

# Exploring the LIS Academic Labor Market in China: A Supply and Demand Analysis

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**abstract:** This paper presents an empirical analysis of the supply-and-demand dynamics in the library and information science (LIS) academic market in China. This analysis is based on a broad concept of academic market and large-scale labor-market data. The authors find a shift in faculty positions, in which traditional positions in universities and research institutions have been replaced with relatively new, temporary academic positions, such as contract-based positions, research librarians, and army lecturers. In addition, they speculate that institutional prestige contributes to a structural mismatch in the Chinese LIS market. Confronted with a changing academic job market, LIS institutions and associations need to strengthen the training of doctoral students' transferable skills to improve their entry into the academic market. To the best of our knowledge, this study is the first attempt to investigate the supply and demand of the LIS academic market in China, which can provide a reference for the global LIS academic community.

## Introduction

In September 2022, the Academic Degrees Committee of the State Council of the People's Republic of China released the latest version of its list of disciplines and subjects of China's higher education institutions. In it, the discipline of "library and information science (LIS)" was renamed "information resource management." In the context of the change of name of the LIS discipline, this study attempts to reexamine the academic labor market of LIS in China.<sup>1</sup>

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period of rapid change and uncertainty. Among all levels of education in LIS, the only one that maintains a steady expansion is the doctoral level. Doctoral degree-granting units in LIS increased from 6 in 2016 to 17 in 2021.<sup>2</sup> However, fresh PhD graduates have confronted a saturated job market. Many universities prefer to recruit holders of prestigious overseas degrees in information science. Because of this, scholars have become increasingly concerned about the employment of Chinese-educated LIS doctoral graduates. Employment sectors and industries that employ PhD holders in LIS have gradually spread from academic research institutions to include various other libraries, public institutions, state-owned enterprises, and even the Chinese People's Liberation Army (PLA) civilian sectors.

This research adopted a broad concept of the academic labor market and focused on the doctoral candidates in LIS who graduated between 2016 and 2020. This paper also analyzes and discusses the supply and demand dynamics in the LIS job market from macro and micro perspectives. By sorting out the development of the LIS academic market in China, our aim is to provide a career reference for the global LIS academic community.

This research aimed to find the answers to the following research questions (RQs):

RQ1: What is the current state of the LIS academic labor market in China?

RQ2: What kind of trends can be discerned from previous annual job advertisements for LIS academic positions?

RQ3: How does the level of institutional prestige affect the PhD exchange networks?

### Academic Labor Market Theory

Systematic research on the academic labor market originated in the United States in the middle of the twentieth century. David Brown argued that the academic labor market is like any other labor market: it is an allocation mechanism, and its study is a useful concept for perfecting the distributive process.<sup>3</sup> The most important characteristic of the academic labor market is that it is segmented, and the hierarchical structure has received attention since the early studies of segmentation theory.<sup>4</sup> The job-matching process in the academic market results from the hierarchy of supply and demand. Studies have shown that the pursuit of prestige explains the choices of both parties in the academic market.<sup>5</sup>

Considering the special institutional culture and administration-led academic systems in China, this study included the doctoral graduates who were willing to work in an academic area and were qualified for academic positions. Table 1 shows the categories of academic positions in the field of LIS.

Western scholars may hold views on the categorization of academic positions that differ from the views in China. For example, Katina Rogers stated that librarians and archivists with doctoral degrees are full-time, nonteaching, nontenure faculty members.<sup>6</sup> She defined them as "the alt-ac [alternative academic] tracks." However, the academic markets in China are different. Higher education in China was influenced by the Soviet academic system for a long time. The most commonly adopted progression in China's higher education institutions goes from teaching assistant to lecturer to associate profes-



**Table 1.**  
Broad categories of employment in LIS in China

Type of institution	Position
Colleges and universities	Lecturer / associate professor Contract-based post Research librarian
Public institution	Assistant research fellow in academic institution Lecturer in Party School of Communist Party of China (CPC) Research librarian in public libraries
Civilian personnel in the People's Liberation Army	Lecturer / assistant research fellow
State-owned enterprise	Positions in research and development (R&D)

sor to professor. Once a college graduate is hired as a faculty member or researcher by an academic institution, he or she will obtain an “officially budgeted post (编制, bianzhi),” which means a guaranteed lifetime job. Therefore, this research adopts a broader concept of the academic market based on the national conditions of China.

### Literature Review

Studying supply and demand in the academic job market has become part of the regular work of many professional associations in the United States. They annually publish reports on the scale of doctoral programs, the demand for PhDs, and the employment situation. Michael Basil and Debra Basil analyzed the shrinkage of faculty in the field of marketing in Canada, where there is a shortage of PhDs and a mismatch between candidates' research interests and job vacancies.<sup>7</sup> Sarah Jane Smith and Vivien Urquhart investigated job vacancies and retirement data. They demonstrated an imbalance between supply and demand for faculty in accounting and finance in the United Kingdom from 2000 to 2012.<sup>8</sup> In addition, some studies suggest that the configuration of jobs and training in the academic market presents a “downward matching” pattern; this means that most doctoral graduates are employed in universities one level lower than the ones from which they graduated.<sup>9</sup>

Research on the academic market in the LIS field has emerged in recent years. The Association for Information Science and Technology (ASIS&T) held forums with the theme of the academic LIS job market at its annual conferences in 2011, 2012, 2013, 2015, 2017, and 2020. University faculty, including professors, interacted with doctoral students to discuss such topics as traditional academic market opportunities, the alt-ac track, and postdoctoral positions.<sup>10</sup> In a string of studies in LIS, scholars mainly conducted

analyses on résumés with a focus on the mobility of faculty. Yongjun Zhu, Erjia Yan, and Min Song used the 40-year (1975 to 2015) recruitment data sets of 642 LIS faculty from 44 universities in the United States according to gender, title, country, graduate university, and research field.<sup>11</sup> Zhiya Zuo, Kang Zhao, and Chaoqun Ni analyzed the data from résumés of graduates of 27 iSchools in the United States and conducted an empirical study on the employment model of iSchools faculty.<sup>12</sup> Vera Hillebrand and Elke Greifeneder specifically studied the pattern of LIS talent mobility and revealed two surprising trends: American LIS researchers rarely left their local area, while researchers from Asia and Europe showed a high rate of moving to North America.<sup>13</sup> Lou Wen and Chen Yuchen analyzed the mobility directions of 1,123 teachers who graduated from 56 iSchools and their employment institutions. They found that the frequency of iSchools' faculty flow gradually decreased from North America to Asia-Pacific and then to Europe.<sup>14</sup>

Although many existing studies have discussed the supply and demand of the LIS academic market, this research can be further expanded in at least three dimensions: (1) from the diachronic view, the existing research is mainly based on the cross-sectional data of a specific year, so it lacks the trend analysis of a study based on multiyear data; (2) from the synchronic view, previous research has generally dwelled on the description of the status quo and analysis of characteristics, or even discursive research without data; (3) from the perspective of research objects, most of the existing researchers use the whole university as the focus and do not delve into the disciplinary level to explore the employment situation of LIS doctoral graduates.

