaged approximately 45 minutes, with some ranging from as short as 20 minutes to others as long as 1.5 hours. I utilized a semi-structured protocol to guide

the interviews, but followed the conversations for deep exploration depending on each experience in accordance with the “tree branch style” (Rubin & Rubin, 2011). All of the conversations were transcribed verbatim by myself and with the help of private transcription contractors via the Fiverr network. In order to ensure accuracy, I personally rechecked each transcript to make sure that the transcription aligned with the spoken word. Direct quotes have been provided in the findings, but, as they are naturally spoken, they do include some grammatical errors.

Coding

For the data analysis, the interview transcripts were uploaded into the NVivo and systemically coded for trends, which is useful for data organization, quality transcription control, and avoiding coding drift (Creswell, 2008). I first used an open coding method to establish early codes that could be further expounded upon during follow-up readings of the collected nodes of data (Blommaert & Dong, 2010, p. 12). The initial coding sessions followed a deductive method that aligned with the larger themes from the protocol, which were established through literature and pre-testing before the field research.

Coding naturally followed the course of the interviews, rooted in the previous literature, pre-tests, and other preparations, as subjects discussed various topics, they become codes for the analysis (Blommaert & Dong, 2010). In an obvious theme, any descriptions of ranking conceptions went into a “university rankings” code. However, as I moved further along in the process, I began to add sub-codes, such as specific ranking schemes (*THE*, *QS*, etc.). Sub-coding is an important part of the process that provides deeper and more nuanced inspection of the data that “interconnect” the analysis or

narrative (Creswell, 2008, p. 189). This process yielded larger codes like “Chinese characteristics” and the “world-class university” concept. As I progressed, I added new sub-codes, often under these larger themes: such as “isomorphism,” “elite projects,” “administrative efforts,” and national “hierarchy.”

Of course, even with the thorough literature review and pre-testing, not every emergent code was something that I foresaw. Finding the unexpected is a natural part of qualitative research (Blommaert & Dong, 2010). Themes were also uncovered that were not initially expected when the project began, such as intense pressure from the “MoE” and its “discipline” rankings or the complete “lack of awareness” for rankings, which all became sub-codes. Further, while I expected the “C9 League” to emerge as a code, I did not expect its theme to center on irrelevance.

Eventually, as I began to better understand trends and connections in the data, I realized that three larger themes tied all of the codes together (as prescribed in Crilly et al., 2008). The three themes that captured all of the coded items were: 1) university rankings, 2) world-class universities, and 3) Chinese characteristics. Through this triumvirate organization of the data, I was able to gauge how striving universities in China have balanced global ambition and a strong authoritarian government.

Limitations

The sample used in this research cannot be generalizable to the larger Chinese higher education sector. While Blommaert and Dong (2010) argued that quantitative interviewing methodology does not intend to represent a generalizable population, the information driven from the data and analysis can still provide a narrative or trends

within the given part of explored society. These 48 interviewees only come from the elite end of the sector, and even within this sliver of society, there are still biases. I mostly used the medium of English for the interviews, with a few translated sessions. I could be missing from those within this elite end of the sector who cannot speak the global language. Additionally, due to my own network sampling, I also overemphasized academic areas such as education and under-sampled others, such as hard sciences.

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While I recognize the limits of this study, these are actual standard in research of this nature. Studies using interviews with professors or academics often contain some bias distributions, and lean on purposeful sampling (see O'Meara, 2011, Hazelkorn, 2015). Further, studies in China have also recognized the difficulties of researching in a less open environment. Building upon and snowballing through networks have been key methods in similar studies (see Yang & Welch, 2012; Rhoads et al., 2014; Kim et al., 2017). My research aligns within the norms of past research on this topic.

Findings

Striving Through Global University Rankings

In the American striving model, universities use domestic rankings like *US News* to make sense of their location in the national hierarchy, often in attempts to catch the elite Ivy League (O'Meara, 2007). In the Chinese sector, actors in striving universities also must balance global rankings with domestic government pressures. These international rankings often reflect large, comprehensive research universities in the West, and Chinese institutions do not always align within these standards (Marginson, 2017). The Chinese government has been keen on international standing, and Chinese administrators and academics are burdened with these ambitions. Yet, they must also operate within the domestic government's own standards and demands, which are directly tied to public funding for institutions, emboldening stronger striving behaviors in the sector. This competitive, government-driving environment bears out a different hierarchical organization of striving model than in the United States.

Chinese leaders have been explicit in goals on joining the global "standard" for the nation's universities (Ngok & Guo, 2008, p. 546). Though, the government has not released specific goals, this has been interpreted as catching American and other Western educational sectors. The first global ranking, established at Shanghai Jiao Tong University in 2003, held the specific goal of comparing China's elite universities to their counterparts around the world (Liu & Cheng, 2005). Interviewees reported striving aspirations for their universities related to global rankings. "Yeah, as I said pressure is translating down, is going down all the way to individual faculty, because the university president will have pressure when... the ranking is released, they are all on their feet

eager to know the results. And then for each dean, the university will say your ranking has dropped by fifteen places, what is going on?” asked one C9 League professor. The interviewees emphasized that “leaders” of universities paid considerable “attention” on global ranking.

Global university rankings promote a single standard for an elite university that is often a reflection of large, expansive research universities of the West (Shin & Kehm, 2013). One scholar at a 211 university complained that her field of sociology is more closely attached to the arts and humanities rather than the social sciences and that the international rankings cannot properly compare across these cultural divides. It is demanding to accurately capture the disciplines under the exact organizational structure requested by the ranking agencies. The administrators tasked with gathering information complained about the difficulties of the task. “They have the standard template,” said a 985 administrator. “That's a different system. Different methodology. But then the terms have their own definitions, sometimes when you're trying to provide the relevant data then you have to think about it you have to figure out which data should be mapped into their domain. So, this kind of technical issue.”

Likewise, in China the rankings have forced globally striving universities to focus on short, quick gains because the standings are released each year and there is no reprieve. Recognizing this critique, one professor from a non-elite project institution conceded, “Although setting a clear goal is good for development, we should know that education is not a quick business, it needs time to develop and grow.” Echoing with similar striving behaviors found in the West (Kim, 2018b), tightly following the metrics was clear cause for concern. “So, I mean the ranking system for us probably, I think it’s going to make us

less special because when... the ranking in general. Because you want to be, the Chinese people, we want to be the best, this is the Chinese way of method, so if we want to be the best then, we have to play the rules, then we have to cut some of our corners to fit into the system,” lamented a non-elite project administrator.

The interviewee also added that they must specifically look at the rankings to see where they are doing poorly and then invest in those areas. Relatedly, other scholars more focused on local society and community thought it was unfair that schemes often do not capture any homegrown imperatives, instead focusing everything on the global scale. One administrator from a non-elite project institution heard criticism that her university was just a “local university” because it “does not rank so high as the system.” This especially came across in reference to teaching institutions, which do not see gains in global rankings in training the nation’s future teachers.

One professor of education at an elite 985 university, which is more known for hard sciences, specified that his university recently explored expanding educational studies programs in order to become more competitive both in the international and domestic hierarchies. The program was already strong, but too small to actually be ranked in any leading discipline rankings. The university even hired some of the most famous international scholars in the field to evaluate the possibility of expansion, all of who counseled against this growth development strategy and advised to instead continue a focus on strengths. The final decision by the administration had not been made during the interviews. One professor from a 985 institution said, “I think that’s the way at least for Chinese institutions, not educational research, every subject. If you want to compete globally, you have to focus your research. I mean, if the resources, financial resources are

the same you really want to focus on the same parts of the subjects, but then you lose your competence inside the China for the ranking, but they have the balance you know.... (laughs).” Many of the education-focused intuitions across China have not heeded this advice and it is believed that they are now oversaturated with too many fields, according to the interviewees.

Striving Through Research and Publishing Agendas

All of the major rankings put a central focus on research, to some varying degree (Hazelkorn, 2015). ARWU accounts for 90% of its scoring from research focus, while others at the low end are around 25%. They are calculated through highly cited research, often more prestigious journal indices, especially the Science Citation Index (SCI) and the Social Science Citation Index (SSCI) (Chou, 2014; Hussain et al., 2015). All of the academics and administrators agreed that the intense focus on this central area created problems for the sector. Professors were especially concerned that this way of measuring impactful research was flawed and that administrators were too focused on these metrics, similar to complaints of American academics at striving institutions (O’Meara & Bloomgarden, 2011). Some of the administrators were sympathetic to the burden placed onto faculty, as they were former academics themselves. But, the administrators still conceded that indicators at least provided a good measuring tool for understanding the university.

There was a sense from the academics that university “leaders” were increasingly interested in these research metrics because they had no other way to “evaluate” research and publications. A few professors pointed out that only a handful of academics in the

entire world could truly be considered their peers; thus, how could an administrator accurately understand what was happening? Administrators were expected to have expertise in all disciplines, and with a global perspective. The only way for these decision makers to have a grasp on all of these complex matters is through ranking indicators (similar to accounts in Espeland & Stevens, 1998; Hazelkorn, 2015). Some areas of research have become more valued because their weight within rank indicators. These metrics are driving research topics in ways not imagined or intended. One 211 professor expressed concerns for the impact these indicators were having: “I think the system is kind of reversely shaping our minds. So if this time we didn’t get first place, because we publish too few papers in this specific journal, but too many in another one. It’s not because this journal is better than the other one. It’s just because this one got higher impact factor. Maybe they are from a totally different field and with totally different readers.” He continued, “Those readers might not be very interested in our research. But just because the journal got a higher impact factor, it gives us more credit in the ranking competition. So the next time, we may have to publish more in those irrelevant, but higher impact, factor journals. It’s really going to change our research policy, our research strategy.”

Chasing these globally recognized publications has led to a focus on topics more tailored to an international audience. Local inquiry that is more germane to domestic concerns is cast aside because it is more difficult to publish outside of China. This leads to similar output in areas that are easier to pursue for academics and jeopardizes potential new areas of research that are left behind. Because these international publications are mostly in English, academics that had not studied abroad or who are not bilingual have

had research marginalized within a domestic setting. Additionally, there is a greater pressure to cheat or plagiarize for all scholars. Indeed, there has been an uptick in academic scandals of this kind in recent years (Lin, 2013), which I contend is precisely related to striving pressures. Gaming the system has been an issue with striving universities in the US sector, too (Kim, 2018b).

These striving behaviors pushing on research agendas are common practices by professors throughout the sector. One problem mentioned by the foreign professors was that their colleagues encouraged publishing in any area tangentially related to their fields because it boosts the departments' citations. A mid-career 985 professor explicitly stated that while she understood the pressures, she ultimately pushed back on this practice, as she felt there was a sense of morality in simply moving to new areas of research so flippantly. However, all of the foreign faculty members also cautioned that they were in a highly privileged position as foreigners in China and it was easier for them to break from common practices than for their Chinese counterparts.

The Ministry of Education's Own Discipline Ranking

While the findings do show that actors within Chinese universities are hampered by expectations of global rankings, these domestic varieties are far more impactful. Unlike in the US, these are not rankings produced by private enterprises, but rather the Chinese government has distinctions and rankings that contribute to striving behaviors in the sector. The Chinese Ministry of Education (MoE) is a powerful force for education in China's top-down governmental environment, with policy and directives trickle

downward to subsidiaries. Distinctions and status from the government, such as 985 or 211 Projects, have become important to organizing the national hierarchy of universities.

The MoE actually employs its own ranking of academic disciplines for Chinese universities called the National Subjects Evaluation (NSE) that is evaluated every four years (Song, 2017). This governmental ranking system is incredibly important to the universities, and overwhelmingly believed to be more crucial for institutions than with global rankings. Global university rankings have only captured the attention of the global strivers, but the Ministry's ranking has the full attention of every university because it is an official governmental marker. Interviewees believe that, in China, anything "official" has much more of an impact than other outside indicators and, in this case, the global rankings take a back seat to the Ministry in terms of attention; though, the government's ranking does have some shared characteristics to its global counterparts.

The MoE discipline ranking shares characteristics with the global schemes. One professor from a 985 university said that the Ministry ranking is much closer to the Academic Ranking of World Universities because it mostly puts emphasis on publications and research output. I have illustrated the four metrics used in the MoE's discipline ranking on *Table 5.2*. While it is unclear how exactly each area is weighted, the information does allow for an analysis to examine how indicators reflect global or local characteristics. The *Teaching and Resources* categories share both local and global reflections. Specific national fellowships, grants, or other distinctions are indications of domestic emphasis, while the student-teacher ratio and full-time professor indicators are conceptions that originated within *US & World News Report*. The *Research* metric actually reflects both local and global characteristics through its indicators. Publishing in

global indices, such as SSCI or AHCI, represent the complaints heard from professors that too much emphasis is placed on international journals (Chou, 2014). Yet, there are also government awards and domestic publications that provide credit within this categorization. Though, some of these areas are also unclear given the information from the MoE, such as monographs publications. The *Training Quality* variables also represent local and global refractions, as national awards for teaching and dissertations are counted among the indicators, along with foreign students and international sporting competition. The final metric is a Subject Reputation of academic rankings, reflecting both a local and global tradition. While the perimeters of these criteria are opaque, this kind of reputational indicator is used in most of the top global rankings, even as the national domestic hierarchy most likely dominates these scores. Again, the exact weights for each of these categories are not available.

Table 5.2: The Chinese Ministry of Education’s China Discipline Ranking (CDR) Metric

| Indicator | Metrics | Note | Reflection | Note |
|-------------------------------|--------------------------------------|--|------------------|--|
| <i>Teaching and Resources</i> | 1. Expert faculty | Specific fellowships and various government program recruitment programs, such as the Thousand Talents Plan. | Local | Emphasizes national government characteristics. |
| | 2. Student-teacher ratio | | Global | Similar concept in <i>US & World News Report</i> . |
| | 3. Full-time professors | | Global | Similar concept in <i>US & World News Report</i> . |
| | 4. Key disciplines, key laboratories | Already predetermined by the government. | Local | Emphasizes national government characteristics. |
| <i>Research</i> | 1. Quality research | Published ESI, SSCI, AHCI, CSSCI, CSCD, and Class A papers. | Global and Local | Global indices are mirrored in other major rankings; but inclusion of Chinese versions adds local element. |
| | 2. Research Awards | From the Chinese government, such as National Natural Science Award. | Local | Emphasizes national government characteristics. |
| | 3. Academic Monographs Patents | Excludes editorials or translations. Applied patents or | Unclear Local | Perimeters do not specify publishers or language. Specifically focused on |

| | | | | |
|---------------------------|---------------------------|---|------------------|---|
| | | national defense patents, with proof. | | national development. |
| | 4. Research Projects | Chinese government research projects that have been granted. | Local | Emphasizes national government characteristics. |
| | 5. Artistic Creation | Only for related disciplines. Evaluated by panel of experts. | Unclear | Likely local, but parameters are not specific enough. |
| | 6. Architectural Design | Only for related disciplines. International or domestic design awards. | Global and Local | Emphasizes awards from China and abroad. |
| <i>Training Quality</i> | 1. Teaching Material | National teaching awards. | Local | Emphasizes national government characteristics. |
| | 2. Dissertations | National dissertation awards. | Local | Emphasizes national government characteristics. |
| | 3. International Students | Conferred degrees and total numbers. | Global | Counting international students is key measure in other major rankings. |
| | 4. Sports | Only for related disciplines. National and international completion. | Global and Local | Emphasizes awards from China and abroad. |
| | 5. Students and Graduates | As rated by subject experts or employer evaluations. | Unclear | Likely local, but parameters are not specific enough. |
| | 6. Degrees | Number of Doctorate or Master's degrees. | Global | Similar concept in other global rankings. |
| <i>Subject Reputation</i> | 1. Academic reputation | Evaluated by academic and industry experts, based on academic reputation, social contribution, ethics, and other impressions. | Global | Reputational awards are found in other comparable rankings. |

Source: Chinese Ministry of Education's Degree Center Discipline Assessment Results (2012).

Juxtaposed with the global rankings, professors have a nervous reverence for the MoE evaluation, while at the same time carry a grumbling aggravation with the outside league tables. In illustration of this concern, one 985 professor offered an example: “[M]uch more important is the Ministry’s own ranking... When QS ratings come out, the president of the university calls the deans of the faculty to his office to explain why [a rival] is higher than [our university]. So you see a response to it, but it’s sort of peripheral. If they lost the status with the Ministry, like that would be devastating for everybody.” Faculty members and administrators all reported considerable stress during

the application collection period, where all work and materials that they have been produced over the years were documented to send to the Ministry. Sometimes this work is dumped upon a lower ranked faculty member or even a post-doctoral researcher because it is tedious and grinding.

The chief reason for the almost universal devotion to the official ranking is because a considerable amount of finances hinges on the results. “If we rank low by the Ministry that means you will have implications on how much funding you will get,” said one C9 professor. While no professors could fully articulate how exactly the funds were allocated based on ranking, the top ordering was of considerable importance. A group of natural science professors from a 211 university said that their institute ranked number one in the most recent Ministry ranking and it allowed them to dramatically expand their operations, including hiring a foreign faculty member and funding a post-doc position, which was filled by a Chinese national who had received a PhD abroad. They even were able to compete with 985 universities of the same discipline, despite being lower in the national university hierarchy.

Not every subject at each university partakes in the MoE discipline ranking, which complicates intra-university department relationship. Some interviewees mentioned that their departments were not even evaluated within this system because of their limited size. Only larger programs with considerable resources were considered, which means that during the evaluation periods, programs move resources around in order to beef up programs that were included. “In the report there was something that’s not so real. I think it’s the same for every university,” said a professor from a 211 university. When I followed up on this point, he elaborated on how programs have been gaming the system:

“Yeah, you would, kind of rearrange the resources based in the way. Like, this department they have no hope of getting really good spot in the ranking, they would contribute something to the department who has a chance to get a really good chance in the ranking.” He continued, “So, it’s redirecting the resources, basically. So, I think it’s really not necessary. That is just because ranking the first and ranking the second is a big difference.” These instances are similar to reports of universities gaming the system in order to appear more favorable in rankings of other contexts (Ehrenberg, 2005; Volkwein & Gruing, 2005; Kim, 2018b). The incentives for moving around resources and creating a false narrative far outweighed the consequences of getting caught for striving universities.

