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Towards Internationalization: A Critical Assessment of China's Public Administration Research in a Global Context 2000-2014

Wei Zhang[1], Xiaolin Xu[1], Richard Evans[2], Feng Yang[3]

Wei Zhang (weizhangscu@gmail.com) is an Assistant Professor in the School of Medicine and Health Management, Tongji Medical College, Huazhong University of Science and Technology in China. He received his PhD in Public Administration from Huazhong University of Science and Technology. His research interests focus on electronic governance, smart health and social media in the public sector.

Xiaolin Xu (xiaolin@hust.edu.cn) is the Founding Dean and Professor in the College of Public Administration at Huazhong University of Science and Technology in China. He received his PhD in Management from Huazhong University of Science and Technology. His research interests are public administration, electronic governance and non-traditional security.

Richard Evans (R.Evans@westminster.ac.uk) is a Lecturer in Information Management at Westminster Business School in the United Kingdom. He received his PhD in Knowledge Management for Collaborative Product Development from the University of Greenwich in partnership with BAE Systems plc. His research interests focus on collaborative systems for knowledge intensive environments.

Feng Yang (yangfengbox@gmail.com) is an Associate Professor at the School of Public Administration, Sichuan University in China. He received his PhD in Economics from Sichuan University. His research interests are the problems related to Internet governance and government information management.

[1]Huazhong University Of Science And Technology, China, [2]Westminster Business School, United Kingdom, [3]Sichuan University, China

Abstract

Since the establishment of the Chinese Public Administration Society (CPAS) in 1988, Public Administration (PA) research and practice have grown considerably after a gap of more than 30 years. Emerging universities and local research institutes have established specialized departments/centres for PA. This study reports on mainland China's performance in PA research by examining publication size, impact and scientometric indicators, including China's global publication share, growth rate, citation impact and leading journals based on the last 15 years publications data, as retrieved from the Social Science Citation Index (SSCI) database; recognized international collaborators and domestic contributors are also considered. Findings suggest that the quantity and quality of mainland China's PA research has increased steadily, with mainland scholars playing equally as important roles as their international peers. Evidence suggests that mainland China scholars will continue to achieve international publishing success. Finally, opportunities and challenges brought about by internationalization are also discussed.

KEYWORDS: Public Administration; Mainland China; Scientometric analysis; International collaboration.

INTRODUCTION

Although Chinese administration can be traced back thousands of years, the systematic study of PA, as an independent discipline, has a relatively short history (Holzer and Zhang 2009). It is widely acknowledged that modern PA in China, as a newly emerging field of study, was first imported from the West in the 1930s (Liu and Li 2013). However, PA research was interrupted due to political considerations and the PA curriculum was cut during the large-scale higher education reform of 1952 (Guo 2000; Holzer and Zhang 2009). It was not until the mid-1980s that PA research was resumed. Xia Shuzhang, a Harvard Master in Public Administration (MPA) graduate in the 1940s, called for a systematic review of PA in the *People's Daily,* the official newspaper of the Communist Party in 1982 (Gao 2008); this prompted a resurgence in Chinese public administration research. The Chinese Public Administration Society① was established in 1988 and an increasing number of universities/institutions now offer PA courses at undergraduate and postgraduate level. A survey of domestic universities in 2000 revealed that over 40 Chinese universities offered graduate-level programmes of study in PA (Xue and Peng 2000). Tsinghua University established the first specialized PA school, School of Public Policy and Management, in 2000 and, since then, a range of universities have founded specialized institutes for PA research. With administrative reform in central and local government, PA research has grown in importance and attracts far greater attention nationwide and internationally.

The development and progression of PA research is achieved through constant review and critique (Raadschelders and Lee 2011). Liu and Li (2013) identified two approaches to analyse research in Chinese PA. The first approach was for qualitative studies to be completed by senior researchers with professional experience e.g., discipline-framers, board members of a professional association and leaders in research/teaching institutes (Zhang 1993; Zhang and Holzer 2001). They believed that the failure of local PA theory development resulted from insufficient methodological training. The second approach involved analysis of the content of PA publications (He 2007; Lu and Chow 2009; Jing 2009). Empirical study revealed ‘mediocrity in scholarship’ with problematic theory-building and knowledge advancement in Chinese PA (Lu and Chow 2009).

However, much of this research has been directed towards national developments, with few comparative studies being conducted to position Chinese PA within a global context (Zhang and Holzer 2001). It is commonly acknowledged that PA research in Hong Kong, Macao and Taiwan is quite different from mainland China (Gao 2013; Walker, Brewer, and Choi 2013; So 2010). This paper focuses solely on PA research in mainland China. A scientometric approach was employed to assess scientific disciplines internationally (Matthews 2013; Yang et al. 2015; Zhang 2013). As a widely recognized bibliometric approach, measuring academic performance in science and technology, evidence suggests that scientometrics contribute significantly to social science assessment, including communication (So 2010),psychology (Guilera, Barrios, and Gómez-Benito 2012) and sociology (Cronin, Snyder, and Atkins 1997). The authors strive to help PA scholars understand the past and current status of PA research in China within the wider global context.

Specifically, the research questions explored in this paper, which focuses on the period 2000-2014, are as follows:

RQ1: What was the size of mainland China's PA research compared with international academic performance?

RQ2: What was the impact of mainland China's PA research compared with international academic performance?