### Data and Methods

Data accuracy is particularly important to precisely assess the supply and demand situation in the LIS academic market. Nevertheless, there is currently no annual statistical report in China similar to that of the Association for Library and Information Science Education (ALISE) Statistical Report and Database. Therefore, manual construction of primary data is required.

#### Supply Side: The Number of Fresh PhD Graduates

Since the number of enrollments is not equal to the number of graduates, the authors determined the number of graduates by searching for dissertations. However, there is no complete national database of dissertations and theses collected from all the universities in China, so they accessed the dissertation database of each LIS department through multiple channels and divided the statistics into four categories: "library science," "information science," "archival science," and "library and information science," according to the areas studied. Dissertations from the period 2016 to 2020 were selected. In fact, these four categories accurately represent the enrollment structure of LIS multilevel education programs in China. In general, library science, information science, and archival science are considered subdisciplines within the broad field of library and information science (LIS). However, the Chinese Ministry of Education has recently decreased its usage of the term *subdisciplines*. Additionally, the LIS first-level discipline was officially renamed as *information resource management* in January 2023.

## Demand Side: The Number of Academic Jobs

This is the core part of this research, which consists of three steps. The first step is to create the major corpus of jobs. Public official recruitment in China has its own website, including four categories of civil servants: selected students, public institutions, People's Liberation Army civilian personnel, and state-owned enterprises. Table 2 shows data from 2016 to 2020 about organizations recruiting LIS graduates.

The second step is to supplement the corpus with specialized LIS recruitment data. A Python script was used to traverse the "college job-hunting website" (gaoxiaojob.com) and the public account in WeChat called "lis\_jobs." Supplementing the information about emerging positions is particularly important; some, such as e-government research in the Party School of Communist Party of China, do not appear in the public job announcements.

The third step is to use "gray data" to improve the quality of corpus. This step includes searching the proposed employment lists of more than 120 LIS departments, as well as the list of 755 LIS National Social Science Fund projects (<http://fz.people.com.cn/skygb/sk/index.php/Index/seach>) over the past five years. Finally, the job descriptions are extracted and normalized to form a complete corpus. The data collection spans five years, from 2016 to 2020, with nearly 300 data sets available for analysis, from which a total of 276 LIS academic institutions were validated.

## Results

### Analysis of the Supply of the Academic Market for LIS

In December 2021, there were 17 LIS doctoral-granting institutions in China, as shown in Table 3. Eleven departments had graduates in the five previous years. Six additional departments had been officially approved for LIS doctoral education but had not yet produced graduates. The PLA National Defence University enrolls only military personnel and thus is not included in this survey.

According to the authors' statistics, there were 514 LIS PhD graduates between 2016 and 2020 (see Figure 1). The top three departments are the National Science Library of the Chinese Academy of Sciences in Beijing, the School of Information Management at Nanjing University in Jiangsu, and the School of Information Management at Wuhan University in Hubei. They each have around 90 graduates. China produces an average of 103 LIS PhD graduates per year. Overall, the annual number of new LIS doctorates has remained stable or grown slowly over the last five years (see Figure 2).

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There is an obvious trend in the structure of disciplinary categories in LIS PhD programs from 2016 to 2020 (shown in Figure 3). Since the State Council's Degrees Committee reformed the secondary discipline establishment policy, universities have more autonomy to establish emerging disciplines, such as the creation of a PhD program in digital humanities at Renmin University of China in Beijing. Specifically, the proportion of graduates of LIS first-level disciplines grew from 31.3 percent in 2016 to 42.3 percent

**Table 2.**  
Organizations recruiting LIS graduates in China

Level	Civil servants	Public institution	Selected graduates	Civilian personnel	State-owned enterprises
National	National civil servant examination	Institutions affiliated with the central government	Not publicly available	People's Liberation Army national nonmilitary personnel examination	State-owned key enterprises ( $n = 96$ )
Provincial	Provincial civil servant examinations ( $n = 31$ )	Universities directly under the Ministry of Education ( $n = 76$ ) Provincial public institutions examinations ( $n = 31$ )	Organization Department of Communist Party of China Provincial Committee ( $n = 31$ )		Local state-owned enterprises

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**Table 3.**  
Overview of LIS doctoral programs in China

Name of department	Library science	Information science	Archival science for doctoral degree granting	Date of approval	Location
Department of Information Management, Peking University (PKU-IM)	√	√	√	2000	Beijing
School of Information Management, Wuhan University (WHU-SIM)	√	√	√	2000	Hubei
School of Information Resource Management, Renmin University of China (RUC-SIRM)	√	√	V	2006	Beijing
School of Information Management, Nanjing University (NJU-SIM)		√		2006	Jiangsu
People's Liberation Army National Defence University (NDU-PLA)		√		2010	-
School of Management, Jilin University (JLU-SOM)		√		2010	Jilin

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Name of department	Library science	Information science	Archival science for doctoral degree granting	Date of approval	Location
National Science Library, Chinese Academy of Sciences (CAS-NSL)	√	√	-	2010	Beijing
Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences (CAS-NIEER)	-	√	-	2016	Gansu
College of Information Science and Technology, Nanjing Agricultural University (NAU-IM)		√ LIS first-level discipline		2019	Jiangsu
School of Management, Hebei University (HBU-SOM)		√ LIS first-level discipline		2019	Hebei
School of Public Administration, Xiangtan University (XTU-SPA)		√ LIS first-level discipline		2019	Hunan
School of Information Management, Sun Yat-sen University (SYSU-SIM)		√ LIS first-level discipline		2019	Guangdong
Nankai University Business School (NKU-BS)	√	√	-	2019	Tianjin
School of Information Management, Huazhong Normal University (CCNU-SIM)		√ LIS first-level discipline		2019	Hubei
Faculty of Economics and Management, East China Normal University (ECNU-FEM)		√ LIS first-level discipline		2021	Shanghai
School of Library, Information and Archives of Shanghai University (SHU-LIA)		√ LIS first-level discipline		2021	Shanghai
School of Information Management, Zhengzhou University (ZZU-SIM)		√ LIS first-level discipline		2021	Henan