Elite-Making Government Projects

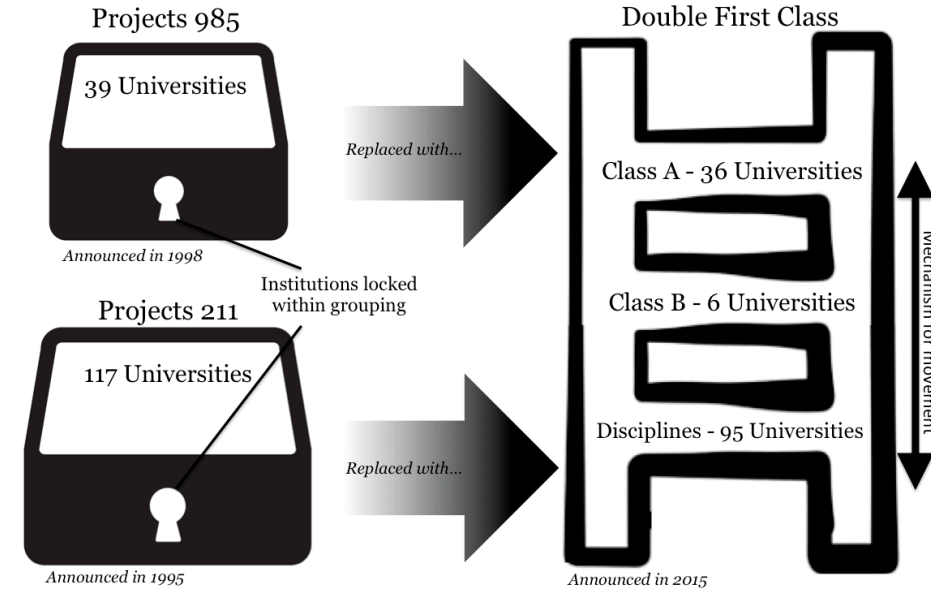
While not technically rankings, the 985 and 211 Projects have provided sense-making to the Chinese higher education sector similar to rankings in other sectors. For many professors, when I first asked about rankings, they mentioned these government projects. Given the hierarchical nature of the striving model, these government statuses are important to the understanding of O’Meara’s model in the Chinese sector. Further, the updated version of these projects does implement a ranking-like mechanism that I will also explore. Even years after the 985 and 211 Projects have technically been terminated, they have had visible effects on the sector akin to ranking schemes. Students, administrators, professors, and even employees are intently focused on these stratifications. Many professors revealed that their programs have “unofficial” policies that discriminate against the lower institutions in the hierarchy. For instance, a 985

university would only hire people that went to a 985 university, and a 211 university would only hire people from 211 or 985 universities. Similar reactions have been reported in the private business sector. Universities were still strongly emphasizing these distinctions during these conducted interviews in spring and summer of 2017, despite the announcement of the new replacement policy, Double First Class, two years prior.

Unlike with movement each year from rankings, elite statuses in the projects have been frozen for universities within each of the segmentations: “Because once you’re 985, you’re 985 forever,” said one professor. I have presented this system graphically in *Illustration 5.1*. Along with 211 institutions, there was no real mechanism for movement into these elite statuses; meaning, it created a permanent higher education hierarchy. This permanence did disincentive some striving behavior nationally because the hierarchy was set. However, there was still considerable chasing of prestige, especially on the international stage.

The Chinese government has recently replaced these old policies with a new elite-making project called Double First Class (*ShuangYiLiu*), which is geared at alleviating some past drawbacks and has supposedly created opportunity for mobility—operating more akin to ranking schemes, also on *Illustration 5.1*. The interviewees were keen on replacing the old system that kept universities in specific groupings, to one that had built-in opportunities for program and university progression. Programs that once did not have a chance to gain elite domestic status now had a theoretical chance, which should increase domestic striving behaviors.

Illustration 5.1: Lock Boxes vs. the Ladder: Representation of Elite Hierarchy from Projects Established in the 1990s to the New Double First Class System



Source: Created by Ryan Allen.

However, there was also concern about the consequences that could result in relegation or removal from the funding projects. Because of the possible movement within the new system, national striving behaviors should increase. “[It] will break the entitlement or guarantee status or tenure, like a tenure... And it establish dynamic system to adjust this so that university can go in and out of this 2.0 project. For those who make real mistakes and have no signs of improvement after warning, so basically they will be kicked out,” said a C9 League professor. During the period of time the interviews were conducted, policy details were still murky for the new plan and many participants were unclear of the exact nature of the new system. Sometimes, rumors on *WeChat*, China’s most popular social media service, filled in the gaps that were not provided by officials. “There were even formulas going around saying that if you discipline is rated by this domestic exercise, you rated below a certain then you will be given so much less, floating around on WeChat, but quickly the Ministry of Education came out denying that,” said one mid-career academic from an elite C9 university. “But if those were any indication,

then these discipline rank lower are at greatest risk of being closed down. Because you dragging everything down.” While the MoE discipline rankings already factor into some funding choices, it has been unclear whether they will be used within this system. It is likely that these two operations will merge, using the MoE’s metrics as the movement mechanism for Double First Class distinctions.

The concern about being shut down due to poor rankings was universal and also something already faced by Chinese institutions. “[I]f one subject in [the university] is bad, then the university would have no choice but cancel it. That is what our leaders have told us,” cautioned one 985 university professor. Another C9 professor confirmed, “several important key universities” at “very famous” institutions had “closed their educational schools” because their administrations felt pressure from the changes made from the government programs. Smaller and less prestigious programs are now under fire because they basically have no chance to compete. Larger programs at least have the opportunity, even slim, of making a move in these domestic discipline rankings because they have resources to participate. One administrator from a non-elite project university in a smaller city felt consternation with the entire process, because she believed that it was good policy to have universities focus on their strengths, yet she also thought it concerning that programs and disciplines would actually become restricted, “[we] train the people for the whole region as a public service, is that going to be enough to just offer a couple of disciplines?”

Some professors were sympathetic to the mission of the MoE and their administrators who had to implement these policies. China, after all, is a massive country with the largest education system in the world, they mentioned. With a ballooning population of

new academics produced each year, one asked how could all of these people become professors? Space and resources are limited, echoed those encouraged by the new competitive system. A few scholars also lauded the focus on disciplines over the previous models' holistic university approach. One early career 211 professor explained that his university where he earned his PhD had top programs in education and physics, but the administration has been forced to allocate considerable resources to other areas in which the school had no tradition because of this holistic approach. He believed that the totality attenuates education in all departments and that the *ShuangYiLiu* would release universities from these burdens. Further, there was some hope, especially from 211 and non-elite universities, that the new program would provide opportunities to move into elite status. It could be a map to positively grow an institution, smartly investing in one program at a time instead of throwing everything against the wall to see what sticks. "They say that they want to become a good uni, so they need to take a discipline first. They need to become the best in that discipline first," said one foreign-trained, early career 211 university academic. "So they pick that discipline that is the smallest... They spend a lot of money on this small discipline. And then they will become the top uni in this area first, then maybe expand from there."

Despite some positive spin, overall, most of the interviewees were dubious of any real changes happening in the project. The announced universities basically mirrored the previous hierarchies and universities are hesitant to give up any advances. Universities are not willingly giving up their advantages within the system, many of them argued. When asked if the elite projects will continue to shape institutional perception, another 211 university professor said, "I think yeah, these things will carry on. Because... they

wouldn't throw it away, not voluntarily. We are 211, why not mention it? We should mention it. [laughs].” In the end, the new policy is likely going to increase striving competition in China compared to the previous projects.

The Faltering C9 League

O'Meara's striving model emerged from the American context, in which the Ivy League is often upheld as a reference of comparison by striving universities. The C9 League in China is often referred to as the Ivy League of China (Yang & Xie, 2015). Because I am testing this American model on the Chinese case, it is important to understand to what extent does the elite segment of higher education in China contribute to striving behaviors within a global context. Specifically, I am seeking to understand if the C9 League operates as a reference for Chinese striving universities similar to the case of the Ivy League in the United States.

The C9 League is comprised of the first nine 985 universities. Because these institutions were first in this renowned program, there has been a sense of pride and distinction over other elite institutions, leading to some calling the grouping the Ivy League of China. However, the coalition is actually not government-led, as the universities themselves solidified the cooperation. In March of 2003, Tsinghua University organized a conference in cooperation with the eight other future would-be C9 League universities and other invited researchers from outside of China, entitled “Theory and Practice of Building the WCU.” This is the first large-scale, public event that was organized around the concept of the nine institutions as a kind of unified body. The focus was on the concept of the world-class university, how to properly evaluate them, and

what are their proper practices. At this time, global rankings were not a worldwide phenomenon.

Each subsequent year after the initial 2003 conference, one of the nine universities would usually host a conference on similar themes of world-class universities, rankings, and global higher education. The meetings offered a platform for university professors and leaders to share ideas and new ways of thinking about higher education and the coalition. The gatherings were fruitful and provided for meaningful discussions on student exchanges and credit recognition reciprocity. “In the middle of somewhere, the idea of having an association, like AAU or Russell Group, was not going anywhere in the first few years,” said one C9 professor who was part of the early development of the coalition. It took a few years, but the organization was finally formalized, in the vein of the AAU or Russell Group, and not as a “Chinese Ivy League,” which I discovered is a misnomer often applied, even by the government. The solidification centered on enhancing the research collectivity of the entire group, according to one 985 university professor of education. “So, I know the latest development of the C9 and its collaborations, similar associations worldwide. What I learned, I think there is not much practical collaborations going on among the different associations,” reported a late-career C9 League professor.

Despite the early lofty promises of the coalition, the visions have not sincerely come to fruition, as the league is currently not a strong alliance and the connections are frayed. One C9 professor believed that the disparate universities were just too different to form a meaningful alliance. The professor elaborated that some C9 universities even have closer ties to universities in Hong Kong, rather than their Mainland peers. Furthermore, he

claimed that histories of specialization in the Chinese education have had lasting legacies on structures. For example, while all the C9 League universities are fully comprehensive now, they were formerly specialized institutions and these vestiges have created strengths in certain areas that do not neatly align with the others. Likewise, Tsinghua and Peking formed a coalition with other high-profile Asian coalition of universities in 2017. None of the other seven C9 members joined this grouping, in what I notice was a trend separating the top two institutions from the others.

Another key factor in downplay from early goals in this union comes from the government. Interviewees believed that the C9 League was a university-led initiative and that it lacked proper backing from the government, describing, “It is a loose league and does not have any influence, because our university system is led by government not by universities.” One professor explicitly said that the government had actually stifled some cooperative measures attempted by the group, “For the enrollment of the new students, they try to form such kind of organization similar to C9, but the government cannot allow.” Despite the sharp divides created through the 211 and 985 projects, an administrator from a 985 university said the government does not want to increase these kinds of distinctions “because it makes a kind of privilege” for the members. These governmental barriers have prevented the C9 League from “influencing” the sector.

There is also a sense that the competition born from the Chinese higher education system hinders any meaningful cooperation. The institutions see funding and gains in the hierarchy as zero-sum games. “However, there are a lot of other competition going on between them. So on the surface, yes, it’s cooperation,” said one professor from specialized university. “[But] when we get down to the operational level, it will not be

something too concrete. Because they will be competing for resources.” In an illustration of this, the C9 League and its peers around the world, AAU, League of European Research Universities, and Australia’s Group of Eight, released a joint document in 2013 affirming characteristics of their universities; but while the other peer groups had one representative sign for all members, each C9 League institution signed the document separately. The new Double First Class elite university project should only increase this kind of competition, as there are mechanisms from losing status.

Given these obstacles, it is no surprise that the C9 League has not grown stronger since its inception. It is surprising, though, how little relevance the association has in the general sector. Most of the interviewees had actually never even heard of this grouping, even professors and administrators from universities in the league. This would be akin to a Harvard professor who had never heard of the Ivy League. Though, it makes more sense when considering the organization had its roots in referencing the less well-known AAU. The only two institutions that were generally seen as the top of the domestic hierarchy were Tsinghua and Peking in a similar manner to the Ivy League in the US striving model. There was a basic consensus amongst almost every interviewee that Tsinghua and Peking were clearly the top two universities in China. Universities look up to these two institutions atop the sector hierarchy. Importantly, for the striving model comparisons, these two universities are not really focused on domestic rankings. One professor from one of these universities said, in a comment echoed by others interviewed from these universities, “as a faculty, and administrators at my university too, we don’t see those kinds of domestic rankings very seriously. Because Tsinghua always rank at the top. So Tsinghua or Beida. So it’s not an issue, we don’t take that too seriously.” Unlike

the university led C9 League, the government has chosen to invest heavily at these top two institutions compared to any other in the sector.

I also explored other groupings that have popped up to challenge the C9 League. But, because the elite grouping does not actually have much influence, these other cooperative unions were even less significant in my findings. The Excellence League, which arose soon after the C9 League, is a group focused more on “technical engineering domain area” institutions, according to one administrator from this grouping, yet it had almost no name recognition during my interviews. Additionally, there were a few others, such as the cooperation amongst the “normal” universities, related to educational collaborations and conferences, or the language-focused universities,⁶ but nothing akin to an official union. One late career professor gave his frank assessment for these types of groupings, “any voluntary alliance or organization out of the framework of government will not be sustainable and influential.” There just is not much power through non-governmental policies.

Discussion and Conclusion

Theorizing Global Striving Hierarchy in China

Given the findings from the interviews, striving in Chinese higher education operates somewhat differently than in the US. While global rankings are given reverence by stakeholders in top Chinese universities, they have an even greater focus on government distinctions and rankings. Differing from the US with private ranking firms such as *US News*, striving behaviors at Chinese institutions center on appeasing the Ministry’s

⁶ These institutions were formerly language training schools but have all expanded into full degree-granting universities now, with significant international focuses and large foreign student bodies.

discipline ranking or not losing elite project status. Furthermore, the so-called Chinese Ivy League does not hold the same status as its American counterpart. Striving universities are not seeking to emulate or benchmark against the C9 League. I have illustrated the findings of the striving model in China in *Table 5.3*. The only two institutions that were universally seen as the top of the domestic hierarchy were Tsinghua and Beida. The two universities are globally known and have long been seen as the top tier of Chinese higher education. In the global striving model, these Beijing-based universities can be considered Tier I global strivers, as they can claim domestic prestige atop the national hierarchy, but still crave global status through international rankings.

Table 5.3: Global Striving Hierarchy in Chinese Higher Education Sector

| <i>International Context</i> | <i>Description</i> | <i>Elite Chinese Higher Education</i> |
|------------------------------|---|--|
| Global Elite | Globally prestigious universities. | |
| Global Strivers (2 types) | Tier I. Nationally prestigious universities chasing international prestige through global rankings. | Tsinghua University; Peking University |
| | Tier II. Other Universities chasing prestige through both global and domestic rankings. | Other C9 league members; all World Class 2.0 Class A* and B; some Class C ⁺ |
| Domestic Strivers | Universities chasing prestige only through domestic rankings. | Other Class C |
| Reputation-based | Institutions not chasing prestige. | |

* Class A universities in the new system are the former 985 universities.

+ Class B and C universities in the new system are the former 211 universities.

Source: Devised from O'Meara (2007), Brewer et al. (2002), and this research.

The other C9 League members cannot be viewed as Tier I global strivers, but rather only Tier II. They are viewed in the same manner as the other 985 (now Class A) universities, and a step below Tsinghua and Beida. Without the two prestigious institutions, the C9 League would lose the little clout that it has. Interestingly, though, it was professors from these universities that first pushed the formalization of the C9, according to multiple interviewees. Finally, lower tiered World Class 2.0 universities

represent the domestic-only strivers in this model. Within this striving model in China, there is an added layer of global pressures, even as most of the focus remains on domestic standing offered by the government. This system is quite different from the American context in which these kinds of striving behaviors were first theorized by O'Meara.

Future research on the striving model should be more diversified. This is one of the first studies to expand the model to a non-Western context. Though, my study only examined the elite end of the Chinese sector, and the lower tiered universities in this context should also be considered. Similarly, other systems around the world deserve attention from scholars thinking about striving behaviors, especially from societies that are rapidly developing and maturing a domestic hierarchy similar to China. Finally, while the US sector has been heavily studied in this model, there have been no studies into global striving through the international rankings. It is just taken for granted that these do not matter in the US, but this notion needs to be tested. With this global striving model, the intersections between domestic and international rankings can be better understood.

Conclusion

Despite global striving ambitions, Chinese policymakers have not totally reshaped their domestic higher education sector. Instead, the Ministry of Education has been playing a heavy hand in processes involving normalization across the sector. The MoE's discipline ranking mirrors its global counterparts in mechanisms and reactions from local actors. Indeed, the schemes place considerable focus on research indices and reputational indicators, among other aspects. But, stakeholders in the sector have a greater reverence

for the official ranking compared to the outside league tables. There are direct financial incentives tied to this government ranking of disciplines, which are so tempting that institutions are willing to cook their books in order to ensure success, similar to gaming that is present in the West (Kim, 2018). Less competitive departments are being merged or folded in order to adhere to this kind of competition. Future studies should attempt to track these specific accounts of folding departments.

The new Double First Class elite university project only exacerbates standardization effects of rankings because it will encourage more domestic striving behavior. No longer can institutions be assured that they will be included in the static 985 or 211 Project stratifications, as the Ministry now has the explicit mechanism to remove institutions. While some have approved the new application, contending that it will be more egalitarian by allowing programs from across China to compete for the funding status, others are dubious that the older hierarchies will be deconstructed in any real, meaningful way. This Chinese system, just like with global rankings, has created a self-referential cycle in which the rich continue to become richer. The announced *ShuangYiLiu* stratifications are almost the exact same as the 985 and 211 tiers from before. As universities are already ahead, but also know that there is a chance of relegation, domestic competition and pressures will only increase. Because this system is so new, the new striving behaviors it will create is ripe for future exploration.