RQ3: Who were the most frequent collaborators with mainland China and did these collaborations impact on the internationalization of Chinese PA research?

RQ4: Who were the major contributors to the internationalization process and were they different from mainland core productive institutes/scholars?

LITERATURE REVIEW

The internationalization of domestic scientific research is critical for effective evaluation research. For years, most of this work has been conducted by Information Science scholars (Glänzel 2001; Luukkonen, Persson, and Sivertsen 1992; Niu 2014) who have evaluated national scientific performance globally in terms of quantity (i.e., total number of articles) and quality (i.e., number of citations). Emerging scholars have become interested in China's international scientific performance following considerable growth in Chinese scientific output in internationally-recognized journals published in the late 1990s (Pendlebury 2015).After carefully examining Chinese scientific articles in the Science Citation Index (SCI) database from 1997-2003, Zhou et al. (2006) concluded that China was the only country whose total publication output and share of international publications had surged at the same time. Compared with international academic output, which is predominantly driven by international collaboration, China's case was rather different as the major contributors were domestic scholars who largely published within Chinese journals (Zhou and Glänzel 2010; Leydesdorff 2012). Against a background of significant achievements in natural science research, social science scholars also made their voices heard and considerable attention was paid to social science research by the Chinese government; as a result, many articles focusing on social science internationalization were produced. Generally, these studies adopted analytical frameworks used in natural science performance evaluation. At that time, the measuring indices employed were considered to be complicated, with various practical factors being taken into account; for example, when the 'total number of publications' were examined, it failed to differentiate the roles of a given country i.e., whether the country was a research leader or a follower in international collaboration (Bian, Qiu, and Zhang 2013; Yuan and Xue 2007); similarly, the simple calculation of citations was insufficient to reveal the impact of papers i.e., self-citation or negative citation problems were not identified (Tiew 2000; Liu et al. 2013; Thornley et al. 2015).

Being aware of the importance of citation analysis to assess the development of a discipline, researchers from different specializations often employ such an approach to determine the extent of internationalization. In the case of public administration research, internationalization is commonly interpreted as the total number of publications in leading international peer-reviewed journals (Wright, Manigault, and Black 2004; Houston and Delevan 1990). In terms of leading journals, two key approaches are commonly employed to produce rankings. The more popular of these is the impact factor of journals. However, in PA research, the SSCI database is typically used; in terms of simplicity, this may be seen as a positive, but one limitation is its failure to include all PA-related publications. The second approach relies on expert opinion, with experts selecting journals based on the reputation of the publication and their own academic experience; this may be considered much fairer for those PA journals not indexed by the SSCI database. However, this is a very subjective approach as reputations may vary depending upon which expert is selected and when. Van de Walle and Van Delft (2015) compared the outcome of these two methods ranking the most productive PA universities/institutes and found that only a small number of institutions consistently feature near the top of both rankings. The approach taken by an institution is typically determined by the country in which it is located. In Europe and Australia, for example, scholars make use of specific journal lists rather than SSCI-indices. For instance, the Journal Quality List, compiled and edited by Prof. Anne-Wil Harzing

(2016), provides an overview of journal rankings, based on a variety of journal ranking lists. In British-based business schools, academics follow the Chartered Association of Business School's Academic Journal Guide which ranks business and management-related journals by subject.

Interestingly, global PA journals only partially demonstrate international PA performance. Other factors may also be considered in terms of internationalization, but these are often immeasurable or difficult to acquire. Chinese scholars have studied the internationalization of specific disciplines, with scholars observing the number of cited references of domestic papers (Ren and Duan 2007; Wang and Xiao 2006) and evaluating the extent of internationalization by the average number of international references cited. Research has also explored the number of international journals published by Chinese research universities/institutes, i.e., the number of Chinese journals being indexed by the SCI/SSCI database (Zhang and Jia 2015; Fang and Xu 2015).

In the ranking of domestic PA research, factors concerning internationalization often focus on the number of faculties with internationally-recognized PhD degrees or overseas experience. Other factors, such as the production of classic works, the hosting of international conferences, employment of leading PA scholars, together with renowned visiting professors from overseas institutions and foreign members of editorial panels for Chinese PA publications, have frequently been considered. In line with this approach, this study concentrates on SSCI-indexed journals to provide a comprehensive evaluation of mainland Chinese PA research into internationalization, which reflects the quantity and quality of output.

Method, Using SSCI Data As Source Data

This study into PA research from mainland China was completed using data retrieved from SSCI, Thomson Reuters Scientific databases. SSCI is a significant and influential list of academic journals compiled by the Institute for Scientific Information; it is recognized globally as a commonly used source for comparative bibliometric analysis of disciplines and faculties in the field of economics and social sciences (Verbeek et al., 2002). In this paper, the first step was to identify all PA relevant publications using 'Public Administration' as the search parameter in the SSCI database from 2000 to 2014②. In total, 25,165 papers from three document types, including articles, review papers, and conference proceedings, were identified during this study.

After an initial search, all articles which were written by authors with a mainland China research institute address were extracted. Based on these refined results, information pertaining to quantity (i.e., authorship, including author name, responding author and institution) and quality③ (i.e., number of citations received) were collected. This study used scientometric indicators, including China's global publication share, rank, growth rate and citation impact. Furthermore, we explored publications by focus, together with leading journals, based on publication data obtained from SSCI. H-index was consulted to identify core papers on PA research by mainland Chinese scholars.