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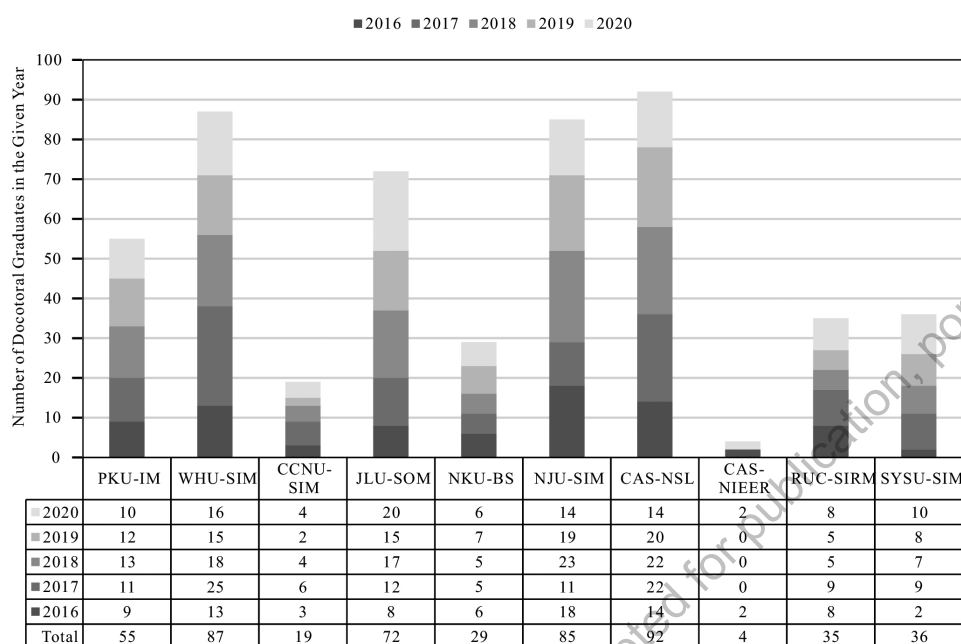


Figure 1. Number of PhD graduates in LIS from major Chinese universities from 2016 to 2020.

Key to abbreviations: PKU-IM is Peking University Department of Information Management; WHU-SIM, Wuhan University School of Information Management; CCNU-SIM, Huazhong Normal University School of Information Management; JLU-SOM, Jilin University School of Information Management; NKU-BS, Nankai University Business School; NJU-SIM, Nanjing University School of Information Management; CAS-NSL, Chinese Academy of Sciences National Science Library; CAS-NIEER, Chinese Academy of Sciences Northwest Institute of Eco-Environment and Resources; RUC-SIRM, Renmin University of China School of Information Resource Management; and SYSU-SIM, Sun Yat-sen University School of Information Management.

in 2020. Information science and archival science remained stable, and library science declined. The changes clearly show the changes in the priority orientation of discipline development in LIS and have a profound impact on the academic labor market.

Since 2020, the COVID-19 pandemic has triggered a severe economic recession and a significant expansion of doctoral education by the Ministry of Education. It is clear that the future supply of doctoral-level talent in the LIS discipline in China will continue to expand. On the one hand, after 2019, six newly established departments started or expanded their enrollment. On the other hand, the Ministry of Education has adjusted the enrollment policy for part-time PhD students, and thus most LIS departments no longer enroll on-the-job doctoral students.

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**... the future supply of doctoral-level talent in the LIS discipline in China will continue to expand.**

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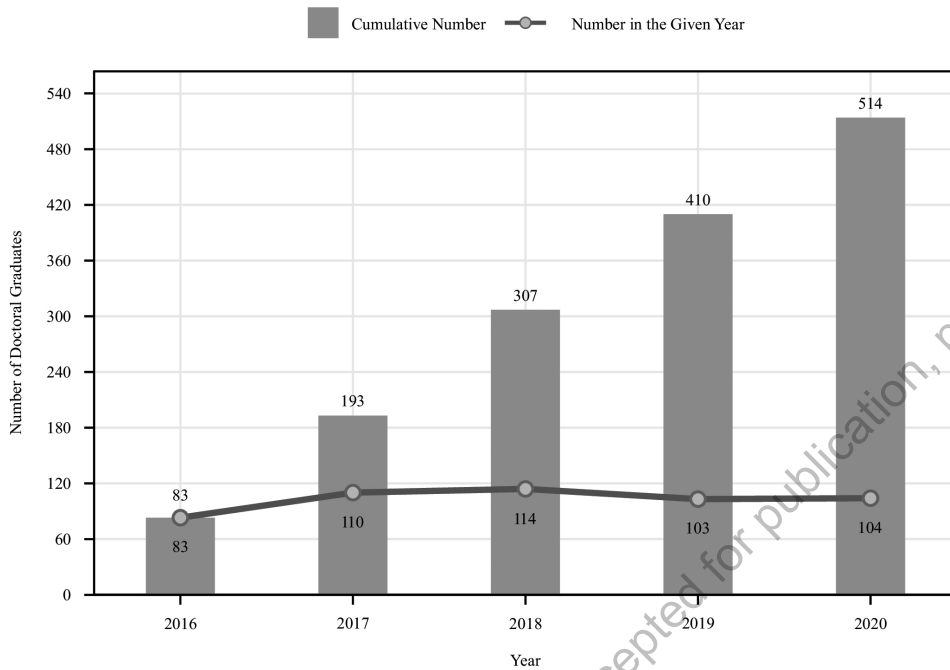


Figure 2. Number of Chinese PhDs in LIS from 2016 to 2020, by year.