Additionally, the seldom-studied C9 League offers a glimpse at how global pressures are amended to local characteristics. Despite being labeled as the Chinese Ivy League in literature and other sources (see Allen, 2017), it was found through the qualitative analysis that the union is largely unknown in that domestic front. Unlike the Ivy League

in the American sector (O'Meara and Bloomgarden, 2011), the C9 cannot be considered the prestigious benchmarks for strivers. It has not manifested into an important actor in the sector and its members have had little meaningful cooperation. In fact, university coalition building in China does not seem to have as much resonance because the system is too competitive and there has been little incentive in cooperation. Potentially, this factor explains why the sector is so ripe for international collaborations in lieu of meaningful domestic multi-university unions. The interviewees also generally believed that the coalition was hampered because it originated by the universities themselves instead of the Ministry, and only official governmental policies could truly gain the clout seen by peers in the West. Only Tsinghua and Beida, the first two 985 universities, have been recognized as the genuine top institutions of the hierarchy, filling a similar role as the Ivy League in the striving model. All 985 and 211 universities, including the other C9 members, can be considered second-tier global strivers looking to catch these two prestigious institutions domestically.

Chinese universities are stuck in the middle of two powerful forces; one from the outside globalized sector that is pushing university ranking standards onto institutions, and the other from the government's own rank and policies that also promote normalization and constraints to variation. While it is generally known that the global rankings irk academics and other actors in the sector, there is less criticism of the government's efforts. Though, some did express their frustration: "Here in China, of course because universities governed by Ministry of Education and that is detriment to development," complained one late-career C9 professor. In the future of Chinese higher

education, there will be an increase in striving behaviors due to the combination of pressures from a strong, central government and growing global ambitions.

CHAPTER SIX: Testing Student Familiarity and Knowledge of University Rankings in China: The Global and Local Nexus

Abstract

Rankings and performance indicators have gained much influence in the education sector worldwide. In the context of higher education, this phenomenon has been reflected through both domestic and international university rankings. While academics and administrations often criticize them, league tables are important tools for student decision-making. University rankings have been especially impactful on the Chinese sector. Yet, studies have not fully explored how students in the domestic setting engage with these global forces. Using a survey of over 900 students from Chinese universities, I explore how knowledge of rankings varies in different student populations. Through multivariate analysis, I find that students from elite institutions and from affluent backgrounds are more attuned to university rankings in general. However, when gauging student knowledge of rankings, elite university students only perform better in knowing their domestic ranking and actually worse when guessing their global ranking, while there are no affluence associations. This study, the first of its kind in terms of testing student knowledge, shows how the impact of university rankings is mitigated by local and individual characteristics.

Introduction

Popular university rankings first arrived in domestic higher education sectors in the early 1980s with the advent of the *US & World News Report (US News)* scheme. Ever since, league tables have been heavily criticized from within higher education for being imprecise, too simplistic, and harmful to educational outcomes (Ehrenberg, 2005; Hazelkorn, 2015; Altbach, 2015). The narrowly defined metrics, such as research publications and citation, make it risky for institutions to deviate from the standard measurements as dictated through the ranking schemes, as they could fall in the rankings. For instance, some law schools have changed missions to fit the schema, even programs with original missions rooted in diversity rather than the elite ranking numbers (Sauder & Lancaster, 2006; Espeland & Sauder, 2007). In other cases, universities game the system through tactics like encouraging poorly qualified students to apply in order to drive down admit rates (Volkwein & Gruing, 2005). While every university may not aspire to be Harvard, the rankings force the comparison (Hazelkorn, 2012).

Despite objections from academics and administrators, rankings have become a tool ubiquitously relied upon for information by the general public, but particularly for students and parents. Students and parents have been especially paying attention, pressuring university policymakers to play the ranking game. Numerous studies show that students in Western nations use the rankings as an important factor in the college selection process (see Federkeil, 2002; Meredith, 2004; Drewes & Michael, 2006). If a university makes it to the coveted front page of the *US News* ranking issue, it will see a significant boost of qualified applicants the following year (Bowman & Bastedo, 2009).

Hazelkorn (2015) suggested that there is a similar effect from moving into the top-100 in the global rankings, too.

The effects of rankings on international students have been well studied in recent years, as this population especially utilizes rank indicators in their university selection process (see Cao et al., 2016; Spires et al., 2017; Perraton, 2017). In the People's Republic of China (China or PRC), because students who are doomed by the high-stakes college entrance exam (*gaokao*) often choose to go abroad, global rankings have become a crucial part of the higher education sector (Yang, 2015). Students flock to nations abroad, especially those in the West, for higher education, and increasing for at the secondary level; and they are not simply studying for just a semester or short-term. Many of them spend years as undergraduates and sometimes graduate school abroad.

Despite the clear implications of rankings on the international stage, the effects on students within the Chinese domestic sector have not been fully explored. University rankings that are similar to *US News* have spread across the globe in recent decades (Hazelkorn, 2015). The nation has had national rankings in its higher education sector since the early 1990s, such as NETBIG or Guangdong Institute of Management Science (Liu & Liu, 2005). However, many of the schemes have had difficulties gaining traction in the sector and have subsequently shut down. While outside ranking organizations do not quite have the cachet domestically, like *US News* in the US, government-sponsored projects have provided important hierarchical structure to the system. Universities included in high profile national funding projects have gained in status, while those schools left out have lost reputation (Ngok & Guo, 2008). Yet, the intersections between these domestic distinctions and ranking effects, local and global, have not been explored.

The impact of rankings is important to both the global and domestic higher education sectors, as research has shown that league tables are only gaining more ubiquity with time throughout the world (Hazelkorn, 2015); however, these influences are not simply universalized across actors or societies. Ball (2012) contended that global convergences actually resemble localized hybrid translations of internationalizations. In his critique of neoliberal policy, which encompasses rankings, he argued, “it morphs and adapts, taking on local characteristics from the geographies of existing political economic circumstances... social influences and individual agency all play a role” (p. 30). Similarly, scholars such as Pizmony-Levy (2011) and Marginson (2017) used the metaphor of a light through a prism to describe the refraction of global pressures onto local actors. Given these arguments of localization, even as ranking forces have standardizing effects, the reception and interpretation by Chinese students are still filtered through a societal prism. While studies have shown how students manage rankings in the college selection process, especially for international students, there has been no research on tested knowledge of ranking information. Exploring how different types of individual students have reacted to university rankings will provide deeper understanding of the localizations to these international forces.

In this research, I used quantitative data to explore how students perceive both domestic and global university rankings through multivariate analyses. I relied upon an original student survey to ascertain this complex intersection of the global and local onto the higher education sector. In this study, I address the following research questions in the Chinese context: 1) How familiar are students with university rankings? 2) What are

the characteristics that determine familiarity with rankings? 3) What factors determine students knowing or not knowing their approximate university rank?

Given the literature, I posited that students in this sector would be quite familiar with university rankings, especially those from elite institutions, with study abroad aspirations, and from affluent backgrounds. However, in general, the students tested in this research were not as attuned to rankings as expected; though, those who were more familiar with league tables, indeed, shared the predicted characteristics. Similarly, I speculated that students who correctly guessed their universities' ranking would be from these same backgrounds. However, the results yielded more nuanced patterns, highly dependent on both local and individual characteristics and between global or domestic rank schemes.

China and Ranking Forces

China has the largest higher education sector in the world, with over 2,500 degree-granting universities and millions of students at various institutional types, according to the Ministry of Education. In recent years, the nation has become one of the most important players in the globalized sector. China sends the most students abroad, with over 700,000 per year according to UNESCO, and it is also quickly rising as a key intake destination for students, on target to have 440,000, only behind the US and UK according to Institute of International Education. Additionally, Chinese universities have made key advancements in artificial intelligence, robotics, and other innovations, often through partnerships with some of the top innovation in the world, such as MIT and Cambridge (Yang & Welch, 2011). The PRC government has been attracted to these kinds of high profile projects with elite universities around the world and has also been especially

attuned to rankings (Gries, 2004). The county has a history of technocratic rule in recent decades and, in general, has utilized ranking metrics in various aspects of Chinese society, such as class rank, city tiers, and other clear status markers (see Edwards, 2008; Ho, 2008). These types of technocratic measurements and evaluations of global forces have now become ubiquitous; not only in China, but throughout the world (Cooley & Snyder, 2015).

The complexity of the higher education system globally cannot easily be understood without a simplification—this quantification of abstract ideas into easily definable measurements is known as commensuration (Espeland & Stevens, 1998). Given the national focus on global prestige in the sector, it should be no surprise that in 2003 China actually helped to usher in a new era of global university rankings with the establishment of the Academic Ranking of World Universities (ARWU) at Shanghai Jiao Tong University. Other popular global and local league tables soon followed and the world was quickly inundated with these metrics. The power of university league tables comes from the perception of a scientific rationality and a perceived need for this kind of information lionized globally (Steiner-Khamsi, 2003; Crossley, 2014). For the higher education sector, students, parents, alumnae, and the general public want these numbers and the universities are basically forced to acquiesce (Hazelkorn, 2015). Chinese stakeholders have been keen on these kinds of metrics.

Other Rank Forces

The Chinese Communist Party (CCP) has emphasized international recognition through prestigious external distinction (Gries, 2004), such as Olympic medal counts or

placement on the OECD's Programme for International Student Assessment (PISA) test scores, where China¹ dominated the field of nations to rank as the number one society in 2009, which caused stir around the world (Sellar & Lingard, 2013). These International large-scale assessments (ILSAs) actually provide underpinnings to ranking literature. Heavily studied, these ILSAs have significant impact on the general public, policymakers, or other actors within domestic settings across the world (Addey et al., 2017). The tests results are put in country rank order and often *scandalized* in their local settings to reflect domestic actor preferences, either to outside policy choices or internal reforms (Steiner-Khamsi, 2004). So-called "PISA Shock" is a phenomenon that sometimes strikes nations after the results are released in which there is a national panic due to rank outcomes (Waldow, 2009).

One common characteristic of these ranking force studies is that information is often misunderstood or manipulated. In a critique of media's skewed portrayal of ILSA results, Stack (2007) noted, "The headlines and leads concerning all three tests demonstrate the power... to frame a story about what a good education is, and the importance of numbers to demonstrate the veracity of the story," (p. 108). Similarly, Takayama (2010) found that Japanese policymakers "romanticized [an] image of Finnish education" that fit their personal policy preference, regardless of where they sat on the political spectrum (p. 67). Even PISA Shock is often rooted in a misunderstanding of scoring—national outcomes usually remain static, but as other nations improve or join the assessment, other nations fall, creating a false sense of failing.

In one pertinent study of the misinterpretations of ILSAs, Pizmony-Levy (2017) tested general public knowledge of national rank on this ILSA in both Israel and the

¹ China was represented by just one city, Shanghai, in that year's assessment.

United States. The results are nuanced, but some populations, such as more educated Americans, believed 15-year olds in their country were underperforming their actual levels. Understanding how the general public views these globalized forces offers a deeper study of their impacts. While tests of general knowledge are only beginning in relation to ILSAs, it has actually never been carried out in higher education or to the Chinese case.

University Rankings in China

While the United States has *US News*, China has its own domestic rankings (Liu & Shan, 2007). NETBIG and Guangdong Institute of Management Science (GIMS) were both founded in the 1990s, but have since shuttered after failing to gain a foothold in the sector (Liu & Liu 2005). There was even a high profile pay-for-rank scandal from a renowned scholar named Wu Shulian, whose popular ranking scheme affiliated with GIMS came under fire after the news of a pay-for-rank scandal broke. Members of the National People's Congress (NPC) and the Chinese People's Political Consultative Conference actually attempted to ban unsanctioned university rankings in 2004 because it was believed that they disrupted the higher education sector. The Ministry of Education, though, has not made any official ruling and has, for now, simply tolerated these league tables (Wang, 2009). Some rankings, such as the one offered by the Chinese Universities Alumni Association (CUAA), are still relevant (Luo et al., 2016). The organization utilizes ranking criteria that measure research, faculty awards, program types, student awards, governmental status, and reputation (Liu & Liu, 2005) However, because the government plays such a crucial role in Chinese society, private sector solutions, while

present in society, have often been overshadowed by official policies, and the education sector is no different.

Two policies have dominated the elite Chinese higher education sector for over two decades, providing a national hierarchy in the same way *US News* does in the US sector. First, the Project 211 was introduced in 1995 with the goal of having Chinese universities reach a “world standard” in research and teaching (Ngok & Guo, 2008, p. 546). This status was eventually granted to over 100 universities and included hefty research project funding (Li, 2004). In 1998, an even more elite policy was introduced with the Project 985; China’s paramount leader Jiang Zemin, while making a speech at Peking University’s centennial anniversary, declared, “China must have a number of first-rate universities of international advanced level” (as cited by Li, 2004, p. 17). The government officially unveiled this high profile project with a major injection of funding to nine universities and eventually expanded to 39 (Li, 2004; Ngok & Guo, 2008). While Tsinghua University and Peking University received a lion’s share of the investment, all of the universities included in the project became the very elite of the sector. In 2015, these projects were replaced by the World Class 2.0 project (also called Double First Class or *ShuangYiLiu*), officially put in place in 2017. However, it appears that this new project will mirror the segmentation of the sector.

With the multiple elite projects and other governmental policies, there is a hierarchy in Chinese higher education: Tsinghua and Peking are clearly perched atop the national sector; next are the other 985 universities, which are quite influential; below are the 211 institutions; following behind are the regional universities or even the new global ventures; and last are the local universities and technical schools (Yang, 2017). While

this national hierarchy is not officially a ranking, the statuses align closely with both global and domestic rankings within in China. Looking at *Chart 6.1*, from 2012 to 2016, 985 institutions have dominated the CUAAs ranking charts, accounting for every spot in the top-25 and the majority of positions in the top-50 every year, while 211 institutions make up a majority of the top-100. Universities in neither project hardly appear in the league tables. The results are even more pronounced in the global rankings. Looking at *Chart 6.2*, only 985 universities have factored in this popular global scheme, and those without government distinction have never made an appearance. Because these rankings often overemphasize research (Hazelkorn, 2015) and the 985 universities have increased publication output since its implementation (Zhang et al., 2013), the results in the league tables during this period are quite expected.

Chart 6.1: Number of Universities in the Top-25, 50, 100 of CUAAs Ranking by Type

| | Within the top- | | | Within the top- | | | Within the top- | | | Within the top- | | | Within the top- | | |
|-------------|-----------------|----|-----|-----------------|----|-----|-----------------|----|-----|-----------------|----|-----|-----------------|----|-----|
| | 25 | 50 | 100 | 25 | 50 | 100 | 25 | 50 | 100 | 25 | 50 | 100 | 25 | 50 | 100 |
| Project 985 | 25 | 36 | 38 | 25 | 36 | 38 | 25 | 36 | 38 | 25 | 36 | 39 | 25 | 36 | 39 |
| Project 211 | 0 | 14 | 52 | 0 | 14 | 53 | 0 | 15 | 55 | 0 | 14 | 51 | 0 | 14 | 51 |
| None | 0 | 0 | 10 | 0 | 0 | 9 | 0 | 0 | 7 | 0 | 0 | 10 | 0 | 0 | 10 |
| | 2012 | | | 2013 | | | 2014 | | | 2015 | | | 2016 | | |

Source: CUAAs as calculated for this research.

Chart 6.2: Number of Universities in the Top-100, 500, 1000 of QS Ranking by Type

| | Within the top- | | | Within the top- | | | Within the top- | | | Within the top- | | | Within the top- | | |
|-------------|-----------------|-----|------|-----------------|----|------|-----------------|----|------|-----------------|-----|-----|-----------------|----|------|
| | 100 | 500 | 1000 | 10 | 50 | 1000 | 10 | 50 | 1000 | 10 | 500 | 100 | 10 | 50 | 1000 |
| Project 985 | 3 | 18 | - | 3 | 16 | 23 | 3 | 18 | 24 | 4 | 23 | 27 | 4 | 22 | 28 |
| Project 211 | 0 | 1 | - | 0 | 1 | 2 | 0 | 0 | 3 | 0 | 2 | 3 | 0 | 2 | 5 |
| None | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2012 | | | 2013 | | | 2014 | | | 2015 | | | 2016 | | |

Source: QS as calculated for this research.

Given the disparities between the ranking outcomes, the national project statuses have been crucial indicators for the domestic sector, even when considered globally. Because of this national hierarchy, I expect students from the more elite universities to be more attuned to their national and global rankings. The following section, though, will explore more research on student choice in university selection in China.

Students in the Chinese Higher Education Sector

Studies related to Chinese student college decisions have been mixed-method in nature and they often focus on class, location, and the international sector. Geography has been an especially important aspect of studies because the East Coast has grown rich through liberalized and favorable government policies (Bai, 1998; Liu & Morgan, 2015). The best universities are clustered in a few cities and provinces, while working opportunities after graduation also center in these areas; China's *hukou* (household registration) system only exacerbates the geographic inequality, as students are bound to apply for universities through their local registration and some areas have limited quota for admission per province (Wang, 2011). Students with Beijing or Shanghai registrations have a greater chance of gaining admission to top institutions, because these areas have the most 985 or 211 institutions. He et al. (2016) found that Chinese students heavily attracted to universities in these "first-tier regions" because of the perceived economic benefits, as opposed to amenities (p. 67).

Parental background is also a crucial attribute in student education. Poorer families are constrained by the college process, both financially and knowledge-wise, while the more educated and affluent have considerable agency and *guanxi* (Bodycott & Lai, 2012; Liu & Morgan, 2015). One such empirical study from Sheng (2017) utilized a mixed-method analysis of almost 2000 secondary school students and 50 parental interviews in Beijing. She found a strong association between the self-reported wealth indicators and choosing one of the more elite institutions. Further, working-class parents had little knowledge to provide in the process. Meanwhile, middle-class to upper-class parents have the means to move their students abroad if they feel they cannot score well enough

to enter a high-status university (Sheng, 2012). Liu et al. (2013), though, reported that parental background did not always have a significant impact in a study of over 12,000 students. They indicated that social class effects did not relate to degree choices among Chinese students, other than with law and medicine.