Quantitative Review Of International PA Publications

To place PA publications by mainland scholars within a global context, the top 10 countries with their publication output and growth rate were identified. The publication shares of the top 10 most productive countries in PA research range from 34.58% to 1.39% of the 25,165 papers identified during the period 2000–2014. The USA tops the list with 8,701 papers, followed by the UK, Canada, Australia and the Netherlands. Germany, Spain, China, Denmark and Belgium featured in 6^{th} – 10^{th} positions in the rankings, as may be seen in Table 1. It was evident that the top 10 positions were occupied by developed countries, dominated by North America and Europe, with the only exception being China. There is no doubt that the USA and the UK were the two largest contributors to PA research with less differentiation between other countries. The majority of top 10 countries showed an increase in their publication output and this represented a rising trend with small fluctuations. For China, publications increased steadily from an initial 48 to 325.

RQ1: WHAT WAS THE SIZE OF MAINLAND CHINA'S PA RESEARCH COMPARED WITH INTERNATIONAL ACADEMIC PERFORMANCE?

RQ1 explored the current status of mainland PA internationalization. The results show that a total of 236 PA articles were produced by mainland scholars during the last 15 years. This means that mainland scholars contributed to less than half (46.8%) of the total number of China publications, suggesting that Hong Kong, as opposed to mainland Chinese, scholars were the major driving force in PA research. Among all internationally represented output, articles in refereed publications, including conference proceedings, represented by far the majority (95%), followed by book reviews (4%) and reviews (1%). Mainland scholars did not produce a PA book review④ until 2012 and the majority of book reviews identified appeared in the following two years; this implies that mainland scholars have only gradually appreciated the academic importance of book reviews (Kaplan 2014; Lin and Yuan 2015) and become familiar with western book review writing styles.

As a result, the study period was divided into three parts. On this basis, the development stages of internationalization become apparent (See Figure 1). In the first five years, an underdeveloped stage of PA publications was observed with very few (10) papers identified and, indeed, no papers being found in 2002 and 2004. In the second five years, the publication pattern was more stable and publications increased steadily. In 2009, for the first time, the total PA publication output surpassed 10 in a single year. During the last five years, PA publication output grew rapidly, reaching 56 in 2012; this is consistent with a previous study conducted by Zhang and Jiang (2009). Nevertheless, they were cautious about the outcome and pointed out that mainland scholars, as the first author, were not in the majority (Zhang and Jiang 2009). To analyse contributions further, the relative position of corresponding authors, as opposed to first authors, was studied as the latter are widely recognized as the main contributor to a publication. As a result, the identified publications were readjusted and it was found that mainland scholars acted more frequently as corresponding authors rather than first authors. The ratio of mainland scholars as corresponding authors to all mainland scholars involved in publications also increased. Indeed, in the majority of cases, this ratio was above 0.5, except for 2006 (0.25), which implies that the driving force of internationalization lies in the hands of mainland scholars. When considering the value of corresponding author in a Chinese context, it is possible that a corresponding author inflation exists where the first author is situated outside of China, but the corresponding author is affiliated to a Chinese institution. It must be recognised that the role of corresponding author brings much more credit to and within a Chinese institution than it does elsewhere in the world.

Generally, the output from mainland China showed a considerable increase. This may be attributed to both internal and external pressure. Internally, following two decades of reform, many problems arose in relation to marketization; these included official corruption, unaffordable housing and healthcare, increased inequality, poisoned drugs and food and environmental deterioration from the mid-1990s (Liu and Li 2013). Externally, China's entry to the World Trade Organization (WTO) in 2001 increased its involvement in the global economy. However, a comprehensive administrative reform was needed to promote newly-adopted, market-oriented economics. These challenges not only encouraged another round of administrative reform, but also China's PA practitioners and researchers. Decision-makers started to depend on scholarly communities and PA scholars began to play increasingly important roles in China's policy-making (Zhu 2009). In addition, after acquiring a stable and legitimate position as a field of study, Chinese PA embarked upon intensive external exchanges and actively developed relationships with international scholars.

Quality Review Of International PA Publications

In evaluating the quality of PA publications, total citations, average number of citations and H-index⑤ were reviewed in a global context. Citation-based indicators have proven to be valuable and effective in measuring the impact and internationalization of scientific work (Liñán and Fayolle 2015; Kim 2010). Comparing citation impact per paper among the top 10 countries, it was found that Germany and the Netherlands were top of the list with citation impact per paper ratings of 12.72 and 12.15, with China ranked 7th with 7.27, as may be seen in Table 2. In terms of H-index, the USA and UK had the highest ranking, indicating their predominant influence in international PA research, whereas China attained 28. From both sets of data, the overall quality of China's PA research is noteworthy.

RQ2: WHAT WAS THE IMPACT OF MAINLAND CHINA'S PA RESEARCH COMPARED WITH INTERNATIONAL ACADEMIC PERFORMANCE?