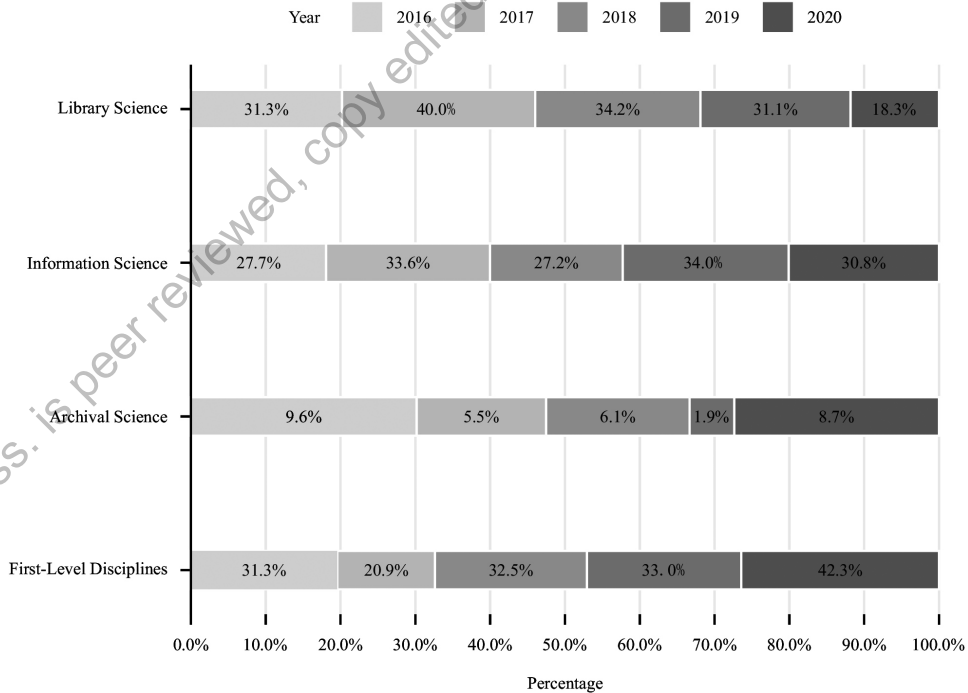


Figure 3. Changes in disciplinary categories within LIS in China from 2016 to 2020.

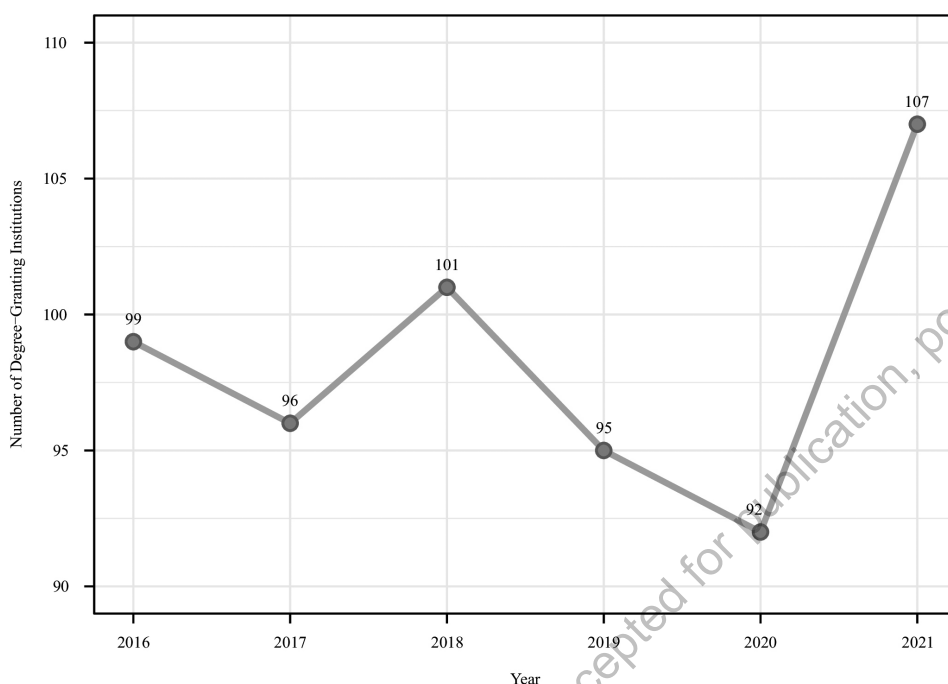


Figure 4. Number of institutions granting degrees in LIS in China from 2016 to 2021.

## Analysis of the Demand of the Academic Market for LIS

### *The Scale of LIS Programs*

The scale of LIS programs determines the upper limit of demand in the LIS academic market. From 2016 to 2021, the number of degree-granting institutions has changed six times, involving LIS programs at all levels. Figure 4 shows the trend of changes in the number of LIS departments in the past six years.

In December 2021, 107 degree-granting programs in LIS were available in China: 41 at the undergraduate level, 93 at the graduate level, 17 at the doctoral level, 14 at the post-doc level, and 3 at the associate level. Since 2019, more than 20 departments that have never offered LIS education before have been officially approved to set up programs offering a master's degree in library and information science (MLIS). The backgrounds of these departments include medicine and health, biology, history, agriculture, and mathematics. Their participation has greatly broadened the frontiers of LIS disciplines and promoted the intersection and transformation of the disciplines.

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*The Number of LIS Academic Positions*

A total of 276 institutions posted 830 openings in academic positions in LIS during the 2016 to 2020 period. Among them, some job announcements were calculated using average values due to missing data, lack of specific values, or unclear entity references. Figures 5 and 6 demonstrate the trend and the types of institutions with vacancies available.

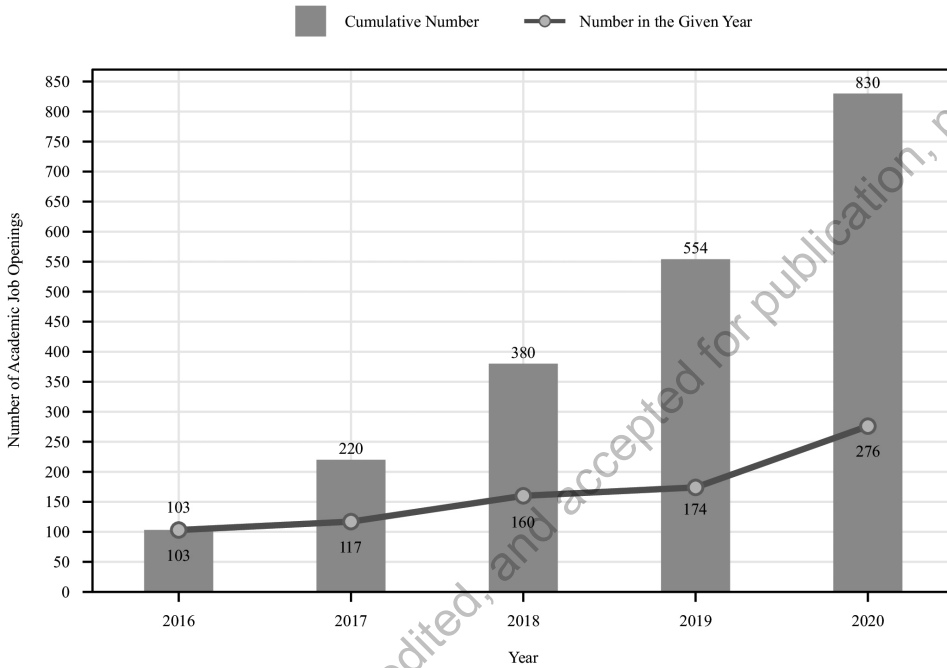


Figure 5. Number of academic job openings in LIS in China from 2016 to 2020.