Because international educational mobility has long been a crucial aspect of the Chinese system, with many middle and upper-class parents electing to send their child abroad (Yang, 2015), research of choice in this area is quite rich. In almost every study on the subject, university rankings are discovered to be central pull factors in student decisions (see Hou et al., 2014; Huang et al., 2015; Cao et al., 2016; Spires et al., 2017; Perraton, 2017). Manns and Swift (2016) showed that these students, like their domestic counterparts, utilize league tables to whittle a list of potential choices. Additionally, as with the “front page” effect of *US News*, which is roughly the top-25, researchers have found that a threshold of the top-100 and top-400 were key markers for international Chinese students (Gong & Huybers, 2015). These types of students have been especially cited as seeking ranking information on university marketing materials or websites (Chen, 2007). “Students want more consumer type information through guidebooks or comparative or benchmarking data, increasingly on a global scale and accessible online,” argued Hazelkorn (2015, p. 7).

In parallel to domestic findings, parental impact was also important in pupil study abroad decision-making (Bodycott & Lai, 2012). In one study with almost 800 students surveyed in China, Cao et al. (2016) found through hierarchical regression modeling that the impact from parents was the top effect in students desire to study abroad. Educated parents were more likely to push their child to study abroad. In line with other research,

reputation of academic quality was the next greatest factor in their test, which they use as a proxy for ranking. In a focus group of several parents in China, Spires et al. (2017) found that parents use more pull factors rather than push factors in the study abroad choice of their children. Western nations' reputations as academic or technological leaders were key influencers, though rankings were not explicitly mentioned. Aside from rankings, parents have also been concerned with safety and expenses in the study abroad college-going process (Gong & Huybers, 2015).

All of these factors reported in the student choice literature on the China case will be considered for this research. Considering the importance of parental background, I expect that students from affluent homes will have more perceived and confirmed rank knowledge than their less affluent peers, as a high position is often a prestige symbol. Accordingly, I anticipate students who are considering studying abroad will also score well on my test of rank knowledge and ranking familiarity. These students are especially attuned to university rankings. Critically, given the impact of governmental statuses for universities, via the Projects 985 and 211, I expect these institutional factors to be quite influential on student refractions and perceptions of university rankings.

Data and Methods

This research relied upon an original survey of 1,120 Chinese students sampled through two methods during the spring and summer of 2017. For this particular segment of the research, I removed graduate and exchange students from the collected data to better align with the focus of the research questions, centering on the undergraduate responses, which brought the total size to 924 respondents—all undergraduates in China.

The survey was created specifically for this research inquiry on the impact of rankings on the Chinese higher education sector. The design focus was for a quick and readable survey that students could finish in ten minutes or less, in order to minimize drop-offs (Bradburn et al., 2004). The questions were translated into Mandarin by a doctoral researcher who is a native speaker of Chinese. The instrument was then pretested with the help of a Chinese research assistant. All of the materials, both in English and Chinese, were submitted and approved by the university institutional review board (IRB) in compliance with ethical and privacy guidelines.

The sampling was conducted in two separate phases. First, the majority of respondents, 620 students, were surveyed through primary research fieldwork while I was based at Beijing Normal University under the Confucius China Studies Fellowship. My access allowed me to meet professors from across China to disseminate the survey to their students via WeChat, and in some cases live in-class sampling. For the in-class collection, I personally witnessed classes access and complete the survey through their phones. Only professors, students, or university administrators were given the survey QR code or link to distribute to their networks. To entice recruitment, I offered a chance to enter into a lottery for a very small reward of 20 RMB² if students completed the survey. Thus, the chances of someone unqualified taking the survey was unlikely due to the relatively lower financial benefit.

For the second phase of sampling, and to bolster the responses from regional and local universities, I employed a Shandong-based private marketing research firm that specializes in market research for foreign firms to add 500 respondents. The service operates similar to Amazon's Mechanical Turk, offering a small fee to the students for

² This is roughly equal to a cup of Starbucks coffee.

each survey that they complete. They have a pool of student respondent across China that they send survey requests to complete. I checked the IP addresses, time of opening the survey, and time to complete the survey for this half of the respondents to ensure accurate results from the firm.

Measurements

The full measurements of variables used in this study can be found on *Table 6.1*. In order to measure the factors important to the university selection decision by students, respondents were asked to assess the importance of various items (rankings, 985 or 211 status, teaching, location, major, or career) to their college-going decision, ranging from *very important* to *not important* at all. Similarly, another crucial variable in this study comes from familiarity that students had with university rankings. The respondents were asked to make a self-assessment of “How familiar are you with university rankings?” The categorized responses ranged from *familiar*, *not too familiar*, *totally unfamiliar*, and *unsure*. I combined the familiar categories due to limited selections of “very” and I also combined *totally unfamiliar* with *unsure* to allow for easier interpretation of these similar conceptions.³ These range of questions were adapted from past educational surveys related to ILSAs and parental opinion to fit the Chinese higher education context (Pizmony-Levy & Green-Saraisky, 2016; Pizmony-Levy & Doan, 2016).

I have taken this research a step beyond self-assessments by actually testing my sample’s knowledge of the topic. I tested whether students knew the approximate range of universities’ ranking, both globally and nationally, by asking them to guess their

³ I ran all of the tests with *totally unfamiliar* with *unsure* as separate categories and the results align with those found in this research.

universities' league table position. The ranges used for the domestic test were: *top-10*, *top-25*, *top-100*, *no national rank*, or *unsure*; and the ranges used for the global test were: *top-100*, *top-500*, *top-1000*, *no global rank*, or *unsure*. I then compared the results to the actual 2015-2016 academic year league tables for one of the most popular domestic schemes, CUAU (Luo et al., 2016), and one of the most popular global schemes, QS (Hazelkorn, 2015). To simplify the analysis, I folded the "I don't know" answers in with all students who guessed incorrectly (didn't know ranking=0), while all the students that correctly guessed the approximate rank were left in one group (knew ranking =1) (a common practice in social science research of this nature; see Caudill & Groothuis, 2005; Fagerlin et al., 2006; Pinhey & Millman, 2004; Reynolds, 2010).

Media is often an important aspect to studies on rankings, especially in knowledge assessments (see Stack, 2007; Waldow, 2009). In this study, I asked, "How often do you follow stories in the newspaper, radio, TV about what is happening in education in this country?" and allowed responses of *never*, *rarely*, *sometimes*, and *often*. Further, I asked students to identify their specific ranking information sources, both globally and domestically, including media, friends, universities, family, and professors, as adapted from Pizmony-Levy and Green-Saraisky (2016). In the analysis, I also used each source to tally a total rank source variable. Additionally, for those students with at least *some familiarity* with rankings, I asked them to identify specific ranking schemes that they were familiar with, including ARWU, *Times Higher Education*, QS, *US News*, CUAU, China Education Center (CEC), Webometrics, and *other*.

Demographics are important controls for social science research. In this research, I captured gender, geography, major, parental education, and university type. Studies

related to student university selection often use parental education as a proxy for affluence (see Liu et al., 2013; Liu & Morgan, 2015; Sheng, 2017). In the survey, I had participants identify their parents' educational background, from *below high school*, *high school*, *some college*, *college degree*, and *graduate school*. Geography is also especially critical to studies in Chinese higher education (see Bai, 1998; Wang, 2011; He et al., 2016). For this study, I organized geographic categories in five categories: the eastern coast, central provinces, the northeast, the western part of the country, and other geographic settings (such as Hong Kong). Similarly, I recorded the university type for the respondents, including local institutions, regional universities, universities in the 211 Project, and elite 985 Project universities. For educational background, I organized students in terms of freshmen, sophomores, and upperclassmen (a combination of juniors and seniors). I also captured their majors in three categories: natural sciences, social sciences and the humanities, and education.

Data Analysis

I utilized both multinomial logistic regression and binomial logistic regression analyses in this study. Logistic regression analysis has advantages in that neither normal distributions nor linear relationships between the dependent and independent variables are assumed, as with ordinary least square (OLS) regression. I could not use ordered logistic regression in these tests because my outcome variables are not ordered, given the "I don't know" responses that were included. The selected design models still must mostly avoid multicollinearity, which I confirmed in my models via the *COLLIN* command in Stata, finding that all of my variables in the models had a *VIF* well under

two (Williams, 2015). This type of modeling first gained popularity through sociological studies where researchers have often used categorical instruments (see Long, 1997).

In the tests, I first performed a multinomial logistic regression analysis to examine the association between the effects of demographic controls and ranking-related characteristics on general familiarity with university rankings, both domestically and internationally. This analysis produced the odds of self-determined understanding of rankings by undergraduate students in China, as reported through odds ratios. The method allows for estimations of multiple binary logistic regressions between all of the categories. In the model, I used *familiar* as the reference group. Additionally, I then used a binomial regression analysis with the knowledge testing results of the students' guesses of their universities' global and domestic university ranking level (knew ranking=1, did not know=0) as the dependent variable,⁴ along with the associations between demographics and various rank characteristic effects.⁵ I have also reported the binomial models' results through odds ratios.

⁴ A note on the models' dependent variables: For the binomial regression model, I used the dummy variable constructed from the ranking knowledge test (didn't know ranking=1; knew ranking=2) in order to simplify the analysis. However, I also ran multinomial models with the full range of responses to the tests, which included those who were wrong one, two, and three degrees over their ranking, those who were one and two degrees under their ranking, those who did not know, and those who answered correctly. Using this variable, the multinomial models could not properly run, as the data was too thinned out and some of the most crucial control variables had too few respondents to be included, such as university type, a notorious problem with this type of modeling. In another round of tests, I folded the variables into those who had over guessed, under guessed, didn't know the ranking, and those who answered correctly. The models in this test had the same issue as before. Finally, I ran a model using those who had incorrectly guessed, correctly guessed, and answered that they did not know. In this round, the domestic Chinese model worked, but the global model had the same data thinning issues as the other failed models. Given these issues and past research that has been similarly conducted, I selected the binomial model with the binary outcome.

⁵ A note on the models' independent variables: This study contains numerous categorical independent variables. Through regression modeling, one of these categories for these variables must be used as a reference that is compared to all the others. The remaining categories, then, are never compared together in the models. To maximize transparency, I have included extra tables in the appendix with that can be used as a reference. Multinomial logistic regression provides a difficult interpretation between various categories. Ordinal logistic regression (OLR) is often preferred because it provides a more intuitive interpretation through hierarchical modeling (Peterson & Harrell, 1990; Warner, 2008). However, the assumptions are much more difficult to meet in OLR. First, using the *BRANT* command in STATA, I found

Limitations

Though the sample is large and I was able to gather a robust segment of the population that reflects the Chinese student experience with university rankings, the data presented cannot be considered generalizable (George & Bennett, 2005). The online collection was not random, meaning it could be biased towards those with greater global networks, as personal connections through my university and other elite Chinese institutions assisted with the dissemination. Further, for the in-class sampling, I was not able to enter any courses related to hard science, only education and social science. Plus, students could have simply been playing on their phone during the surveys. The paid market research organization data was used to bolster students from non-985 or 211 universities, but their data is not promised to be generalizable. They have a large pool of students from various universities across China that they use for market research purposes. In a combination with these sources, I ended up with an oversample of females and students from elite 985 universities, among others.

True random sampling for survey research in China is difficult and very expensive. Because of these barriers, many other important parallel studies have employed similar methods with the same sample weaknesses found in my study (see comparable works by Chen, 2007; Gong & Huybers, 2015; Cao et al., 2016; Liu & Morgan, 2016). Despite these sample limitations, I can still draw trends from this research, but I will not make generalizable conclusions to the entire Chinese higher education system.

that the model did not meet the proportional odds/parallelism test that would need to be met for this kind of modeling (Brant, 1999). Besides, OLR modeling is not a bit for instruments with a high number of “I don’t know” answers, as it is difficult to interpret these types of responses hierarchically. Similar, binomial logistic regression also has constraints. The outcome in this model can only be *yes* or *no*, (e.g. knew the ranking or did not). There are certainly nuances that can be further studied in tested-rank knowledge of students beyond a binary test. Further research directions will be explored in the concluding section to consider more in-depth analyses of rank knowledge testing.

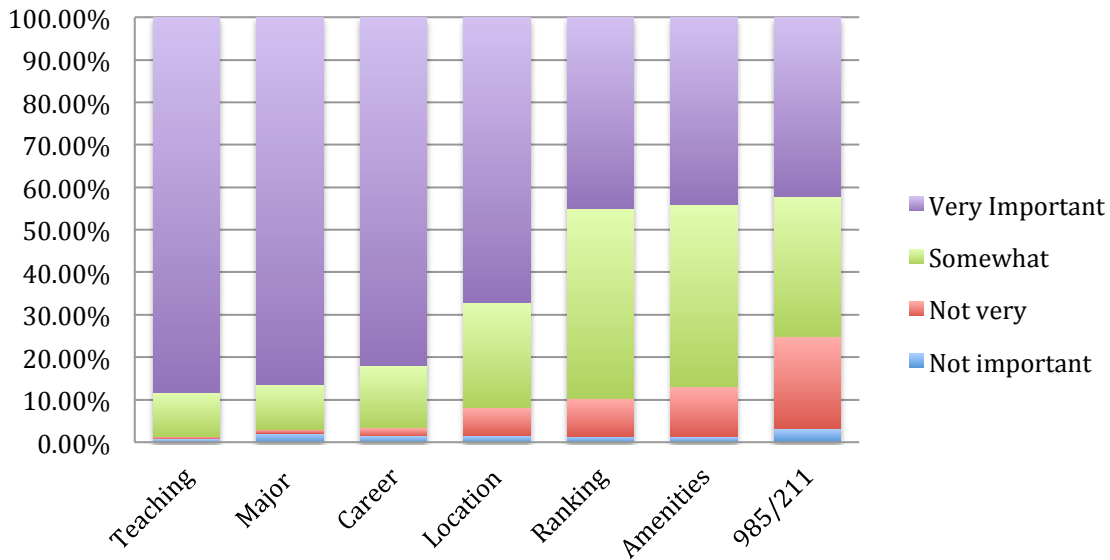
Results From the Statistical Analysis

Descriptive Patterns for Rank Familiarity and Knowledge

Because rankings have shown to be crucial aspects for the student university selection process, the general population should be fairly informed on these metrics (McManus-Howard, 2002; Hazelkorn, 2015). However, this sample actually displays a general low degree of familiarity with league tables. Only 277 respondents considered themselves to be familiar with league tables, which is only around a third (30%) of the students. At the same time, over 44% and 26% of the students considered themselves to be *not so familiar* or *totally unfamiliar*, respectively.⁶ Other traditional factors proved to be much more important to these students.

⁶ I also ran a correlation test between the importance of ranking factor and ranking familiarity. There is no significance in this relationship ($p > .05$) and the correlation coefficient is minimal (.014).

Graph 6.1: Factors Important to Student College-Selection



Source: Student survey data from this research

Career and major have been reported as fundamental factors for students in the college decisions (see examples in Bai, 1998; Liu & Morgan, 2015; Yang, 2015). Likewise, the literature demonstrates that location is another critical aspect to students in China, especially because the Eastern coast and urban cities offer the most career opportunities (Liu, 2013). All of the elite universities, mostly found in these same regions, are also highly competitive factors (Allen, 2017). *Graph 6.1* illustrates a simple distribution of various importance factors for the college students and the sample comports to these past findings. Even as the other factors—such as teaching, career, and major—showed to be generally more essential for students, all of these factors were only separated by several percentage points. In the study, league table position is a somewhat important factor in the university selection process, aligning with past research.

The importance of league tables appears to be grouped with amenities and the elite projects, as secondary factors of importance. Only 45% of students said that university rankings were a *very important* factor when selecting a university, compared to over 80%

for teaching, major, or careers. Similarly, around 45% of the students considered rankings to be *somewhat* important in this process. Even as only around one in ten (9%) said rankings were *not a very important* or even fewer (1.5%) said they were *not at all important* in their decision, league tables are still only a secondary factor for this sample.

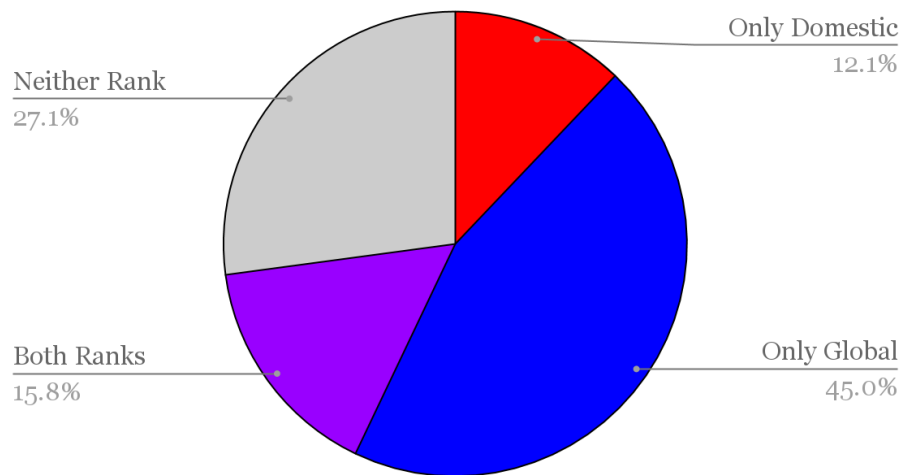
These descriptive results do not render the league table factor as unimportant, only that there are more salient characteristics to this choice. This could help explain why there is a gap in the literature in terms of domestic rankings in China. Further, because there is not a consensus in ranking importance, understanding the reasons for the discrepancy becomes more imperative.