In the case of RQ2, citations and journal quality were explored in more depth. For all papers produced by mainland scholars, the total citation count was 1214, with an average citation of 5.14 and H-index of 17. In similar citation research, Qiang and Hua (2010) calculated the average number of citations per paper published by mainland universities in the SSCI and A&H databases; they found that the maximum citation count was 5.01 in the case of Peking University. In comparison with this study, the citation performance of mainland PA research may be considered positively. However, compared to China's average citation score of 7.27 and H-index of 28, this figure suggests that mainland scholars are lowering the quality of PA research. To explore the cause of citation in more detail, the citations were separated into 'by domestic scholars' and 'by international scholars'. The International Impact Index (III) was conceptualised and employed, as illustrated, to measure the international impact of mainland scholars.

$$\mathrm{III} = \frac{N_i}{N_t}$$

Here, III refers to international impact index; N_t denotes the total number of papers citing the pool papers authored by a given country/region, thereafter known as the source country/region; N_i is the total number of citing papers with authors from non-source country/region. III ranges from 0 to 1, with 0 meaning no international impact and where all the citations are caused by authors from the source country/region; 1 means the highest international impact and where all the citations are caused by authors from non-source countries/regions. For the sake of convenience, the citing papers with authors from non-China were identified by their addresses and this confirmed that no authors were based in the Greater China area (including mainland China, Hong Kong and Macao). A database with all the citing references (excluding self-citation) was created. From the 903 citing references, 561 (62.1%) international citations, slightly over half of all citations, were identified. This revealed that mainland scholars achieved considerable impact beyond the Greater China area and China-related research became a key focus for researchers within the global PA academic community.

Journal output is fundamental in assessing research quality. We compiled the 10 most productive journals publishing mainland China PA research papers. Results show that 138 papers appeared in 10 PA journals, accounting for 58.47% of the total output of mainland China during 2000–2014 (Table 3). From Table 3, it may be seen that JAPP published the greatest amount of mainland PA research. In terms of high impact PA journals, Q1 PA journals⑥ were examined in more detail. Of the 11 journals, mainland scholars contributed to 53 papers, accounting for 22.5% of total output. There is still, however, considerable scope for mainland scholars to improve their PA publications. The 53 identified papers were found in 9 Q1 PA journals, with the exception of JEPP and PSJ (See Figure 2). The most popular journal choice for mainland scholars was PAR (13), followed by CP (11), PA (9) and EPC (8), while the top-rated PA journals had fewer publications, including JPART (1), JPAM (3) and PS (2).

Mainland scholars were first seen to publish their work in PA Q1 journals in 2003 (EPC). Subsequently, their publications in PA Q1 journals remained low, with a total of fewer than 3 papers published per annum. It was not until 2009 that mainland publications increased significantly, with 8 papers being published in PAR; this was a major breakthrough for mainland scholars as their publications appeared in the same PA Q1 journals more than once in a year. The papers were published in the Special Issue on *Comparative Chinese/American Public Administration.* Similarly, 5 articles on Public Administration in 2013 were also attributed to the Special Issue on *Symposium: Reform and Transition in Public Administration Theory and Practice in Greater China*. A major development was observed in 2013, when one mainland publication appeared in JPART (Kim et al. 2013)⑦, the leading PA journal. Meanwhile, the total number of mainland Q1 publications reached 16; as China attracted more international attention, other top-rated PA journals decided to publish special issues on Chinese PA research, which helped boost the international presence of mainland scholars. At the same time, Symposia have been seen to play a significant role in establishing international collaboration and coaching initiatives and, particularly when they emerge from carefully constructed conferences and workshops, they may result in extensive collaboration amongst the authors of papers; however, they may not always be identified as cases of co-authorship (see Table 4 for details).

Collaboration between authors is more in evidence for PA Q1 publications than for all mainland PA publications. A total of 155 authors contributed to the 53 papers, with an average per author of 2.9, slightly higher than that of all mainland PA publications (2.6). Only 11 papers (21%) were single-authored, noticeably fewer than that of all mainland PA publication output (26%). Despite frequent collaboration, the leading role of mainland scholars was reduced. The ratio between mainland scholars serving as corresponding author and the PA Q1 publications remained above 50% for much of the time (see Figure 3). Noticeably, in 2014, mainland scholars served as corresponding authors in 7 out of 8 papers; this meant that internationalization merely served to weaken the role of mainland scholars in collaboration.

It may be surmised that there are three critical stages in mainland PA internationalization. Firstly, talented scholars with both excellent research skills and written English prefer to work independently. In fact, few scholars match this profile and most of these scholars have an overseas background. It is also true for the pre-2000 period, where we found 10 single-authored publications out of 15. For the second stage, international scholars needed to further explore Chinese PA and mainland scholars helped them in data collection and communication. During this stage, the majority of mainland scholars followed the research designed by international scholars. Since this supporting role was not sufficient for recognition of co-authorship in the academic field, few mainland scholars attained co-authorship status. As mainland scholars appreciated the publication value of China-related issues internationally, they initiated more research specifically focused on China. With previous collaborative experience, it is less difficult to find international collaborators. However, the number of articles written by authors from mainland China and published in high impact journals is still relatively low, which may imply that mainland scholars find it difficult to identify suitable collaborators or, alternatively, they turn to lower impact journals as their initial submissions are rejected. Through analysis of authors' addresses, it may be seen that only 14 of the 53 papers were produced solely in mainland China. In terms of collaboration, domestic inter-university partnerships are rare, which may suggest competition between these institutes. Mainland authors appear to prefer collaboration with peers overseas – e.g., the USA (20)– for high quality journal publications; this may suggest that mainland China scholars need a strong helping hand from international partners.

RQ3: WHO WERE THE MOST FREQUENT COLLABORATORS WITH MAINLAND CHINA AND DID THESE COLLABORATIONS IMPACT ON THE INTERNATIONALIZATION OF CHINESE PA RESEARCH?