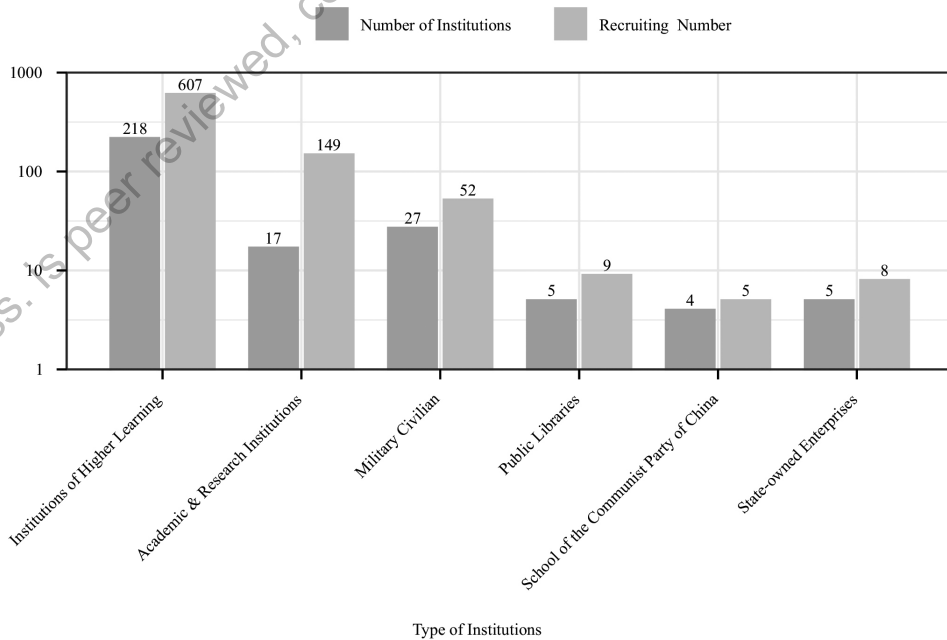


Figure 6. Types of Chinese institutions recruiting graduates in LIS.

The number of academic position vacancies has increased dramatically since 2019, which is mainly attributable to three factors. Firstly, as mentioned before, with the expansion of LIS departments, there is a demand from many institutions to upgrade the quality of the faculty to meet the requirements of disciplinary assessment. Second, more university libraries have set up research positions. There are start-up funds for such posts as the intelligence analyst in the Zhejiang Normal University Library in Jinhua, which implements a four-year first employment period and provides subsidies for resettlement or transition housing. According to statistics, more than 20 university libraries have established such research positions, with specific titles such as “literature searching and training” and “research data management.” Finally, non-LIS departments are paying more attention to recruiting LIS doctoral graduates. For example, the School of Anti-Terrorism of the People’s Public Security University of China in Beijing and the School of Journalism and Communication of Nanjing Normal University are two of more than 30 non-LIS departments that have begun introducing LIS doctoral graduates to cross-disciplinary research, such as health informatics and digital humanities. In addition to the diversification of the types of institutions, the authors find a shift from the traditional faculty positions to relatively new, temporary academic appointments, such as contract-based positions, research librarians, and army lecturers (see Figure 7).

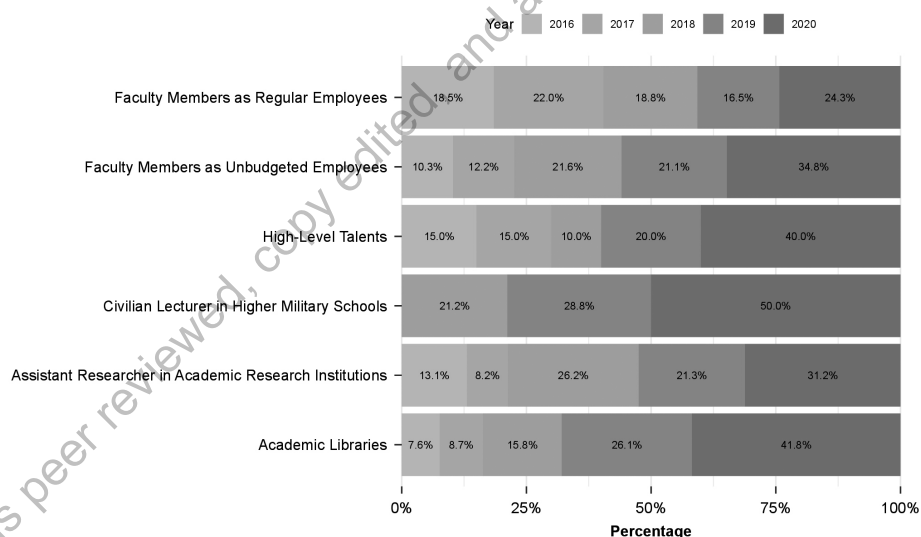


Figure 7. Positions held by LIS graduates in China from 2016 to 2020.

Overall, the demand for lecturers from 2016 to 2018 shows a steady decline, but the addition of LIS programs in 2019, coupled with the continued growth in demand from the institutions outside the LIS field, has led to a significant increase in demand. The number of contract-based employees, such as postdoctoral fellows and contracted research

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fellows, has grown rapidly and has even become the main position for highly prestigious universities. Some leading universities in the LIS field have gradually given priority to recruiting associate professors or professors. This also confirms the rising threshold

of the academic market, where fresh doctoral graduates first enter the market to work in temporary positions.

#### *Distribution of Disciplines Categories*

In contrast to the supply side, the demand side of the academic market does not conform strictly to disciplinary categorization. Through a textual analysis of job postings in relevant organizations, the demand categories can be divided into six categories: "library science," "information science," "archival science," "library science or information science," "first-level discipline," and "other." Their distribution is shown in Figure 8. The demand for "first-level discipline," "library science or information science," and "information science" is relatively large and accounts for 81.6 percent of openings.