Self-reported and assessed knowledge is a crucial tool for social science, but it also has its drawbacks, as subjects could misjudge the inquiry (Spector, 1994). I have taken this research a step further to actually test my sample's knowledge of the subject. In general, less than a third of students were able to identify their universities' domestic ranking (mean = .287). Conversely, almost two-thirds of the respondents correctly knew their global university ranking. *Fig. 6.1* illustrates a cross-tabulation of these results in four categories, those who knew both rankings, those who knew neither, those who only knew the national, and those who only knew the global ranking. Less than half of the students correctly identified just their global league table position (45.0%), followed by just over a quarter who failed to identify either (27.5%). Interestingly, only knowing the national ranking had the fewest individuals, at 12.1%.

The disparity between the domestic and global dynamic could be connected to the assertion that university rankings are much more critical to international students, as they lack local contexts, and thus students do not really pay attention to national rank. Further,

only around 14% of these students said that they were going to study abroad after their undergraduate studies, an important indicator because, according to the research, these types of students are most attuned to league tables. It also helps to explain why many students placed factors, rather than rankings, as *very* important to their domestic university selection.

Figure 6.1: Cross-Tabulation of Students Knowing Domestic and Global Rankings



Source: Student survey data from this research.

There are local and individual characteristics that could help to explain the differences between knowledge of rankings from students. The demographic control variables are standard in student research: gender, grade level, region, and parental education. The rank-related characteristics provide a more nuanced description to this particular exploration.

In other patterns of note seen on *Table 6.1*, the surveyed individuals were particularly adept at consuming educational news, as the mean response was *sometimes*. Additionally, they averaged a little fewer than 2.4 global ranking information sources and a little fewer than three domestic ranking information sources. I also asked for familiarity of specific

university ranking schemes. The respondents reported that they were more aware of CEC and CUA A more than any other schemes, which makes sense because these are domestic Chinese schemes. For global league tables, the QS scheme had the most students report knowing it. There appeared to be a large drop between awareness of domestic rankings compared to global counterparts. Overall, though, these students were seemingly a well-informed group on general educational-related information given their media consumption and rank awareness. However, how do these factors shape perceived and tested knowledge of university rankings?

Table 6.1: Definitions, Metrics, and Descriptive Statistics for Variables in the Study

| Variable | Definition and Metrics | M/SD | Frequency (%) |
|------------------------------|---|------|---------------|
| <i>Dependent Variables</i> | | | |
| Ranking Familiarity | <i>How familiar are you with university rankings?</i> | | |
| | Familiar | | 30.0 |
| | Not too familiar | | 44.2 |
| | Totally unfamiliar/ Unsure | | 25.9 |
| Know Global Rank | <i>If the student correctly knew their global rank according to the 2016 QS list.</i> Yes = 1; no = 0 | .632 | |
| Know China Rank | <i>If the student correctly knew their global rank according to the 2016 CUA A list.</i> Yes = 1; no = 0 | .287 | |
| <i>Independent Variables</i> | | | |
| Importance of Ranking | <i>How important is this factor in your university selection decision?</i> | | |
| | Not very | | 10.0 |
| | Somewhat | | 44.7 |
| | Very | | 45.2 |
| University Type | Local | | 10.5 |
| | Regional | | 52.5 |
| | 211 Project | | 6.1 |
| | 985 Project | | 31.0 |
| Gender | Female = 0; Male = 1 | .315 | |
| Grade level | Freshman | | 19.9 |
| | Sophomore | | 44.5 |
| | Upperclassmen | | 35.6 |
| Region | East coast | | 43.8 |
| | Central | | 18.3 |
| | Northeast | | 8.0 |
| | West | | 27.9 |
| | Other | | 2.0 |
| Parental education | Below high school | | 24.5 |
| | High school | | 22.6 |
| | Some college | | 27.7 |
| | College degree | | 18.6 |

| | Graduate school | 6.6 |
|----------------------------|--|------------|
| Education news | <i>How often do you follow stories in the newspaper, radio, TV about what is happening in education in this country?</i> Never = 1; rarely = 2; sometimes = 3; often = 4 | 2.97/ .656 |
| Global info. rank sources | Total number of marked information sources on global university rankings Min. = 0; Max. = 5 | 2.41/1.27 |
| China info. rank sources | Total number of marked information sources on domestic university rankings Min. = 0; Max. = 4 | 2.73/1.28 |
| Study abroad | Do you plan on studying abroad after graduation? Yes = 1; other = 0 | .138 |
| Specific Ranking variables | <i>Please mark each university ranking that you are familiar with.</i> | |
| ARWU | | .193 |
| THE | | .190 |
| QS | | .270 |
| US News | | .162 |
| CUAA | | .311 |
| CEC | | .440 |
| Webometrics | | .177 |
| Other | | .030 |

Source: Results from statistical analysis of student survey data of this research.

Multinomial Logistic Regression Analysis of Ranking Familiarity

The multinomial logistic regression analysis of the effects between demographic characteristics and rank-related characteristics on self-reported familiarity with university rankings has been presented on *Table 6.2*. In each test, the comparison group is students familiar with rankings versus those with other responses and reported in odds ratios. Panel A only includes the rank-related variables and the demographic backgrounds of the students are only introduced in Panel B to complete the model. This construction design of the model demonstrates the critical importance of ranking-related variables, as their effects hold even after individual characteristics are controlled for in the test.

In Panel A, only the effects of the rank-related independent variables are presented. The independent variable, importance of rankings to the college-going decision, did yield associations: students who considered rankings somewhat or very important were more likely to be *familiar* with rankings than *not so familiar*, accounting only for rank-related

characteristics ($p < .01$; $p < .05$). Though, there were no associations for those familiar and unfamiliar with rankings in terms of importance of rankings. In relation to media, there were also some surprising results. An increase in sources of Chinese rankings was associated with a greater likelihood for a student to be *unfamiliar* with rankings compared to being *familiar*, controlling for rank-related variables ($p < .001$). Conversely, in some expected results, those who consume more educational news are more likely to consider themselves familiar with rankings rather than being *unfamiliar and not so familiar* with league tables, accounting for the other factors in the model (both $p < .001$). Additionally, as students gained global ranking sources, they were less likely to be *unfamiliar* compared to *familiar* with league tables, with the same controls ($p < .05$).

As predicted by the literature, university type and study abroad plans had significant relationships in the model. In comparison to students in 985 universities, those in both regional and local universities were more likely to be found in either the *unfamiliar* categories, rather than the completely *familiar* category, adjusting for rank-related features ($p < .001$). Similarly, students in 211 universities were more likely to be unfamiliar with rankings when compared to their 985 peers ($p < .01$). I also ran the analysis with local universities as the reference group, 211 and regional universities do not have associations in any category.

International mobility is a considerable part of the growing attraction to rankings, and students in this research confirm these past findings. Those without plans to study abroad were considerably less likely to be *familiar* with rankings, compared to being both *unfamiliar* ($p < .001$) or *not so familiar* ($p < .01$), when controlling for the other rank-related

indicators. These global and local intersections are especially important and will be further highlighted in the next section.

Table 6.2: Multinomial Logistic Regression of the Effect of Demographics and Ranking-Related Characteristics on Familiarity with University Rankings (n=924)

| | Panel A | | Panel B | |
|---------------------------|---------------------------------------|----------------------------------|---------------------------------------|----------------------------------|
| | Not so familiar verses Familiar | Unfamiliar verses Familiar | Not so familiar verses Familiar | Unfamiliar verses Familiar |
| Rank-related | | | | |
| <i>Importance of Rank</i> | | | | |
| Somewhat | 0.44** | 0.76 | 0.41** | 0.66 |
| Very | 0.50* | 1.01 | 0.52* | 0.93 |
| Education news | 0.46*** | 0.27*** | 0.46*** | 0.28*** |
| Chinese rank source | 1.05 | 2.27*** | 1.13 | 2.22*** |
| Global rank source | 1.03 | 0.81* | 1.04 | 0.85 |
| <i>University Type</i> | | | | |
| Local | 0.82 | 5.30*** | 0.58 | 3.24* |
| Regional | 1.29 | 3.25*** | 1.00 | 2.83** |
| 211 | 1.16 | 4.32** | 0.83 | 2.90* |
| Study abroad | 0.38*** | 0.22*** | 0.47** | 0.25*** |
| Demographics | | | | |
| Gender (Male) | | | 0.85 | 1.24 |
| <i>Parental Edu.</i> | | | | |
| High school | | | 0.99 | 1.64 |
| Some college | | | 0.83 | 0.74 |
| College degree | | | 0.49** | 0.35** |
| Grad school | | | 0.38** | 0.14** |
| <i>Region²</i> | | | | |
| Central | | | 0.65 | 0.93 |
| Northeast | | | 0.68 | 1.24 |
| West | | | 0.95 | 0.90 |
| Other | | | 0.15** | 0.53 |
| <i>Grade level</i> | | | | |
| Sophomores | | | 0.75 | 0.78 |
| Upperclassmen | | | 0.72 | 1.30 |
| <i>Major</i> | | | | |
| Social Science | | | 1.12 | 0.95 |
| Education | | | 0.76 | 1.13 |
| Constant | 28.3*** | 3.19 | 52.2*** | 4.37 |
| Pseudo R ² | | 0.15 | | 0.19 |

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

Omitted reference groups: importance of rank = not important; parental education = below high school degree; region = East coast; grade level = Freshmen; major = natural science; university type = 985 universities

Adding controls for demographic characteristics in the model is an important step in this analysis. As illustrated in Panel B, these independent variables do not alter the overall analysis as compared to the previous panel. The patterns for the rank-related variables mostly maintain their effects across panels, in an illustration of how crucial they are to ranking familiarity by Chinese undergraduates. The only effect to lose its

associations is the global rank sources variable. The importance of ranking in students' college-going decision retained the effects. Students who did not view rankings as an important characteristic were more likely to be not so familiar with rankings compared to familiar, when accounting for other rank-related variables and demographics ($p < .05$; $p < .01$). Though, this still does not show an effect on the relationship between familiar and unfamiliar in the model.

Other associations remain in this second panel. The same patterns persist with Chinese rank sources, educational news viewing, and study abroad. University type keeps the same associations as with Panel A, along with the mentioned switched reference groups additionally tested, accounting for the full range of controls.

For the demographic controls added in Panel B, there are few clear patterns across the groupings. The most apparent trend comes from parental education differences. For instance, students with parents that had graduate degrees are more likely to be *familiar* with rankings than being *unfamiliar* ($p < .01$) and *not so familiar* ($p < .05$), as compared to those with the lowest amounts of education and accounting for other variables in the model, when accounting for other demographic and rank-related variables. Likewise, students with parents that had either a college degree were less likely to be *unfamiliar* ($p < .05$) or *not familiar* ($p < .05$) of this ranking question and more likely to report familiarity, compared to those at the lowest tier of education, including the full model controls. I also ran the effects of this test with graduate school as the comparison because its effect size was much greater than the others. Students with parents in graduate school were more likely to be familiar with rankings rather than unfamiliar, when compared to all of the other categories except for college degree holders. The results indicate that

affluence is an important factor in this relationship, comports to research on these student populations.

The only other relationships in Panel A come from the regional background variable. Those from the eastern coastal region are more likely to report being familiar with rankings rather than not so familiar, compared to those from the *other* areas. Though, this relationship does not hold across the *familiar* to *unfamiliar* comparison. It may appear that *other* regional students could produce a statistically different association, but that is not the case, as I also ran the test with this variable as the reference group. No other demographic controls yield a relationship in Panel B.

Clear patterns have emerged from the examination of the effects on self-reported ranking familiarity. Local context related to ranking and education especially matters to this relationship, along with familial backgrounds and some personal characteristics to a degree. These findings all concur with past literature as cited in the previous section. Taking the exploration a step further, though, I tested beyond self-assessment, which led to the obvious question: Do these trends persist when considering actual displayed knowledge?

Binomial Logistic Regression of Ranking Knowledge

Table 6.3 displays the binomial logistic regression tests for the effects of demographics and rank-related characteristics as reported in odds ratios. The three models in the Panel A test for knowledge of national university rank (e.g. did the student accurately know their university's ranking in China); meanwhile, the three Global Panel models capture the international ranking knowledge (e.g. did the student accurately know

their university's global ranking). Within each panel, step-wise modeling was utilized to capture distinctive relationships. Models 1 and 4 are considered to be the full models. Models 2 and 5 include a deconstructed ranking information sources variable (including family, peers, university, and professors) in order to isolate effects within the diverse sources for students. The last set of models (3 and 6) introduces specific ranking schemes to help understand which are actually considered in the Chinese context. Because the survey instrument reduced the number of respondents for this question to those who had some knowledge of rankings, the sample contains 235 fewer respondents than the first sets of models. I also removed ranking familiarity from the last model because of collinearity with the specific rank schemes.

While the rank-related characteristics provide important understanding in this research, their effects in this domestic model were found to be somewhat muted. Unexpectedly, the degree of importance for rankings in the college-going decision has no association in any of Panel A's models. Likewise, different levels of ranking familiarity also have no associations. Furthermore, across the first three models, unlike in the ranking familiarity tests, educational news consumption has no association in this tested relationship. But, in Model 1, as students' rank information sources increase, the less likely that they were able to correctly guess their domestic university ranking, when accounting for all controls in the model ($p < .05$). To help understand this relationship, Model 2 deconstructs this variable into individual sources. Students that considered their professors as a source of information for rankings are actually more likely to incorrectly guess their national ranking, adjusting for demographic and ranking variables ($p < .05$). No other specific individual sources proved an association in this relationship. Further,

Model 3 adds specific ranking schemes, but they too fail to yield any statistically significant associations in Panel A.

In the previous test of ranking familiarity, university type and study abroad yielded fascinating results. In this panel, nevertheless, none of the models yield a relationship between tested rank knowledge in China and studying abroad plans. For university type, there is a powerful effect for those in the 985 and 211 universities in knowing their national ranking when compared to those in local colleges, when accounting for all other independent variables (both $p < .001$). There is no association between local and regional institutions. These findings are parallel to the entire Domestic Panel. When switched to 211 as the comparison, these students are more likely to know their national rank than all other tiers.

There are few demographic associations in the Panel A, when adjusting for all variables in the model. Sophomores compared to freshmen were more likely to accurately know their university ranking ($p < .01$ in all models). Though, this effect does not hold, as students stay longer at a university, because upperclassmen do not show any differences to freshmen in this test. Education majors, compared to those in social sciences, are less likely to know their domestic university ranking ($p < .05$ in all models). Unlike with familiarity with ranking, there are no associations in any of the models between parental education and the tested ranking knowledge. The same patterns with demographics hold across the first three models. When I changed the reference group to science, there are no statistical differences between this major and education.

Table 6.3: Binomial Logistic Regression of the Effect of Demographics and Ranking-Related Characteristics on Students Knowing their University Rankings

| | Panel A: Domestic Ranking | | | Panel B: Global Ranking | | |
|----------------------------------|---------------------------|---------|---------|-------------------------|---------|---------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
| Rank-related | | | | | | |
| <i>Importance of Rank</i> | | | | | | |
| Somewhat | 0.69 | 0.65 | 0.86 | 1.35 | 1.31 | 1.39 |
| Very | 0.90 | 0.85 | 1.18 | 1.51 | 1.45 | 1.58 |
| Education news | 0.97 | 0.92 | 1.00 | 0.96 | 0.91 | 0.84 |
| Rank info sources | 0.82* | | 0.84 | 1.10 | | 1.11 |
| <i>Familiarity with Rankings</i> | | | | | | |
| Not so | 0.85 | 0.85 | | 1.49* | 1.43* | |
| Unfamiliar | 0.85 | 0.83 | | 1.86** | 1.70* | |
| <i>University Type</i> | | | | | | |
| Regional | 1.02 | 1.08 | 1.31 | 0.75 | 0.72 | 0.51 |
| 211 | 10.0*** | 10.5*** | 11.5*** | 0.36* | 0.34** | 0.37 |
| 985 | 4.37*** | 4.57*** | 4.97** | 0.60 | 0.59 | 0.26** |
| Study abroad | 1.00 | 0.98 | 0.89 | 1.14 | 1.20 | 1.05 |
| Demographics | | | | | | |
| <i>Gender (Male)</i> | | | | | | |
| | 0.90 | 0.89 | 0.85 | 1.04 | 1.03 | 1.02 |
| <i>Parental Edu.</i> | | | | | | |
| High school | 1.17 | 1.18 | 0.91 | 1.35 | 1.31 | 1.40 |
| Some college | 1.05 | 0.99 | 1.17 | 1.71* | 1.66* | 1.56 |
| College degree | 1.38 | 1.33 | 1.04 | 1.48 | 1.48 | 1.38 |
| Grad school | 1.08 | 0.99 | 0.83 | 1.64 | 1.70 | 1.49 |
| <i>Region</i> | | | | | | |
| Central | 1.12 | 1.13 | 1.30 | 0.99 | 0.99 | 0.92 |
| Northeast | 0.76 | 0.73 | 0.75 | 1.42 | 1.45 | 1.35 |
| West | 1.40 | 1.39 | 1.48 | 1.14 | 1.20 | 1.11 |
| Other | 0.70 | 0.82 | 1.00 | 0.71 | 0.85 | 0.48 |
| <i>Grade level</i> | | | | | | |
| Sophomores | 2.07** | 2.04** | 2.65** | 1.49+ | 1.45 | 1.83* |
| Upperclassmen | 1.03 | 1.04 | 1.01 | 1.57* | 1.49 | 2.25** |
| <i>Major</i> | | | | | | |
| Social Science | 1.38 | 1.35 | 1.24 | 0.64* | 0.65* | 0.65 |
| Education | 0.46* | 0.46* | 0.34* | 1.06 | 1.10 | 0.76 |
| Other Rank | | | | | | |
| <i>Source Type</i> | | | | | | |
| Media | | 2.02 | | | 1.84* | |
| Friends | | 0.79 | | | 1.16 | |
| Universities | | 0.90 | | | 1.39+ | |
| Family | | 1.01 | | | 0.55* | |
| Professors | | 0.62* | | | 1.04 | |
| <i>Specific Rankings</i> | | | | | | |
| ARWU | | | 1.28 | | | 0.75 |
| THE | | | 1.37 | | | 1.12 |
| QS | | | 1.36 | | | 1.94* |
| US News | | | 1.05 | | | 1.24 |
| CUAA | | | 1.14 | | | 0.64* |
| CEC | | | 1.02 | | | 1.00 |
| Webometrics | | | 1.34 | | | 0.74 |
| Other | | | 1.44 | | | 0.29* |
| Constant | 0.26* | 0.15* | 0.10** | 0.75 | 0.56 | 2.16 |
| Pseudo R ² | 0.17 | 0.17* | 16.5 | 0.06 | 0.07 | 0.08 |
| n | 924 | 924 | 689 | 924 | 924 | 698 |

* = p<.05; ** = p<.01; *** = p<.001; + = p<.051

Omitted reference groups: importance of rank = not important; parental education = below high school degree; region = east coast; grade level = freshmen; major = hard science; university type = local

Note: Models reported in odds ratios.