For RQ3, collaboration was categorized into three types, dependent upon authorship pattern.

a) Collaboration between Countries/Regions (CCR), where at least two countries or regions are involved in the same paper;

b) Collaboration between Institutions (CI), where at least two institutions are involved in the same paper; and

c) Collaboration between Authors (CA), where at least two authors are involved in the same paper.

24 countries/regions were partners of mainland PA scholars. Papers solely written by authors in the Greater China area amounted to 113. Among these, 20 papers indicated cooperation between mainland scholars, while another 21 papers indicated collaboration between mainland and Hong Kong scholars. Only 3 papers indicated collaboration between mainland and Taiwan scholars, while another 1 papers involved mainland China, Hong Kong and Taiwan scholars. No papers were identified which suggested collaboration between mainland and Macao scholars. In terms of internationally-collaborated papers, where at least one of the collaborators is from outside the Greater China area, the top 10 international collaborative partners were identified. Among them, the USA was the major collaborating partner for mainland China scholars from 2000 – 2014, contributing 28.8% (68) of mainland China's total international collaborative output on PA research; this confirmed close collaboration with mainland scholars over the 15 year period. It is no surprise that the international collaborator list, as shown in Table 5, corresponds to the top 10 countries for PA publications as they include e.g., the Netherlands, UK, Australia, Germany and Canada, although France and Singapore stand out as exceptions. In terms of other collaborative partnerships, it may be observed that mainland China PA scholars not

only established academic collaboration with developed countries/regions, but also with academics in the Philippines, India and Brazil. This indicates that mainland scholars have started to shift their international collaboration strategy away from US-based academics and move towards other underdeveloped or developing countries.

A total of 228 collaborating institutions were identified by their addresses. 168 (71.2%) of those identified were CI papers. The top 10 collaborative institutes working with mainland China scholars were also identified (See Table 6). CityU is the most frequent collaborator with mainland PA research with 18 papers, followed by DUT (10 papers). Meanwhile, among the top 10 collaborators, 4 institutes were comparably productive in PA publications (>350) over the past 15 years. This may imply two principles for mainland scholars when identifying potential collaborators – one of proximity and one of productiveness in publication output. There is no doubt that collaboration with highly productive institutes is more likely to bring more fruitful outcomes. Considering the amount of participation of certain institutes, it may be speculated that most collaborators contribute fewer than 4 papers, denoting a scattered distribution and few consecutive collaborations.

By way of further analysis, CiteSpaceIII (Chen 2006) was used to explore the collaborative network. In the case of collaboration between institutes, the largest clusters of multiple research institutes were found in Hong Kong (CityU/ UHK) and mainland China (Tsinghua University/ Renmin University / Sun Yat-Sen University/ Zhejiang University/Shanghai University of Finance & Economics) (Figure 4).

611 scholars in total contributed to the 236 papers, averaging 2.6 authors per paper. 175 (74%) papers were CA papers, and the average total number of authors per paper is 2.6. The greatest number of authors found for one individual paper was 16. The top 5 most frequent collaborators with mainland China scholars are identified in Table 7. Martin De Jong (Faculty of Technology, Policy & Management, DUT, and Professor of Public Policy at Fudan University since 2013) is the most frequent collaborator with 10 papers, followed by Richard Walker (Department of Public Policy, CityU) and James L. Chan from UIC who contributed 4 papers with mainland scholars. Mainland scholars preferred to cooperate with highly productive authors in PA and these may be considered to be important figures in the PA industry; they have established reputations and their work is highly recognised by the PA community. In fact, most of them also serve as Chief Editors or sit on the editorial boards of SSCI journals. Collaborating with such individuals undeniably facilitates publication in terms of the review process and acceptance. However, an established PA research community involving mainland and international scholars is quite rare, with a dominant international author appearing only once.

Similarly, the network of collaboration between individual PA scholars was also mapped. A considerable number of mainland scholars published their papers alone, as displayed as isolated nodes without connected lines in Figure 5. Meanwhile, several important collaborative clusters were also observed. The largest collaboration group may be seen to be Yijia Jing's cluster, which includes E.S. Savas, Trevor Brown, Bin Chen, Ting Gong and Evan Berman. Other noticeable clusters include Jun Ma's cluster, including Hon S. Chan, Yilin Hou and Andrew Podger and Richard M. Walker's cluster, which includes George A. Boyne, Barry Bozeman, Jiannan Wu and Liang Ma.

Noticeably, nominal collaboration also takes place in academic communities. For mainland institutes, this collaboration may provide funds for international PA scholars to study China-related PA issues or to hire international PA scholars. In return, these international scholars add the sponsor institute as their co-author affiliation; for this reason, some identified papers are authored by one person, but affiliated to multiple institutes (these have been identified as nominal papers). For example, Prof Martin De Jong is based at DUT, but also served as a visiting scholar at Harbin Institute of Technology. In his work he mentioned these two affiliations in his publication. Similarly, James L. Chan is Professor Emeritus of Accounting at the University of Illinois at Chicago and a distinguished overseas Professor at Peking University and Shandong University of Finance and Economics. It is likely that nominal papers lead to high publication numbers, as well as a greater rate of international collaboration.