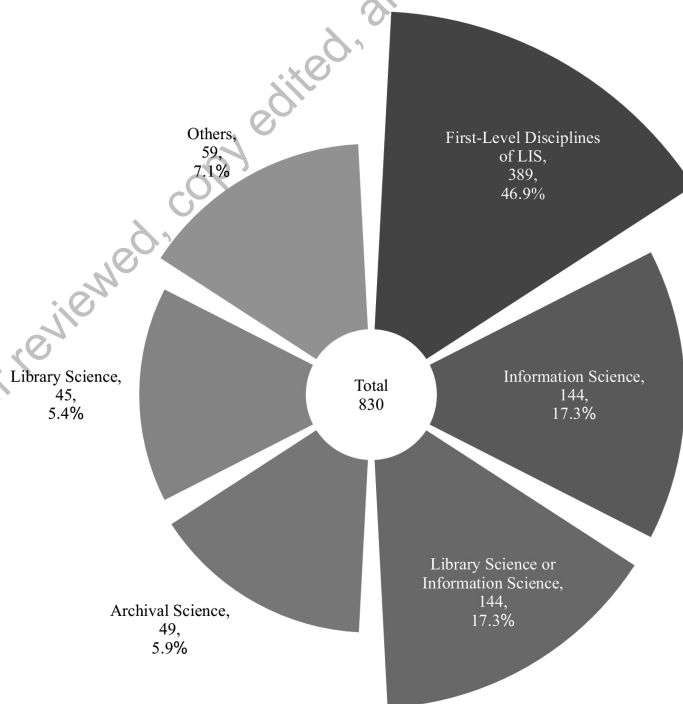


Figure 8. Disciplinary categories within LIS in China.

When institutions publish a job vacancy announcement, many get applicants from multiple disciplines besides LIS. This is especially common in academic recruitment. To better understand the correlation and density between these candidate disciplines, a complex network analysis of the disciplines in academic recruitment was conducted. The results are shown in Figure 9. The thickness of the lines in the figure indicates the degree of co-occurrence of the two terms. The names of these disciplines, including “scientometrics” or “competitive intelligence,” were automatically extracted from thousands of job announcements, but this does not mean that they are independent of the LIS discipline.

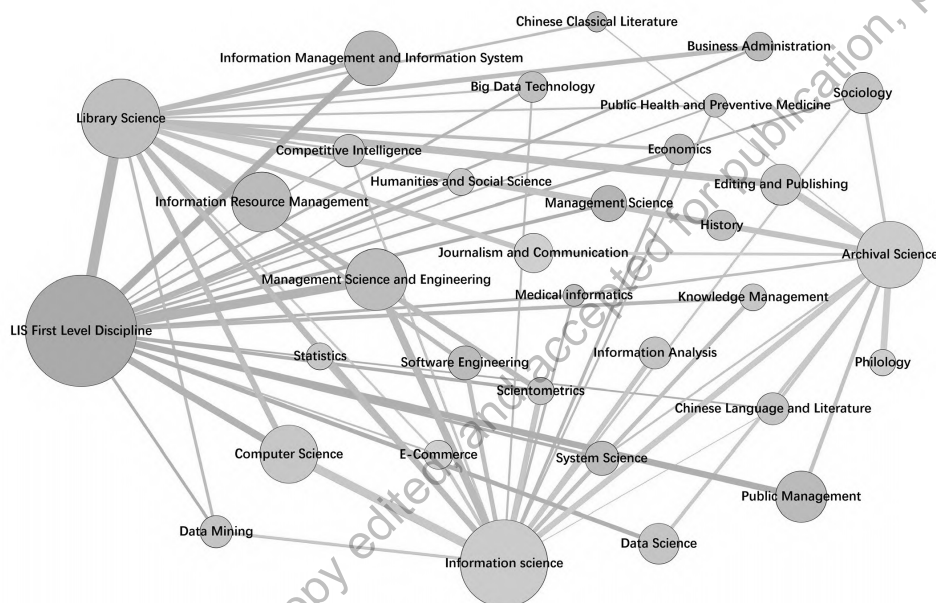


Figure 9. The links among disciplinary categories related to LIS in China.

The LIS first-level discipline has the most co-occurrences with management science and engineering, computer science, and information management and information systems, which means that the fields are more closely correlated. Similarly, library science is more closely related to information resources management, journalism and communication, and management science. Information science is more closely tied to management science and engineering, computer science, statistics, and information analysis. Archival science is more closely related to editing and publishing, public administration, and Chinese language and literature. Accordingly, the LIS discipline is facing greater external competition in the academic market.

### Analysis of the Supply and Demand Situation

Due to the peculiarities of the academic market, its supply and demand changes should not be simply regarded as correlations while ignoring departmental prestige factors.

Therefore, the authors first compared the macro level of supply and demand, and then further analyzed the prestige of institutions at the micro level to simulate a more realistic academic supply and demand situation.

### Macro Supply-Demand Perspective

Supply-demand ratio, in its literal sense, is supply divided by demand, or how many candidates there are per job opening in a market. This ratio reflects competition in the labor market. In this paper, the solution is to calculate the supply-demand ratio optimal to the data. From the previous statistics, there were 514 LIS doctoral graduates in the past five years. In this timeline, a total of 276 institutions had about 830 vacancies in relevant academic positions. Therefore, in terms of macro-quantity, the supply-demand ratio under ideal conditions is 0.62 (see Figure 10), and LIS PhD graduates are in short supply.

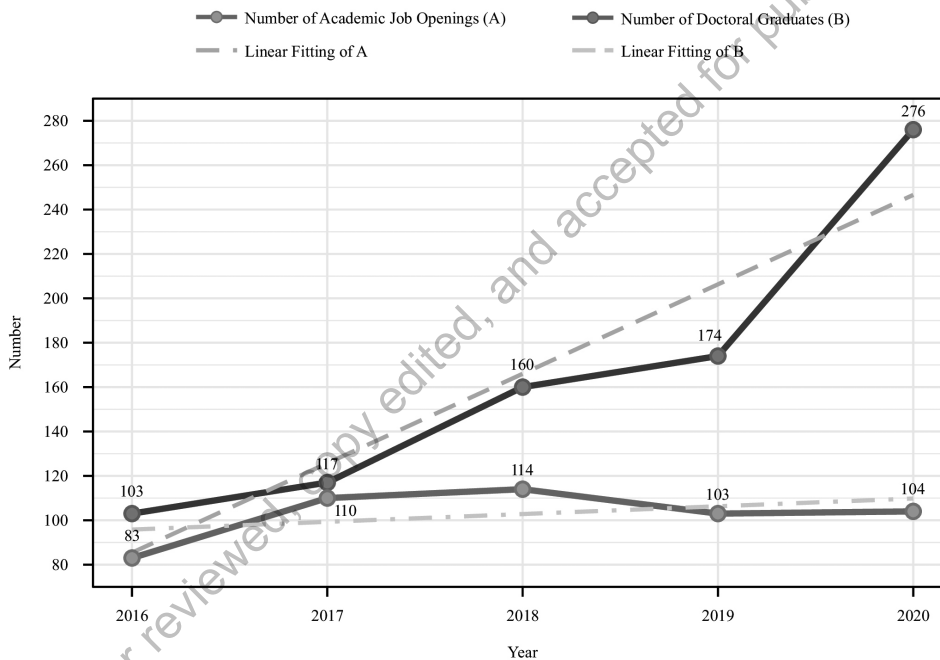


Figure 10. Number of Chinese doctoral graduates in LIS compared to the number of academic job openings in the field from 2016 to 2020.