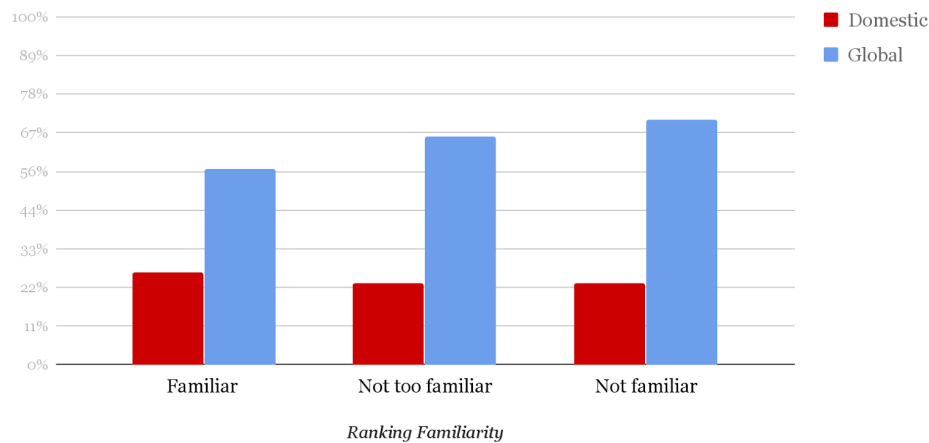
The global model yields some counters to the previous panel. First, the ranking familiarity background did yield a relationship in Models 4 and 5 of this panel, accounting for all controls. In opposition to conventional wisdom, students who were not too familiar with rankings were more likely to know their global university ranking compared to those who self-reported familiarity to rankings ($p < .05$). The same pattern holds true for those who considered themselves as completely unfamiliar with rankings ($p < .01$). Because this result was quite surprising, I double-checked the data and survey to make sure it was not accidentally reverse-coded. The data was correct. In a visualization of this pattern, *Fig. 6.2* displays the estimated predicated probabilities for the actual knowing ranking for the various levels of ranking familiarity, holding all the other variables in the model at their means. In this scenario, students had about a 70% probability of knowing their university rank if they self-identified as unfamiliar with rankings, compared to about 56% for those who said they were familiar with rankings, which was the lowest of the three categories. While the domestic results for students scored relatively better in knowledge of national ranking, there is little difference amongst all the groupings.

The other ranking-related characteristics add quite diverse effects in this relationship. Though, ranking importance and educational news viewing still did not produce statically relationships. And while number of ranking sources was similarly flat in Models 4 and 6, the breakdown of this variable in Model 5 yielded differing findings. Students that listed media as a source for ranking information are about 1.8 times as likely to correctly know their global ranking, when controlling for demographic and rank-related features ($p < .05$). Conversely, students that reported information from family members were almost half as

likely to correctly identify their global ranking, using the same controls ($p < .05$). For the test of specific rank schemes in Model 6, adjusting for all independent variables in the model, students that had heard of CUAU, a domestic ranking, and *other* rank sources were less likely to correctly know their international university league table position ($p < .05$). Inversely, students that knew the QS ranking scheme were almost twice as likely to accurately know their university's global position ($p < .05$). None of the other specific schemes produce a statistically significant relationship in these models.

Figure. 6.2: Estimated Adjusted Probabilities of Knowing University Ranking By Student Familiarity with Ranking

Note: Probabilities adjusted by demographics and other ranking characteristics from Model 1 and Model 4.



Source: Results from statistical analysis of student survey data of this research.

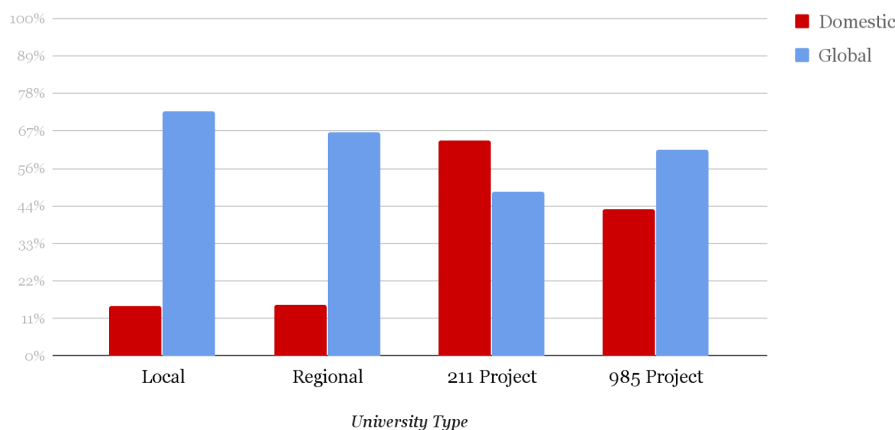
There were other crucial rank-related relationships in Panel B. But, study abroad again disappointedly did not yield an association to ranking knowledge. For university type, only 211 universities yielded a relationship in the full models of 4 and 5, as these students were less likely to correctly guess their global rank, including all the adjusted controls ($p < .05$; $p < .01$). In rearranging the reference, I found that 211 students had no differences between 985 respondents in this relationship, but proved less adept at guessing their global rank than the other lower tiers. The partial Model 6 does show other

differing associations, but this discards too many respondents to interpret this specific variable.

The demographic independent variables in the Panel B yield some differing results from the previous domestic models. However, there are just as few relationships between the demographic and this outcome. Science students compared to social science majors are more likely to know their global university ranking in Models 4 and 5, when accounting for all demographics and rank controls ($p < .05$). Students with parents that have some college are more likely to know their college rank than students with parents at the low end of the educational spectrum ($p < .05$). However, the other levels of education did not yield any associations in these models.

Figure 6.3: Estimated Adjusted Probabilities of Knowing University Ranking By Students in Various University Types

Note: Probabilities adjusted by demographics and other ranking characteristics from Model 1 and Model 4.



Source: Results from statistical analysis of student survey data of this research.

To better understand how university type works with this relationship, *Fig. 6.3* illustrates the estimated adjusted probabilities of knowing university rankings given all of the other characteristics are set to their mean. In the global comparison, local and regional university students have much greater probabilities of accurately knowing their university ranking (72% and 66% respectively), while 211 and 985 students falter in domestic

knowledge (48% to 61% respectively). However, this effect is reversed for the domestic setting. Students in local and regional universities are not very likely to correctly identify their national score (both 15%). Conversely, the elite 211 and 985 Project respondents correctly identified their domestic position at a rate of 65% and 43%. These differences help to understand how ranking forces are altered through contextual prisms at a local level.

Conclusion and Discussion

University rankings have had adverse and unintended effects on higher education across the globe. It is impossible to truly quantify the complexity of an entire university and the process decontextualizes local settings, standardizing one vision. The narrowly defined metrics used by the various schemes simplify the process for those who lack detailed knowledge. The general public, especially students and parents, crave this kind of commensurate information (Hazelkorn, 2015). Applicants modify their behavior based on advice from league tables, such as culling a list of potential universities or determining the entire selection process based on a single digit (Gong & Huybers, 2015). Powerful university presidents and their entire organizations are forced to adhere to these standards because outsiders use them.

In China, reverence to university rankings is quite prevalent, especially at the elite end of the spectrum. However, the local contextualization for the Chinese case differs from Western societies, refracting the effects that rankings have on students. For one, universities located on the east coast and in major cities have an advantage because these locales account for the most economic opportunities and students flock to these areas. In

the same vein, many of the best universities are located in these regions: 985 universities are the most competitive, followed by the 211 universities, and both sets are clustered in these competitive areas. For the *gaokao*, the college entrance exam, scores to get into these elite institutions are unimaginable. Despite important local factors, nonetheless, both global and national rankings still have an impact on the sector.

In this study, one exploration focused on the familiarity of Chinese undergraduates to university rankings. Overall, students in my sample were not as attuned to ranking as I had expected. Clearly, other factors, such as location, major, and teaching, were even more considerable influences in this decision than league tables. Less than half of the respondents considered rankings as an important aspect to their college selection, approximately half as few as the leading characteristics—teaching, major, and careers. Yet, past research has already proven that these other conventional characteristics are indeed crucial in education (see Wang, 2011; Liu & Morgan, 2015; Sheng, 2017), and the disparity in ranking resonance has been overlooked. Exploring why and how different types of individuals experience rankings will further push the understanding of localization of these global forces.

In more in-depth analysis of self-assessed ranking familiarity through multinomial logistic regression, the set of rank-related independent variables mostly showed some kind of associations in this relationship, even more predictive than individual demographic characteristics. In accordance to past literature, students prepared to study abroad were found to be much more familiar to rankings. Similarly, students with more educated parents, were also expectedly more familiar with these league tables, which indicates that the more affluent families are paying more attention to these elite status

symbols. Though, the importance of rankings in the college-going decision was an uneven predictor of familiarity, without a clear trend across the degrees of importance. This uncovered disconnect could help to explain why many students could not accurately guess their universities' ranking, adding to the critique of self-assessments (Spector, 1994).

Through knowledge testing, a large portion of students did actually know their global ranking, but this pattern was less pronounced when asked about the domestic rank. Numerous local contextualizations predict how well a student did on this self-assessment, compounded by the global and local intersections. One of the most powerful predictors came from university type. Because the steep hierarchy in China is highly ingrained in the higher education sector, students in either 211 or 985 universities could clearly interpret their perceived domestic rank compared to their lower tier counterparts. Thus, these systems could be considered *de facto* rankings, with 985s as roughly the top-40 and the 211s roughly the top-100. The regional or local institutions had no such reference, which meant that these students misinterpreted their national league table position.

This test on the global scale provides the reverse story. Students from regional and local universities fared much better in this self-assessment. None of these institutions are actually ranked globally and most of them are quite domestically focused. Thus, these respondents could easily choose *unranked* globally in an accurate reflection. While the trend is changing, the other elite Chinese universities are also mostly completely unranked, especially 211 institutions. But, there are more 985 institutions slowly moving up in all global ranking schemes, as illustrated through QS in an earlier section. These institutions also have an intense focus on international outreach as part of governmental

plans and administrative strategies. It is no wonder that students in these universities have a more accurate imprinted awareness of the global sector compared to 211 students. Conversely, 211 universities lag behind their more elite counterparts and do not share the same global pushes from the central government. Even as these international strategies are probably present from the administration, the reality is that this group of domestic elite universities are not globally elite. Hence, considering these factors, these 211 respondents have overinflated their position in the global hierarchy as a reflection of their higher standing domestically.

China's rapidly changing system is ripe for further exploration in the global and local intersections of rankings. Technically, the 985 and 211 Projects ended in 2015, but their institutionalization is still clearly felt. The new elite-making strategy from the central government is called Double First Class, but the new plan has essentially repackaged the former projects into a singular plan, mostly keeping the old hierarchies intact. This new project, though, goes beyond targeting the entire university as world-class and adds an additional focus on creating world-class disciplines. I speculate that, with the increased and targeted investment, even more Chinese universities will rise in the global league tables. This rise should alter the conceptions in the local contextualization of global pressures from rankings. Potentially, once the Chinese system has global recognition as a whole, the institutions could turn to an inward focus on the domestic setting, similar to the sector in the US.

Another area that should be explored in this is with rankings portrayed in popular media. Seemingly, students only have surface level knowledge of rankings, despite the professed importance. If this is the case, then it is worth discovering how students

actually learn about rankings. My study only grazed this area of inquiry with the educational news viewing, ranking sources, and specific ranking independent variables. Students are getting information from these sources, but my prediction is that most sources lack substance in the reporting. A further examination of each of these items could unite higher education research with work being done on media portrayals of other sectors, such as ILSAs and policy references.

Finally, despite all of the focus on rankings and their effects on the sector, students in the sample mostly displayed a discount between actual rank scores and the assessments of their universities. This study provides hints at why this happens, such as local and individual refractions, but cannot fully explain the process. Perhaps, once a student actually finalizes the college-going decision process and joins a university, they move from an outsider, who relies on external evaluation, to an insider, who relies on more contextual of the institution. They gain hyper-local contextualization from all their experiences. Even an international student from across the world can begin to understand a university's culture once they have arrived. The ranking becomes less important, unlike all the other pull factors that brought the student in the first place, such as career and major. These changes and disconnects need to further be explored to help understand the alleviation of rankings as a force on higher education.

CHAPTER 7: Research Implications and the Future of University Rankings in China and the World

How did people compare domestic universities before 1983? How about before 2003 for international comparison? Today, it seems almost unimaginable not to have league tables in higher education, as they have become engrained into every sector across the world, and continue to proliferate deeper into sectors—there are even community college rankings now. Educators cannot escape these ranking metrics. Universities across the world must play the ranking game because students, parents, policymakers, and other stakeholders demand it information, audits, and accountability through simple commensuration.

The history of university rankings is relatively brief compared to how much impact these metrics have had across the world in such a short span of time. In 1983, *US News & World Report* first published its popular ranking issue that went on to dominate American higher education (Rust & Kim, 2015). Similar domestic university rankings have proliferated to other systems across the world. Educators and university stakeholders have decried these kinds of league tables for their adverse effects on education (see Bok, 2003; Ehrenberg, 2005; Volkwein & Gruing, 2005). Nonetheless, students, parents, and even policymakers are paying attention to institutional rank position, often using the league tables in decision-making (Bastedo and Bowman, 2009; Gong & Huybers, 2015; Yudkevich et al., 2015; Hazelkorn, 2015). Universities then have been forced to acquiesce to the narrow metrics established by the ranking agencies through a vicious cycle: Institutions or departments with missions that fall outside of the scope of the given schemes, such as

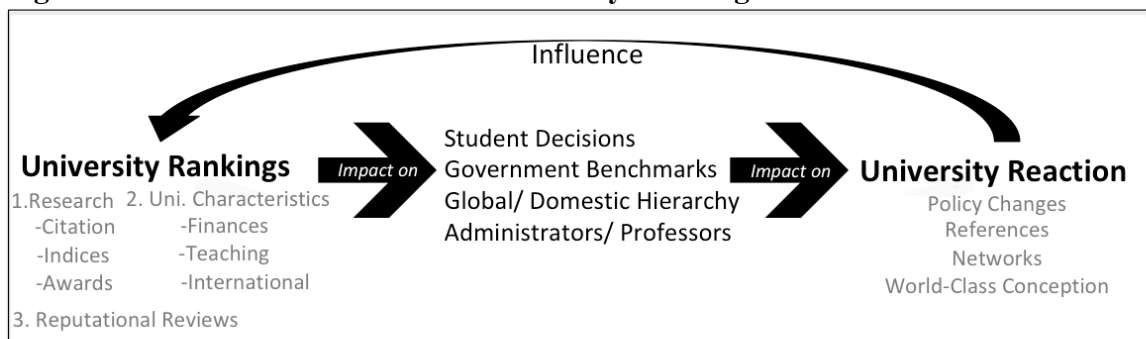
a focus on diversity over prestige, are penalized in metrics, leading to a drop in score. Stakeholders negatively react to any drop, forcing university leaders to alter policies. These pressures have led to a normalization, or isomorphism, of universities across the world, driving them to look more and more similar; though, as I have illustrated in this research, local characteristics still are important in this standardization process.

Two decades after the first *US News* ranking was released, the first relevant global ranking was founded by Shanghai Jiao Tong University in 2003. ARWU changed the world, and, soon after, other important global rankings popped up around in Europe and in the US, including the *THE* and QS ranking schemes. In 2007, global university rankings were still considered in their “infancy” stage (Salmi & Saroyan, 2007). Now, only a decade and a half later, there is a firmer grasp of the effects that these indicators are having on higher education; yet, in relative terms, this phenomenon is still an adolescent, not even twenty years old. Their imprint will still need to be monitored for generations to come. These global rankings carry all of the same critiques as their domestic counterparts, with strong standardization effects on universities worldwide (Hazelkorn, 2015; Marginson, 2017). International students, universities, and policymakers all look to these rankings for sense-making in a complex system of global higher education.

My study considered both global and local rankings in China through research that had been done on the topic within the country and in others, especially in the US. Through this review of literature, I established a cycle for rankings impact higher education globally, as displayed on *Fig. 7.1* and first introduced in Chapter 2. In the model, university ranking agencies define the criteria for the ranking metric, usually

comprised of research, university characteristics, and reviews. While in the US private sector ranking agencies have dominated higher education, this research explored beyond private industry to include governmental rankings. The actors impacted by rankings—students, governments, peer groups, and university employees—all have diverse reactions to these ranking metrics depending on the sector, but also must acquiesce to specific standards determined by the schemes. This research focused on the students and academics/ administrators in China, offering a viewpoint for balancing reverence for both domestic and global rankings. Finally, the universities themselves react as institutions to the listed set of actors, as these actions cycle back to the rankings measured through their various metrics, such as increased research capacity or numbers of international students.

Figure 7.1: Model for Reactions to University Rankings



Source: Synthesized by the author using ranking literature.