In relation to the impact of collaboration on the quality of papers, previous research has shown that collaborative papers were of higher quality compared to those which were single-authored. We classified the authorship into several patterns to explore the impact further (Zhang and Jia 2015). Six groups were identified as follows: collaboration between a) mainland scholars; b) mainland scholars and Hong Kong scholars; c) mainland scholars and Taiwan scholars; d) Greater China scholars, including mainland Hong Kong, Macao and Taiwan scholars; e) mainland scholars and non-mainland China scholars; and f) mainland scholars and non-Greater China scholars. It is evident that collaboration increases overall quality, as may be observed in Table 8. In the case of Taiwan, there were too few collaborations to draw conclusions. Collaboration with non-Great China scholars and non-Mainland China scholars both scored highly in the average number of citations received, with the former (5.93) being slightly higher than the latter (5.64). This may suggest that scholars based outside of mainland China boost the quality of mainland China output, particularly in the case of Hong Kong scholars. However, we should be in no rush to draw conclusions as alternative reasons may exist, such as 1) papers collaborated on by mainland scholars and Hong Kong scholars were in the early years of the research period; and 2) the papers by mainland scholars alone have only been emerging in recent years. According to our study, these two hypotheses are more likely.

RQ4: WHO WERE THE MAJOR CONTRIBUTORS TO THE INTERNATIONALIZATION PROCESS AND WERE THEY DIFFERENT FROM MAINLAND CORE PRODUCTIVE INSTITUTES/SCHOLARS?

In response to RQ4, we first mapped the geographic distribution of mainland China scholars with international publications and then compared the most productive institutes and authors of SSCI and domestic PA journals.

Internationalization depends very much on economic development and openness. For mainland PA international publications, we also hypothesize that PA academic performance is closely related to the local economy. Based on its geographic location, mainland China is usually divided into three parts for comparative purposes, namely East, Central and West. It is generally perceived that the further you go west, the further you go inland, implying that the economy in the West is more closed, compared to their central and eastern counterparts. Previous studies on the internationalization of mainland China's scientific performance, in terms of SCI and SSCI, found that Beijing and Shanghai scholars are the major players (Liu et al. 2015). In the case of PA, similar results were produced, as researchers from Beijing and Shanghai accounted for 59% of total publication output. Among the top 10 provinces contributing to international PA research, 7 are from the East, 2 from Central and 1 from the West (Table 9). The differentiation between provinces is minimal, except for the top 5 regions, where Beijing accounts for 93 papers, but Heilongjia only 11. In mainland China, PA internationalization is highly concentrated in the East, where the economy is more prosperous and greater economic openness exists. At provincial level, the distribution of PA publications is always focused on the capital city for similar reasons, although Liaoning's case is different as its PA publications depend on Dalian instead of the capital city, Shenyang. In addition to the centralized economy, educational factors, such as the quantity and quality of universities or research institutes, may also impact upon internationalization.

Since the total number of publications by location only slightly surpasses the publication number, it is speculated that inter-provincial cooperation between mainland scholars is quite rare for the purpose of international publications. Possible explanations for this could be that mainland scholars find their collaborators within the province or they may prefer to work with their internal peers. Inter-provincial collaboration may be seen to be more time-consuming in terms of communication, with collaboration within the institute and province being more reliable and easier to conduct. However, it must be recognised that there is often deeply felt rivalry or competition between institutions which could inhibit the collaborative process.

In the case of domestic institutes, their reputation or rank may also impact on their willingness to become internationalized. High reputations/ranks can result in more resources being obtained for further development; the same applies to PA internationalization. We studied the latest official ranking of mainland PA institutes by the Ministry of Education (CDGDC 2015) and discovered that 7 out of 11 were the top 10 rated PA universities (See Table 10). Although SUFE ranked relatively lower at 29, their international performance is significant, ranking sixth with 14 publications. Again, the locations of the universities are dominated by Beijing and Shanghai. 7 out of the 11 were C9 universities. This may suggest that good reputations can bring greater international collaboration. If we consider the ratio of total number of corresponding authors to the total number of publications, ZJU, NJU and NKU stand out with 0.78, 0.77 and 0.75 respectively, which means that they maintain key roles in international publications. On the other hand, PKU, SUFE and HIT have the lowest rates, which implies that they were followers most of the time. Despite the involvement of traditional universities, quite a number of other types of organisations also contributed. For instance, research institutes, such as the Chinese Academy of (Social) Science, Development Research Centre of the State Council, State Information Centre; business schools, such as the Europe Institute of Business School and Cheung Kong Graduate School of Business; international organisations, such as the international Poverty Reduction Centre in China (IPRCC) and the Organization for Economic Co-operation and Development (OECD). Since these organisations are based in either Beijing or Shanghai, this helps to explain the importance of the two locations in terms of publications.

Exploring publications by universities further, it was found that there is some divergence in the types of department publishing PA papers. We define regular mainland PA scholars as those affiliated to a research centre/department which focuses on PA. However, it was discovered that not all papers were published by regular mainland PA scholars. For instance, in the case of THU, scholars from the departments of Construction Management/Sociology/Accounting/Political Science and the Institute of Energy Environment & Economics also contributed to international PA publications. Several other departments were also worthy of note, including the Department of Psychology in ZJU. This again proved that PA by its nature is "an umbrella discipline that serves as the intellectual harbour for the many ships that probe aspects of the role and position of government in society" (Raadschelders 2011). To understand this better in terms of global PA publications, a comparison was made between global, China and mainland papers relating to each Web of Science category. For interdisciplinary PA research (papers concerning another discipline excluding PA), the highest publication output came from Political Science, followed by Planning Development, Social Work, Business Finance, Social Issues, Environmental Studies and Industrial Labour Relations (Table 11). In China and mainland situations, the research trends were consistent with global publications, although slightly different in scope. In general, PA in mainland China is a highly interdisciplinary subject; Chinese scholars have been trying to study PA from varied perspectives rather than treating the subject in isolation. Globally, Chinese PA research followed the mainstream, although no Chinese papers were found which combined PA with Educational Research or Philosophy/Ethics, where few scholars showed any interest, as indicated in Table 11.