Considering the competitiveness of external disciplines (as shown in Figure 9), the gradual increase of PhDs returning from overseas, the significant expansion of PhD enrollment caused by the COVID-19 pandemic, as well as the addition of new LIS departments, the authors believe that the macro supply-demand ratio is close to equal. The supply is slightly less than the demand and remains stable overall.



## Micro Structure Perspective

According to previous market theory, the supply and demand of the academic market will be divided into different levels according to specific criteria. To verify whether there is a PhD-exchange network in the LIS field, the résumé data of 457 scholars from 49 graduate schools and 144 employing institutions were selected. The authors attempt to answer this question using a social network analysis approach.

The results are shown in Figure 11. The starting point of an arrow represents a graduate school, the ending point represents an employment institution, and the thickness of the line is the number of faculty transferred. Eight institutions, including Wuhan University, Peking University, and Nanjing University, lead in sending scholars to other institutions. All the universities have high prestige in China.

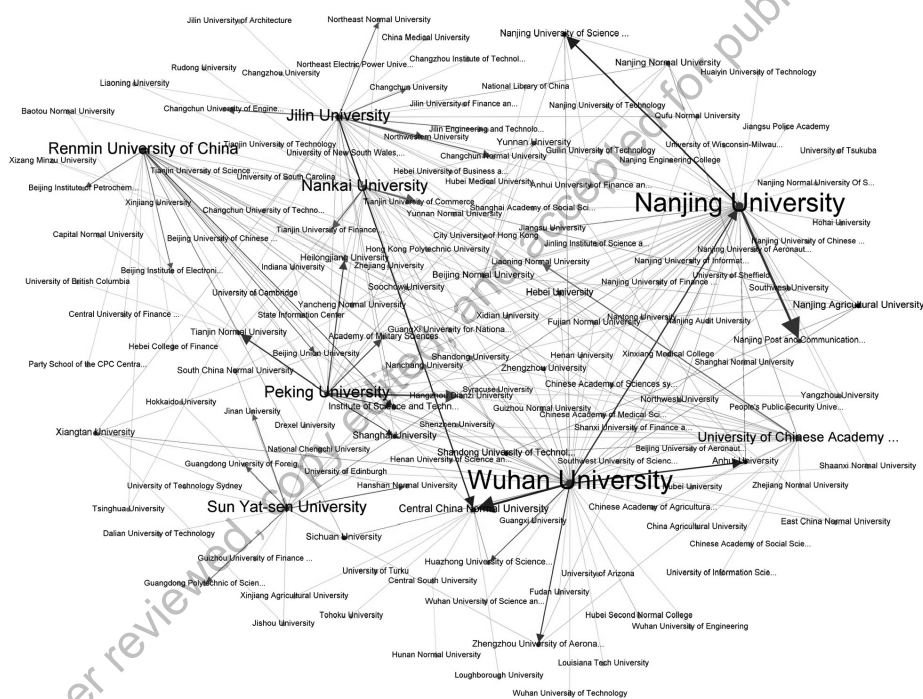


Figure 11. Chinese universities that send LIS graduates to other academic institutions in China. The starting point of each arrow indicates a graduate program in LIS, and the tip of the arrow represents the employing institution.

A new question arises at this point: what are the input institutions to these central node universities? Except for a few candidates from their own and the same level of schools, Chinese universities mainly rely on the input from prestigious overseas institutions, especially iSchools. Twenty-three universities outside China, including institutions in North America, Europe, Taiwan, and Hong Kong, have sent PhD graduates to these highly prestigious LIS departments in China. To better demonstrate the impact of this

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### **Chinese universities mainly rely on the input from prestigious overseas institutions, especially iSchools.**

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hierarchy on the academic market, the authors classify the supply and demand sides according to the academic prestige of these institutions and depict the hierarchical cor-

respondence between them (the results are shown in Figure 12). It should be noted that the chart is not an authoritative classification structure based on prestige, but rather a model to illustrate that macro supply and demand dynamics do not reflect the true state of the market.

From a micro perspective, what exactly is the situation of supply and demand based on institutional hierarchy or academic prestige? The top-level supply, consisting of prestigious overseas iSchools, is the main source of faculty at research-oriented universities. The number of vacancies for faculty (such as lecturers or assistant professors) in 11 first-class universities during the five-year period was only 37, but these institutions often recruit PhD graduates from prestigious iSchools overseas.

The high-level supply represented by domestic first-class universities is the main source at each demand level, but the focus is on competition for teaching-oriented universities. The seven domestic first-class universities exported 399 graduates in five years, accounting for more than 77 percent of the total supply of the entire LIS academic market. Because of the influence of academic prestige, the high-level demand represented by teaching-oriented universities is the main target for jobseekers. However, with the gradual saturation of the demand for faculty at a high level, PhD graduates from domestic first-class universities may have to adapt to downward mobility of employment.

The mid-level supply meets the demand of specialized research institutions and civilian positions. The National Science Library at the Chinese Academy of Sciences in Beijing has produced a large number of young doctoral-level graduates for library-related positions nationwide. The PLA National Defence University is the only LIS doctoral degree program in the military system and has educated many high-level LIS professionals for the armed forces.

The newly established doctoral departments will alleviate the shortage of supply in the emerging academic market. Some applied- or professional-oriented universities, as well as many university libraries, currently find it difficult to recruit doctoral graduates for faculty positions. More than 30 university libraries have created a large number of research positions in recent years, but university libraries are not the first choice of employment for most PhD graduates in China.