The Model for Reactions to University Rankings is useful and flexible for studying rankings throughout the world. While this study focused on elite Chinese universities, reactions to rankings can be understood through this theoretical model in any sector and level of higher education, as rankings and audit culture has permeated to the global elite research universities, down to local colleges. Like the differences found in this study between China compared the US or the West, there will be

variations depending on local contexts and domestic features. Yet, the model can be adapted and tested to further push the understanding of rankings throughout the world and in various settings. This study focused on China and, indeed, has revealed some differences from the more commonly studied societies in regards to rankings, namely the United States, where much of the theoretical groundwork was first laid.

Chinese Higher Education and Rankings

The founding of the ARWU launched the global ranking craze that has changed sectors across the world. This development in education is one of the few to have originated outside of the Western world, which is sometimes lost in research on this topic (see Shahjahan et al., 2017). In retrospect, it is logical that global ranking emerged in China before anywhere else because of specific set of convergences in the nation. First, Chinese society has held historical reverence for rankings and metrics through Confucian hierarchies, most notably in education through the Imperial Examinations system (Hofstede & Bond, 1988). Further, the use of indicators for decision-making has been a key aspect of CCP governance since the nation's founding in 1949 (Hayhoe, 1989; Lü, 2000). In more recent decades, the move towards technocratic pragmatism in the management of the country has only increased the importance of metrics and rankings in the nation; and, in the past few decades, Chinese leaders and policymakers have emphasized catching up to the West in science, research, and education (Lü, 2000.). Neoliberal ideas borrowed from the West were injected into Chinese society that already had a reverence for aspects of the audit culture (Mok and Lo, 2007). A common metric for measuring progress

compared to the US and other education powers was a logical step given the national history of rankings in Chinese culture, recent CCP strategy, and the convergence of aspects of neoliberalism.

In China, higher education institutions and actors are all highly attuned to rankings, especially at the elite level, but the attention to these metrics has only been magnified because of the mentioned reverence for indicators. Most universities appear to be making a push to move up in some sort of league table or hierarchy either domestically or globally, and in both for the top of the sector. In my study, I was able to travel throughout China to meet with a wide variety of actors in the higher education system, with a special focus on the elite end of Chinese higher education. Fostering elite universities has been especially of interest to the Chinese government in recent years and there is no doubt that these national elite institutions want to be elite globally, a desire that is backed by the government (Song, 2017). These top end universities have sought international recognition and world-class status, giving impetus for the study and its focus.

A key finding from the study uncovered the use of ranking metrics in the world-class university conception by decision-makers in Chinese universities. Through the interviews, it was revealed that rankings have provided a key metric for this status in China. Specifically, being in the top-100 can be seen as a type of credential for Chinese universities. These results mirror the top-25 impact that has been discovered with domestic rankings in the US (Bowman & Bastedo, 2009). Yet, the international higher education sector is even more difficult to comprehend than domestic sectors where actors have more familiarity. For instance, ascertaining which universities have

obtained world-class is almost impossible without clear metrics because there is no clear definition, which has opened the opportunity for rankings to provide commensurate criteria to decision-makers. Because there is no agreed upon definition, people have chosen the proxy of a ranking to make sense of the complex global higher education environment. These tools are seen as transparent and scientific, meaning they provide a perceived object value to measure world-class status similar to reports in the West (Porter, 1996). In Chinese universities, as international students, scholars, and partnerships increase and become the norm on campus, these metrics will only continue to be used by actors, such as administrators, professors, and leaders.

In another important finding in the research, these elite Chinese institutions in the study have displayed clear striving behaviors as described by O'Meara (2007), chasing university rankings in order to gain prestige. The striving model was originally conceived for the US domestic higher education sector and few studies have looked beyond the United States or considered striving from a global perspective. However, O'Meara's work remains a useful framework when considering Chinese universities' ambitions internationally and the world-class conception. There are some features that are germane to the Chinese case. Unlike in the US with the Ivy League, within the established Global Striving Model that I have adapted for the study of China, the only two institutions that mirror adorations and emulation the likes of Harvard or Yale are Tsinghua University and Peking University. Not concerned for domestic rankings but rather only global rankings, these two institutions have been recognized as the top of the sector, and are rapidly

gaining international acclaim. Despite both being in the C9 League, the other seven members of this grouping do not carry the same cachet in China as the Ivy League does in the US. Instead, these universities, along with the other 985 and 211 universities, still jockey for domestic rankings, while also coveting global rankings. Other regional institutions still strive in this model, but only for domestic ranking prestige. Likewise, global ambitions should be considered in this model when analyzing China, as international rankings like QS have clear impact on the sector. The international angle has also not been explored in regards to US universities, but it might simply be missing from inquiry into the American system, and future studies should further test these ambitions in the sector, especially for its elite universities.

With all the focus on institutional reaction to rankings, the intended audience for rankings can easily be lost: these rankings are largely made for students. If students were not attuned to rankings, universities would likely ignore these indicators. The reality is that students are highly invested in university league tables, craving information because of the steep investment and centrality of a college degree. In my study, I actually tested student knowledge of rankings, which is the first of its kind ever conducted. Somewhat surprisingly, there was a disconnect between what students knew and what the reality of the league tables, depending on the background of the student. Students from the very elite universities could understand their domestic position, but faltered on the test of their global position on the rankings. Hazelkorn (2015) has posited that students do not need to rely on their local rankings as much because they have more expertise in a sector through experience. Rightly, respondents already in the elite 985 or 211 universities could roughly understand their

position as being in the top-50 or top-100, but students in these non-elite institutions had no such marker and fared worse in this test. Conversely, while many Chinese universities have not been ranked globally, 985 and 211 university students wrongly thought that they had been, likely due to the global outlook that these universities have. Connecting with the research on global striving, 985 and 211 universities have been chasing both domestic and international prestige, while regional and local universities are not. The new Global Striving Model aligns with the results of my student study because the elite university students are getting global signals, even as their institutions are not ranking yet.

Another crucial aspect that emerged from the research was the reverence for domestic rankings and indicators from the government, which was a decisive consideration for all the actors in the study. The Chinese government has strict central control compared to the American sector. In the latter, a private business magazine has completely altered the sector, forcing institutions to change missions, hiring decisions, student admission policies, among others. There are some relations between these domestic Chinese patterns and to the global rankings, as universities are similarly chasing metrics related to these league table criteria. However, instead of private enterprise driving these decisions in China, it is the strong central government pressuring for change. Furthermore, the Ministry of Education's discipline ranking is directly tied to institutional funding as measured by a multitude of indicators, such as research output, awards, and reputation. Academics and staff are keenly aware of these incentives, which consume more of their institutional anxiety than private rankings. Even students in the elite government project

universities, which have dominated the MoE's ranking, were dramatically different compared to their counterparts in terms of ranking familiarity and knowledge. Additionally, the Chinese government pushed for lofty global ambitions, and some of the MoE's ranking indicators have aligned with metrics in international league tables. Even the new World Class 2.0 Project, which has replaced the 985 and 211 Projects, has incorporated ranking-like attributes, as universities can now fall down or rise to differentiated bands within the system. Importantly, the criteria measured by the international ranking systems do not run counter to the CCP's goals, as the two are in lockstep together: for instance, the intense focus on hard sciences and overall research output. Because of this symmetry, it is advantageous for Chinese universities to simultaneously push global ranking ambitions and domestic progress together because there are considerable overlaps and no contradictions right now.

Future Research on Rankings and Chinese Education

A New Era in China?

There has been an explicit push to catch up to the West, emphasizing a range of internationalization efforts (Mok & Chan, 2008). However, while international ranking pressures are quite fierce on the Chinese sector, there are also powerful localization refractions taking place. The Party and the central government still play a supreme role in policies and organization for education in China. The incentives for these universities are to strive through boosts in research capacity, recruitment of international students and faculty, and establishment of partnerships with the elite abroad, which directly and indirectly lead to rises in the rankings. Right now, the

CCP has pursued a plan of global eminence in higher education, with the goals mostly aligning to the ranking metrics, such as putting an emphasis on research output and pursuing international students. Perhaps, in the future, if the government turns inward, the pressures of global university rankings will be muted, while domestic counterparts amplified.

Potentially, as Chinese universities become leaders in the global hierarchy, the domestic sector could turn more inwards, shedding the catch-up mentality that has driven the sector since the 1980s. There are hints that this inward push could happen in the near future, making the system more similar to that of American universities, with less focus on internationalization. President Xi's recent declaration for more Chinese tradition in education and growing international censorship could signal that the sector is reaching a new era (Song, 2017), one that is not defined by globalism and instead by a new Chinese introspection. This kind of turn happened in Japan from the 1980s to the 1990s, as the higher education strengthened and solidified. China might be on the cusp of something similar. If that happens, there will be global reverberations. Chinese students will likely stop going abroad; the numbers of international students will level off and then dive. We will see a "peak" Chinese student population. It could already be happening now, as growth rates are already in decline.

I saw in China that institutions are already using the rankings, and with connections to policymakers globally, Chinese universities can already point to these signals as their recognition increases. Just as the literature suggests, stakeholders in other countries will use these metrics in decision-making, giving reverence to Chinese

universities as an example of “best practices” (Steiner-Khamsi & Stolpe, 2006). Chinese institutions will continue to move up the perceived international hierarchy because their policymakers are playing the ranking game, and the rest of the world is playing, too. The forces from the ranking metrics will help to standardize Chinese universities with others across the world, to societies and institutions looking to make a similar jump in global recognition. The rapid rise of Chinese universities is ripe for emulation, even if there are considerable critics in the West. Scholars should seriously consider how Chinese institutions are perceived in nations around the world, especially in the Global South and vis-à-vis the West, with a keen focus on the importance of rankings to these other sectors.

Issues of Academic Freedom

One issue that I did not address in this research was issues related to intellectual freedom. Challenges to this ideal have been ranging in recent years, as the Chinese government has clamped down on academic freedom at the same as the international rise chronicled in this research. Altbach (2016) provided critique of the intense Chinese governmental focus on international recognition, saying that the nation’s elite universities would eventually hit a glass ceiling due to an overbearing central government and a lack of academic freedom. He argued that moving up in the rankings would not provide Chinese institutions with true elite status because of these barriers with academic freedom. While this study did not have a focus of academic freedom, the issue did arise during some of the interviews and my travels in China and warrants further consideration.

In recent years, instead of simply copying Western institutions, Chinese universities have made concerted overtures to carve domestic identities, even while keeping global standards. In 2016, at the National Conference on Ideological and Political Work in Universities, Chinese President Xi Jinping declared that a shift in policy was needed in the creation of “world class universities” with “Chinese characteristics” (as cited in Song, 2017). Ngok and Guo (2008) noted that top Chinese scholars have argued that academic freedom can be part of this equation of global success with local “spirit” (p. 549). Though, Marginson (2014b) and Zha (2012) both contended that the concept of academic freedom has different meaning in China than in the West, the former connecting closer to national interests or support, rather than an independent critical inquiry of the latter. I heard similar echoes during my interviews and other interactions in China.

The moves to decrease Western influence have actually been part of a longer trend in Chinese policy to root out perceived subversive behavior. In a famous example pertaining to education, *Document Number Nine* was a high-level Party directive leaked in 2013 outlining “Western principles” that were seen as “anti-China,” as quoted by the *ChinaFile*. Subsequent moves by the CCP to curb liberal ideals counter to the Party line have been seen throughout the educational sector. For instance, some high profile controversies arose in 2017 when publishers of top academic journals, such as *Nature* and the *China Quarterly*, were pressured to censor their sites in China, according to multiple media reports from the *New York Times*. In perhaps no coincidence, *Nature* has been quite revered in the Chinese higher education sector (Tian et al., 2016). These kinds of cases show the clear consternation

between the expectations of academic freedom and Chinese higher education. I must note, though, that the Hanban, an affiliate of the Chinese government, funded my project and that there was never an inkling of academic intervention into my research. In fact, once I arrived in China, the Hanban simply gave me the funds and I almost never heard from them again. The operations of the Hanban have gotten considerable attention in recent years and have been attacked as a propaganda tool of the CCP. These critiques certainly should be further explored.

The issue of academic freedom in China warrants more research, especially as the government gains more influence across the world. In future studies, I would like to further explore how the strict rules and censorship impact international ambitions and research. Academics have already pointed to self-censorship as a strong controlling tool of the CCP. Businesses, publications, and educators often are aware of the off-limit issues and avoid them without heavy-handed involvement from the government. There is a possibility that this practice is happening at its universities, as academics publish in journals or choose international research partners. Future studies should attempt to understand how self-censorship has driven a focus on items that are politically harmless, possibly driving the sciences while squeezing the humanities or social sciences. The former being safe from political no-go areas while the latter is filled with theoretical landmines.

More Competition, More Pressure, More Cheating

With the Chinese penchant for indicators and ranking metrics, there have been accounts of deceptive practices in various historical Chinese eras, such as with the

impossible expectations of yields during the CCP's early days of central planning (Lü, 2000). In recent years, with the dual pressures of global ambitions and central government demands, there have reports of cheating and gaming the system throughout the higher education sector. Controversy has arisen from the retraction of published research from Chinese academics in highly selective journals, which had been completely fabricated (Lin, 2013; Cyranoski, 2017).

While my study did not yield any direct accounts of cheating due to pressures from rankings, there were reports of gaming the system in order to produce better results for the institution. For instance, I heard accounts of some bureaucratic maneuvers to move research from professors in a department with little chance of being ranked to a department that could be ranked; or asking foreign professors to publish in areas that they did not have expertise simply to boost department output. Because institutions know the ranking criteria, there is incentive to funnel resources or change policy to promote growth in these areas, which has been a key critique of ranking impact. What the rankings measure becomes important, while everything else falls to the wayside, such as community impact or diversity missions (see Espeland and Sauder, 2007). This gaming of the numbers is not considered cheating—though, it is chided by academics—it does raise concern that pressures are so extreme that they foster more scrupulous behaviors.

The incentives to cheat in the rankings are numerous and the practice is difficult to catch because universities themselves report their numbers to the agencies, even in the case of the Ministry ranking. Yet, gaming the system or cheating the rankings is not just a Chinese problem; indeed, the United States has had its own issues in

fraudulent practices related to league tables, most recently with falsifying numbers by Temple University to gain a boost to its MBA's ranking, according to reporting from *Inside Higher Ed*. The Chinese system, though, brings extra burdens that could result in more pressures to cheat. Publishing research in English journals that are indexed in the indices counted by the rankings is a difficult proposition for many academics. Yet, the so-called SSCI Syndrome is rampant among Chinese universities, with steep rewards for publishing in these journals. It is easy to see how a scholar in China could fall behind if they do not have the language skills to publish internationally. Likewise, the MoE's discipline ranking is critical to many top departments and institutions because the results are tied to funding. An ideal ranking allows departments to stay on top or move up in the national hierarchy through expansion of resources. The rich get richer in this reward structure. Furthermore, the new World Class 2.0 should only exacerbate the pressures, as the project contains a mechanism for universities to fall out or move up in the various bands, as opposed to the 985 and 221 Projects that were static. The prospects of falling out or joining the elite are only going to increase burdens placed upon academics to produce and for administrators to find those that can. Within this environment, I predict that there will only be even more cheating scandals uncovered in the coming decade.

Researchers should keep a keen eye on how faculty and administrators survive within a competitive environment, including to matters related to mental health, predatory journals, and academic poaching, which have not been fully explored in literature related to China. Campbell and O'Meara's (2013) Faculty Perspective Framework, first discussed in Chapter 2, provides a model that could be expanded to

the case of China. With the dual pressures pushing from local and global forces, actors within the sector could be at risk for issues related to mental health. I heard many young academics and doctoral students during my fieldwork talk of dread and depression that stems from the pressures in Chinese higher education. Similarly, with the *publish or perish* mantra overtaking the academy in China and the world, predatory journals have begun to prey on young scholars and non-native English speakers with promises of metrics and indices. These low-quality journals mask themselves as legitimate operations, but extort money from potential victims in order to publish a paper. I predict that this problem will only increase in China and in other areas in which rankings are given so much credence. Institutionally, poaching of productive and promising academic faculty by the top universities will also increase, as funding becomes more and more tied to competition. While doing field research, I heard about this practice already, but I could not work it into my interviews given the scope and focus of the project. Further, the Chinese government has even created some policies to recruit top-level talent from American and European universities known as the Thousand Talents Plan (Kim & Allen, 2018). A central goal for this plan is to recruit Chinese academics that left China to get an education abroad and who have become successful in their fields. The recruits receive significant employment packages and other bonuses. Both international and domestic poaching should further be explored in relations to university rankings, as the latter provides an incentive to practice the former without any recourse.

Connecting University Rankings to ILSAs

The findings in this research connect higher education and the discourse on ILSAs for lower levels of education. International assessments have been powerful policy diffusion agents for policymakers around the world in recent decades (Waldow et al., 2014). Media and other stakeholders in societies worldwide have scandalized the results, creating a kind of panic around the education system. Yet, oftentimes, the nuances of PISA scores or other tests have been lost in the reporting, which has caused the public to misunderstand the meaning or ranking for their nation (Pizmony-Levy, 2017). Likewise, in my findings from the student survey data, there was considerable misinterpretation of university ranking knowledge. In fact, students who claimed to be the most familiar actually fared worse when asked their global rank score. Given the intense focus on university rankings, understanding the mismatch of information by students is imperative. Universities could potentially use the lack of ranking knowledge by stakeholders to lessen the normative effects from these outside forces.

These impacts from university rankings should be considered alongside international assessments, which have been well studied and theorized. Perhaps, these similar forces have not fully been considered together because ILSAs are both more granular and national, while university league tables only provide basic institutional data. Regardless, they both have similar usages through the continued trend in policy by numbers, inculcating local educators, policymakers, and other stakeholders.