In the case of productive authors, we followed the research methodology proposed by Guo and Chang (2008). Their study focused on four prestigious domestic Chinese-language public administration journals from 2001 to 2005. To identify the core authors, they adopted the Price Law. According to Price Law, the minimal number and maximal number of publications by the core author have the following relationship.

$$N_{min} = 0.749 \times \sqrt{\mathrm{N}_{max}}$$

We replicated this strategy and determined that the criteria for core authors in this scenario are that the authors contribute at least two papers as first author (see Table 12). In Guo and Chang's (2008) domestic study, they extracted 84 core authors and listed the top 17. In our study, we identified 29 core authors. However, none of them matched the top 17 core authors. This may be attributed to the fact that differences exist in timescales (2001-2005 verses 2000-2014) and journals reviewed (Chinese-language PA journals verses English-language PA journals). As Guo and Chang (2008) identified, there was no stable research team in existence in PA at that time which accounted for the low core author paper ratio, although the following 10 years appear to have changed quite considerably. In their research, they also highlighted that nearly all of the top 17 authors held the title of

Professor by 2005. It is possible that, in the case of the earliest PA scholars, their motivation for international publications had diminished since they had already been recognized as renowned PA scholars and did not need to publish internationally to enhance their reputation. Their domestic reputation was strong enough for them to be published.

In analysing the domestic core authors publishing international PA papers, the top 10 productive domestic authors were also identified, together with their affiliation based on their previous published work (Table 13). The analysis showed that SYSU had the most top authors, followed by THU and XJTU (Prof. Zhu had transferred to THU in 2012 and Dr. Ma had graduated from XJTU). Most of the individuals are widely recognized as PA scholars, except for Quanquan Zheng from the Department of Psychology & Behavioral Sciences (ZJU) and Yuan Ding from the China Europe International Business School (CEIBS). For the remaining mainland PA scholars, the majority have already been promoted to professorial roles and established their reputation in the domestic PA academic community. In fact, some are employed as Dean or Associate Dean in their PA research institutes, including Yijia Jing, Jun Ma, Lan Xue, Keyong Dong, Lisheng Dong and Jiannan Wu. Yijia Jing has also served as Associate Editor of PAR in 2015 in recognition of his excellence in international PA research. Dr. Sun and Dr. Ma both obtained their PhDs from prestigious domestic universities and contribute as critical young scholars to international PA publications. In this regard, mainland scholars may be seen as core facilitators of international publications.

SUMMARY AND CONCLUSION

This paper has evaluated the internationalization of mainland PA research in terms of SSCI publications and sought to capture the important moments, countries/regions, institutes and scholars that have contributed to the internationalization process. The following points are highlighted:

- Generally, both the size and impact of mainland China PA research have increased over the past 15 years and several critical stages were discovered, especially after 2009. However, compared to the top H-index countries/regions, a considerable gap was also highlighted. In terms of size, a different pattern of international publication was observed compared with those seen in other countries, with the growth of mainland China research relying more on internal scholars rather than international collaboration. In terms of impact, mainland scholars had a relatively lower citation score compared to China PA research as a whole. The participation of non-mainland scholars improved mainland PA publications in citation performance. For top rated Q1 journals, apart from international collaboration, mainland scholars mainly depended on special issues or supplementary issues.
- For mainland scholars, they employed an array of strategies to find suitable collaborators. Firstly, they looked for scholars in adjacent areas, such as Hong Kong, Macao and Taiwan. CityU, UHK and HKPU were their closest partners. Meanwhile, they also sought out the most productive countries/regions/institutes and international authors for assistance. In this case, scholars from the USA, Hong Kong and the Netherlands were their essential collaborators. Noticeably, mainland scholars have gradually modified their strategies and conducted research with their counterparts from underdeveloped and

developing countries/regions. This may suggest that mainland China scholars have started to explore PA issues with a more global perspective and influence on third world research.

- In term of linkage to domestic contributors, Beijing and Shanghai were the most important locations due to their highly developed economies and openness. At institute level, the most productive institutes in terms of international PA publications reflected the better-known domestic PA research institutes, such as THU, SYSU and RUC. Meanwhile, the interdisciplinary nature of PA study has also been confirmed again, with scholars from various backgrounds, such as Political Science, Business Finance and Planning & Development, contributing their knowledge and skills. At individual author level, the core authors of domestic and international publications were quite different. Yijia Jing (FDU), Jun Ma (SYSU) and Xufeng Zhu (THU) were the most productive mainland scholars in international PA publications.

In spite of the international achievements of mainland China PA research, further potential issues deserve comment. For instance, in 2012, at least 27 special issue papers were published by mainland China scholars, out of a total of 56 publications (48%); this signifies the boost which 'special issues' have delivered to mainland China's research record. At the same time, most of the special issue papers were centred upon China, which may lead to a focus on the specific research topic, as opposed to the quality of the research. With increased openness, special interest in China will no doubt decline going forward as uniquely China-related topics may not satisfy international peers so easily in future. Meanwhile, plenty of opportunities and challenges for domestic PA research, brought about by emerging internationalization, are also seen.