## **Discussion**

### **The Up-or-Out System**

The core finding of this study is a shift from the traditional positions in universities and research institutions to relatively new, temporary academic positions, particularly contract-based positions. In fact, the rise of contract-based employment in China is basically synchronized with the reform of public institutions. The Central Government

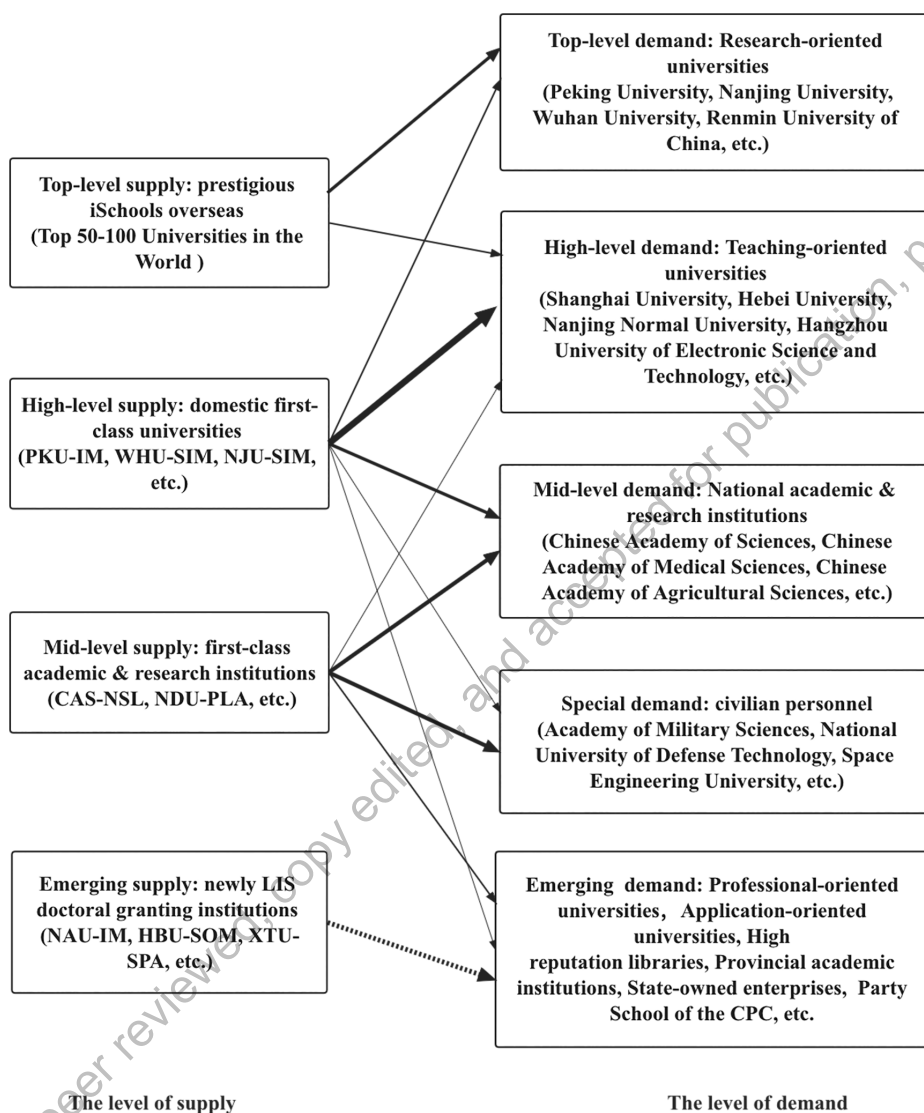


Figure 12. Supply and demand in China's LIS academic market. The thickness of the solid arrows indicates the number of graduates sent, and the dotted line represents a hypothetical future trend.

Key to abbreviations: PKU-IM is Peking University Department of Information Management; WHU-SIM, Wuhan University School of Information Management; NJU-SIM, Nanjing University School of Information Management; CAS-NSL, Chinese Academy of Sciences National Science Library; NDU-PLA, National Defence University, People's Liberation Army; HBU-SOM, Hebei University, School of Management; and XTU-SPA, Xiangtan University, School of Public Administration.

rearranged the staff size and structure of all universities and academic research institutions in 2015. Since then, academic institutions in China have started to explore the academic streaming system under the concept of “up or out.” To date, only a limited number of universities have developed a U.S.-style tenure-track system in LIS. The rest of the universities employ contract researcher fellows, jobs that generally consist of two terms of three years each. The fellows can be transferred to long-term budgeted posts after promotion to the position of associate professor, or else their employment contract is terminated. This dual-track system has resulted in controversy. At the end of the first employment term contract of researcher fellows at Wuhan University in 2018, only 4 of 42 people were retained.

China’s academic system is still dominated by the Soviet style of a planned economy, while the pursuit of job stability is deeply rooted in traditional Chinese culture. In addition, the social security system of China is not well developed; there are many kinds of employment discrimination, such as age, household registration, political status, and educational background. This puts psychological pressure on young scholars,<sup>15</sup> and it has led many fresh doctoral graduates to place great value on a stable position, preferring such a job over an up-or-out academic position.

### LIS Doctoral Education Responds to Changes in the Academic Market

The backdrop of the COVID-19 pandemic, combined with a downward economic cycle, led to an expansion in demand for graduate education, as well as for LIS doctoral education. Faced with the structural mismatch in the LIS academic market, what should be done to adjust doctoral education? The authors offer the following suggestions:

1. Conform to the trend of diversified doctoral employment, adjust the training mode, and migrate graduates to nonacademic careers. Unlike other disciplines, LIS is naturally cross-disciplinary. In terms of curriculum training, departments should further strengthen interdisciplinary courses and implement joint training with multidisciplinary peer-mentoring groups.

2. Improve the entry system for the domestic academic market and facilitate connection with the international market. There is still serious institutional employment discrimination in China, which is difficult to effectively eliminate in the short term. The authors recommend that Chinese academic institutions adopt a set of scoring criteria covering article publication, graduate school, and matching of research directions to eliminate bias. In addition, today’s globalization has promoted the formation of an international academic market, making the cross-border flow of academic talents feasible.

### Conclusion

The employment of LIS doctoral graduates in China has become a topic of concern in recent years. However, traditional research lacks large-scale periodical or continuous data, such as employment trends, and corresponding empirical analysis. Therefore, this paper uses methods and techniques of social network analysis on a manually annotated corpus to examine both supply changes and demand quantity trends in LIS employment from 2016 to 2020. The authors found that the development of LIS doctoral education in

China is relatively rapid, and the supply in the academic market is relatively abundant, compared to the past. The corresponding demands for LIS graduates continue to increase, and the types of institutions recruiting them has become much more diversified.

### Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, or publication of this article.

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### Notes

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