To further bridge research on international testing and university rankings, a media analysis of ranking coverage should be conducted. In this kind of data

collection, articles relating to university or higher educational specific themes should be tracked across time, which can be done through the China Core Newspapers Full-text Database. Each university that has been mentioned should be coded. The search through the database will allow for the creation of a detailed social network map of connected peer institutions via article mentions throughout a given timeframe. It will be important to gather a sample of articles from before and after the establishment of global university rankings to compare the effects that the metrics have had. With a dataset of this nature, scandalization or glorification can be identified, along with reference societies or universities, similar to studies related to PISA media discourse (Waldow et al., 2014).

Media analyses on university rankings do not have to be limited to Chinese news outlets. There has been little research on this kind of exploration in the American sector. In fact, reversing the analysis to US media could help to provide understanding on how Chinese institutions are perceived in the West. I suspect that in recent years, Chinese universities have been pegged as innovators in high tech science, such as artificial intelligence and robotics. An eventual ranking shock for American higher education via Chinese universities is something that could foreseeably happen in the future. *A Nation at Risk* provided that shock to the states in the 1980s, while similar effects have been seen with PISA in recent years. Eventually, a similar shock could come from university rankings.

Conclusion

University rankings have only gotten more important on both the local and global sector in recent years. While there are strong standardizations from these metrics, every university in the world does not interpret these forces in the exact same manner. Researchers must be ready to understand how these forces are being localized by institutions, faculty members, and students in order to recognize the variations taking place. Likewise, distinctive societies and their policymakers will react in different ways. In my study, the Chinese government has co-opted university rankings into the elite end of the sector with high profile investment projects. Because of these efforts, Chinese universities have been rising in global rankings in recent years, and will continue to do so. In other societies, the focus might be on domestic or other types of rankings, which should result in divergent behaviors or characteristics.

Many academics and educators seem to agree that the intense focus on league tables is detrimental to education. Even in China, the faculty mostly abhorred the pressures from rankings, such as increased publications in English journals, despite governmental and institutional efforts. If universities want to loosen the hold from ranking agencies, then they must put up a bigger fight. Most global ranking agencies have co-opted universities to provide data, except for ARWU, which gathers public data. It will take a massive combined alliance of elite universities to opt out of helping the ranking agencies. For instance, a band between the Ivy League, Russell Group, the U15 in Canada, and elite Chinese universities to reject cooperation with agencies would provide a powerful normative effect across the world. If these elite groupings abandoned rankings, then other systems around the world would follow.

Unfortunately, I do not believe the above strategy is realistic. Universities are stuck in a type of prisoner's dilemma with rankings. Even if some of the best opt out, others would likely stay in. Policymakers and university leaders would not simply agree with the rejection of these metrics. Likewise, both global and local strivers would look to take advantage in order to gain boosts in prestige. In the case of China, even as many academics begrudge global rankings, they have a profound reverence for the domestic government ranking. The government, too, seems to have co-opted rankings as a way to court international prestige, at least for now. Furthermore, students would find other outlets for rankings, such as a recent league table produced from the career social network LinkedIn. The tech giant wholly owns all if the data it uses to produce its ranking. If universities killed *US News* or QS, another scheme would likely rise to fill the void, such as LinkedIn or other social media platforms. For the foreseeable future, universities are stuck with university rankings. Thus, we must continue to measure their diverse effects onto universities, stakeholders, and the public of different societies.

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APPENDIX A: IRB Material

Informed Consent for Interviews

Principal Investigator: Ryan M Allen, Teachers College, Columbia University,
rma2139@TC.Columbia.edu

INTRODUCTION TO THE RESEARCH:

You are invited to participate in a research study on Chinese universities and university rankings. You are an academic or administrator at a Chinese university and qualify as a perspective participant for this research. You will be one of 60 participants nationwide who will be participating in this interview. I ask that you read this form before agreeing to be in the study.

The study is being conducted by Ryan M. Allen, Doctoral Fellow in the Department of International and Comparative Education at Teachers College, Columbia University. I have been invited by the Hanban to research in China under the Confucius China Studies Fellowship.

The interview consists of five sections. In the first, I will ask about general background information about you. The second section explores your general experiences with Chinese universities and rankings. In the third section, I will ask specifically about your perceptions of universities abroad. The fourth section is about China's higher education investment policies. The last section will allow for any general comments you may have about university rankings and Chinese universities. Please remember all responses are confidential.

WHY IS THIS STUDY BEING DONE?

The purpose of this study is to collect data from individuals who are students, faculty, or staff at Chinese universities in order to analyze the effects of university rankings. The study will allow me to better understand the Chinese higher educational experience and to compare it with those in the West, especially in the United States.

WHAT WILL I BE ASKED TO DO IF I AGREE TO TAKE PART IN THIS STUDY?

If you decide to participate, you will be interviewed by myself, the principal investigator. During the interview you will be asked to discuss your experience at your university with university rankings. This interview will be audio-recorded. The audio-recording will be deleted upon transcription of the interview. If you do not wish to be audio-recorded, you will/will not be able to participate. The interview will take approximately one hour. You will be given a pseudonym or false name/de-identified code in order to keep your identity confidential.

RISKS AND BENEFITS:

Participation is voluntary, poses no risks and you may stop at any time. You will receive no direct benefit from participating in this study. You should feel free to skip any questions that do not apply to you or that you are not comfortable answering.

The risk and possible benefits associated with this study are like those in your daily life.

PAYMENTS:

You will not be paid for participating in the study.

DATA STORAGE TO PROTECT CONFIDENTIALITY:

I will audio record the interviews but will take specific measures to ensure confidentiality. First, only pseudonyms for participants will be used when transcribing interview recordings and notes. I will keep a list of names linking each participant to his/her pseudonym, and will keep this list in a password-protected folder on my computer. The second measure involves audio storage. All audio will be recorded on a laptop using the QuickTime app, and then stored on the principal investigator's computer in a password-protected folder. Third, I plan to delete all audio recorded and collected in connection with the project once the project has been completed.

TIME INVOLVEMENT:

Your participation will take approximately 60 minutes, depending on your answers. You may also end the interview early if you feel the need to do so.

HOW WILL RESULTS BE USED:

I cannot anonymously interview participants in this study, as I need to be face-to-face. Thus, I will use common research techniques to mask the exact identity of any participants by giving them pseudonyms and vague descriptions within the actual reporting of the research. For example, I will say a "professor in the sciences at a large 985 university in Beijing" instead of using an exact name/ university position.

If you have any questions about the questionnaire, you may contact me:

- Ryan M. Allen, at rma2138@tc.columbia.edu.

If at any time you have comments, or concerns regarding the conduct of the research or questions about my rights as a research subject, you should contact the Teachers College, Columbia University Institutional Review Board/IRB. The phone number for the IRB is +01 (212) 678-4105. Or, you can write to the IRB at Teachers College, Columbia University, 525 W. 120th Street, New York, NY, 10027, Box 151.

CONSENT FOR AUDIO AND OR VIDEO RECORDING

Audio recording is part of this research study. You can choose whether to give permission to be recorded. If you decide that you don't wish to be recorded you will not be able to participate in this research study.

_____ I give my consent to be recorded _____
Signature

CONSENT FOR FUTURE CONTACT

The investigator may wish to contact you in the future. Please initial the appropriate statements to indicate whether or not you give permission for future contact for this study.

I give permission to be contacted in the future for information relating to this study:

Yes _____
Initial

PARTICIPANT’S RIGHTS

- I have read and discussed the informed consent with the researcher. I have had ample opportunity to ask questions about the purposes, procedures, risks and benefits regarding this research study.
- I understand that my participation is voluntary. I may refuse to participate or withdraw participation at any time without penalty.
- The researcher may withdraw me from the research at his or her professional discretion if there is a conflict on interest or distressing situation.
- If, during the course of the study, significant new information that has been developed becomes available which may relate to my willingness to continue my participation, the investigator will provide this information to me.
- Any information derived from the research study that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- I should receive a copy of the Informed Consent document.

My signature means that I agree to participate in this study

Print name: _____ Date:

Signature: _____

Survey Informed Consent

Principal Investigator: Ryan M Allen, Teachers College, Columbia University,
rma2139@TC.Columbia.edu

INTRODUCTION TO THE RESEARCH:

You are invited to participate in a research study on Chinese universities and university rankings. You are a students, faculty, or staff at a Chinese university and qualify as a perspective participant for this research. You will be one of approximately 1500 participants nationwide who will be participating in this survey. I ask that you read this form before agreeing to be in the study.

The study is being conducted by Ryan M. Allen, Doctoral Fellow in the Department of International and Comparative Education at Teachers College, Columbia University. I have been invited by the Hanban to research in China under the Confucius China Studies Fellowship.

The survey consists of four sections. The first asks for general background information about you. The second section explores your general experiences with Chinese universities and rankings. The third section asks specifically about your perceptions of universities abroad. The last section asks questions about your future plans and for other comments. Please remember all responses are anonymous.

WHY IS THIS STUDY BEING DONE?

The purpose of this study is to collect data from individuals who are students, faculty, or staff at Chinese universities in order to analyze the effects of university rankings. The study will allow me to better understand the Chinese higher educational experience and to compare it with those in the West, especially in the United States.

WHAT WILL I BE ASKED TO DO IF I AGREE TO TAKE PART IN THIS STUDY?

If you agree to participate in the study, you will follow a secure link to an online survey that will take approximately 10 minutes to complete.

RISKS AND BENEFITS:

Participation is voluntary, poses no risks and you may stop at any time. You will receive no direct benefit from participating in this study. You should feel free to skip any questions that do not apply to you or that you are not comfortable answering.

The risk and possible benefits associated with this study are like those in your daily life.

PAYMENTS:

You will not be paid for participating in the study. But you will have the option to be entered into a lottery for a gift card with a value of 20 RMB.

DATA STORAGE TO PROTECT CONFIDENTIALITY:

The questionnaire is completely anonymous. Because your responses are confidential, I hope that you will be comfortable being completely honest when answering our questions. Data collected in this survey will be stored in password-protected folders on my personal computer. In all project publications and presentations that result from this research, we will not identify any participants.

TIME INVOLVEMENT:

Your participation will take approximately 10 minutes, depending on your answers.

HOW WILL RESULTS BE USED:

The results will be tallied into a database of all respondents. I will use the database to look for trends and opinions in the Chinese higher education sector. Since the survey is completely anonymous, in the final written report, there will be no names or any other identifying information that could be used to pinpoint who participated in the survey.

If you have any questions about the questionnaire, you may contact me:

- Ryan M. Allen, at rma2138@tc.columbia.edu.

If at any time you have comments, or concerns regarding the conduct of the research or questions about your rights as a research subject, you should contact the Teachers College, Columbia University Institutional Review Board/IRB. The phone number for the IRB is +01 (212) 678-4105. Or, you can write to the IRB at Teachers College, Columbia University, 525 W. 120th Street, New York, NY, 10027, Box 151.

PARTICIPANT'S RIGHTS

- I have read and discussed the informed consent with the researcher. I have had ample opportunity to ask questions about the purposes, procedures, risks and benefits regarding this research study.
- I understand that my participation is voluntary. I may refuse to participate or withdraw participation at any time without penalty.
- The researcher may withdraw me from the research at his or her professional discretion if there is a conflict of interest or distressing situation.
- If, during the course of the study, significant new information that has been developed becomes available which may relate to my willingness to continue my participation, the investigator will provide this information to me.
- Any information derived from the research study that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- I should receive a copy of the Informed Consent document.

CONSENT BOX

By checking the box, I acknowledge that I have read the information statement describing the research on Chinese higher education.

By checking the box, I acknowledge that I am willing to participate in this survey.

APPENDIX B: Research Sampling Instruments

Interview Protocol Questions

Background:

1. Tell me about your education / training / background?
2. Please tell me about your current research or job duties?

Conception:

1. Which university rankings are you familiar with?
 - a. Are these highly influential in China?
 - b. Which sectors are concerned with rankings?
2. How do university rankings affect your research?
3. How do university rankings affect your teaching?
4. How do university rankings affect your administrative activities or other duties?
 - a. What kind of discussions about the rankings have you had with your colleagues, administration, or other officials?
 - b. Does the administration have a certain goal for rankings?
5. Do you think students are concerned about rankings?
6. What are the biggest problems with the rankings?

World Class and Reference Groups:

1. How do you define a “world-class university”?
 - a. Is there a certain rank that a university must attain to be world class?
2. Have you ever worked on a joint-project with another university?
 - a. Did the institution’s ranking factor into the project?
3. Is there any university globally that you attempt to emulate?
4. Do you look at how other nations’ universities are doing in the rankings?
 - a. How about just China in general?
 - b. Which institutions around the world are your university’s peers?

Chinese Elite-Making:

1. Can you tell me about the 985/211 projects?
 - a. Have they been a success?
 - b. Do rankings matter for these intuitions?
2. How will the change in the projects change things?
3. Can you tell me about the C9 League?
 - a. Does it work similar to the US Ivy League?
4. Have you seen any other coalitions being created by universities?
5. Will the new World Class 2.0 project be different than the 985/211 projects?

What if question

1. What happens on the day the rankings are released?
2. What would happen if your institution had a large gain in the rankings?

Other:

3. Is there anything else you think I should know about university rankings at your institution or in China?

Snowball:

4. Are there certain individuals you recommend I should speak to about this?

Survey Instrument Questions

Instructions:

- This interview is geared towards students at universities in China.
- Students will be asked to complete the survey via Qualtrics
- It should only take around 10 minutes.

Section One: Demographics:

1. What is your gender?

- a. Man
- b. Woman
- c. Transgender
- d. Other (ENTER TEXT)
- e. I prefer not to answer

2. Which university do you attend?

[fill-in the blank]

3. What is your current student status?

1. Undergraduate 1st year
2. Undergraduate 2nd year
3. Undergraduate 3rd year
4. Undergraduate 4th year
- 5e. Graduate Student MA
- 6f. Graduate Student PHD
- 7g. Visiting student/ Study Abroad
- 8h. other _____

4. What is your major?

[fill-in the blank]

5. Which is your home province and city?

[List of all Chinese provinces]

6. What is the highest educational level that either of your parents has attained?

- a. No formal education
- b. Less than high school
- c. High school completed
- d. Some university/college
- e. University/college completed
- f. Post-graduate degree completed

7. How often do you follow stories in the newspaper, radio, TV about what is happening in education in this country?

- a. Never
- b. Rarely

- c. Sometimes
- d. Often
- e. Don't know

Section One: Experiences with Rankings

1. How familiar are you with university rankings?

- a. Very familiar
- b. Somewhat familiar
- c. Not so familiar
- d. Not familiar at all
- e. Don't know

1.b If answered 'a' or 'b', please mark each university ranking that you are familiar with

- a. Academic Ranking of World Universities
- b. Leiden Ranking
- c. Times Higher Education World University Rankings
- d. QS World University Rankings
- e. SCImago Institutions Rankings
- f. U-Multirank
- g. U.S. News & World Report
- h. Chinese University Alumni Association (CUAA)
- i. China Education Center Lt.
- j. Webometrics

2. Where do you get your information on university rankings? (mark all that apply)

- a. Media
- b. university materials
- c. friends/ classmates
- d. parents/ relatives
- e. teachers/ professors
- f. don't know
- g. don't have any

2.b. If marked media, please list media your often see information about the rankings?

[Fill in the blank]

3. What do you think is the approximate rank of your university globally?

- a. Top-25
- b. top-100
- c. top-500
- d. top-1000
- e. unranked
- f. I don't know

4. What do you think is the approximate rank of your university within China?

- a. Top-3

- b. top-10
- c. top-25
- d. top-100
- e. unranked
- f. I don't know

5. How important were the following factors into your university selection decision?

| | Not at all important | Not very important | Somewhat important | Very important | Unsure/ don't know |
|---|----------------------|--------------------|--------------------|----------------|--------------------|
| a. Quality of the professors | 1 | 2 | 3 | 4 | 5 |
| b. University ranking | 1 | 2 | 3 | 4 | 5 |
| c. 985 or 211 status | 1 | 2 | 3 | 4 | 5 |
| d. University location | 1 | 2 | 3 | 4 | 5 |
| e. University amenities | 1 | 2 | 3 | 4 | 5 |
| f. Job prospects after graduation. | 1 | 2 | 3 | 4 | 5 |
| g. Had specific major you were interested in. | 1 | 2 | 3 | 4 | 5 |
| h. Other solution (ENTER TEXT) | 1 | 2 | 3 | 4 | 5 |

Section Three: World Class Conceptions

1. The best universities in China are comparable to the best universities in world?

- a. Strongly agree
- b. Somewhat agree
- c. Nether agree nor disagree
- d. Somewhat disagree
- e. Strongly disagree

2. If you want the best education, it's important to go to the top ranked universities.

- a. Strongly agree
- b. Somewhat agree
- c. Nether agree nor disagree
- d. Somewhat disagree
- e. Strongly disagree

3. China has some of the best universities in Asia?

- a. Strongly agree
- b. Somewhat agree

- c. Nether agree nor disagree
- d. Somewhat disagree
- e. Strongly disagree

4. Which non-Chinese university is most comparable to your current university?
[fill-in the blank]

Future Plans

1. Do you plan on going abroad to study after graduation?

- a. Yes,
- b. no
- c. maybe
- d. I don't know

2. (If yes or maybe) How important are the following factors into your university selection decision abroad?

| | Not at all important | Not very important | Somewhat important | Very important | Unsure/ don't know |
|--|----------------------|--------------------|--------------------|----------------|--------------------|
| a. Located in the West | 1 | 2 | 3 | 4 | 5 |
| b. University ranking | 1 | 2 | 3 | 4 | 5 |
| c. Reputation in China | 1 | 2 | 3 | 4 | 5 |
| d. Quality of professors | 1 | 2 | 3 | 4 | 5 |
| e. University amenities | 1 | 2 | 3 | 4 | 5 |
| f. Has many Chinese students | 1 | 2 | 3 | 4 | 5 |
| g. You have a connection at the university | 1 | 2 | 3 | 4 | 5 |
| h. Affordable tuition | 1 | 2 | 3 | 4 | 5 |
| i. Other solution (ENTER TEXT) | 1 | 2 | 3 | 4 | 5 |