Firstly, will internationalization result in mainland scholars catering to global publication preferences? For quite a long time, as a consequence of the research awards policy for academic performance, Chinese universities have focused primarily on international publications. Undoubtedly, this material motivation is likely to encourage scholars towards publishing internationally, while the need for statistical data for university rankings will also increase considerably. However, it may also encourage 'publishing for publication sake'; in this case, several tactics may be developed which could cause a deterioration in the otherwise healthy academic research environment. For example, picking up international journals with lower impact factors, with quicker review processes, manipulating research data and catering to the topics and research methods of targeted journals. As Zhou (2013) commented, "international publications by mainland scholars comply with the international research standards (including research design, theme, and methods) too much and their starting points are comparably small. This would not help the framework analysis of big problems". For instance, given that empirical study is more acceptable in international publications, it is possible that mainland PA research will transfer to moderate quantitative analysis and model construction, as a result of the publication bias, with the initial research interests and questions becoming lost or obscured.

Secondly, will the international publishing preference of mainland scholars force the reform of domestic PA journals? The increasing popularity of international PA publications reflects the choice of mainland scholars in terms of journals targeted. As well as financial motivation, the prospect of being internationally recognized and having high impact also pushes scholars towards international publications. If that is the case, then the domestic market for PA journals might shrink. In China, it is extremely difficult for early-career scholars to publish their work in top domestic journals. These journals may consider other factors beside the value of the research *per se*; for example, these could include the institutes affiliated, author reputation and occasionally *Guanxi*, otherwise known as social networks (Gu, Hung, and Tse 2008; Li and Lee 2014). Meanwhile, the long peer review process (e.g., in PA's case, only a few journals have reliable online submission systems and some journals never respond to authors), review cycles, publication patterns (e.g., for Chinese academic journals, online publication usually takes place 1-3 month after paper publication), together with insufficient communications between the blind-reviewers and the author (i.e., the comments might be too simple or broad to suggest constructive revision), are also criticized by mainland scholars. Few PA journals have recognised these problems or paid much attention to improving the situation; this includes, for example, the Journal of Public Management and the Journal of Public Administration. Some universities, such as ZJU, have established the international Journal of Social Quality (IJSQ) in partnership with the European Foundation on Social Quality (Berghahnbooks 2015).

Thirdly, PA is just one of the social sciences that can be adversely affected by the pressure for internationalization. Social science research relies fundamentally on context and international journals have limited interest in this subject. They are more interested in comparative research, theory and often empirical statistical research (as distinct from case studies or historic reviews); only rarely do they have interest in the particular context of a single country. The interest in China on the part of international journals may be greater than in other countries at present as their readership is trying to gain an appreciation and understanding of the re-awakening giant, but it may never extend to the sort of detail that Chinese scholars and practitioners are or should be interested in. Meanwhile, for the 'top' PA journals, the ranking of social science journals only partly reflects real quality; it also reflects the size of the scholar population, particularly in relation to the USA. Many smaller national journals rank lower precisely because they value research into their own PA context. Chinese scholars, like most of their international peers, are being swept up in the demand to be seen to publish in 'top' journals. In the UK, for instance, many Universities are observed to have a ‘publish or perish’ research culture whereby academics are encouraged to publish frequently only in ‘top’ ranked journals; unfortunately, this is not necessarily the ideal way to develop PA research for best use in China.

Limitation And Future Study

This study has focused on Chinese mainland PA research through the lens of the SSCI database. However, this method is not without its flaws. One concern is that we measured internationalization solely on the basis of SSCI articles; inevitably, this may underestimate mainland scholars' academic performance. For example, some non-SSCI journals may have a high reputation in PA research, as well as in newly established journals within specialized fields (Ye 2012). At the same time, books, which are an important source of academic knowledge, were also excluded. The presence of mainland Chinese scholars at top international conferences (e.g., The Annual American Society for Public Administration Conference) also partially symbolizes internationalization. For mainland scholars, their role as participators in international conferences has been shifting towards more crucial roles, such as Co-Host or Host. In terms of the PMRC2012, APPAM2013 conference in Fudan University and the forthcoming IIAS2016 conference in Chengdu, these are to be held for the first time in mainland China. Another concern is the impact assessment of the articles. Using cited times index is a wise choice to measure the impact upon the academic community. However, the social impact of the papers still remains unexplored. In this paper, an international impact index was created for further analysis of possible clubbing effect, whereby domestic researchers are self-citing peers (Tang, Shapira, and Youtie 2015). Further discussion of negative citation counts is also required.

As for linking domestic institutes with authors, the interdisciplinary nature of PA study made it almost impossible to evaluate the performance of PA scholars. PA research has developed extremely quickly and, in terms of vocational studies, has created a new area of academic research for mainland scholars. For example, the haze problem in Beijing, energy policy, e-Governance and big data are all major issues and, in relation to these, there is no central position to be found in PA journals. This prevented us from presenting a complete picture of mainland China PA publications. For example, Government

Informational Quarterly is an important journal for e-government scholars, but is not included in our study. At the same time, this citation analysis fails to explore the content of mainland scholars, such as the research theme, method and theory-building. This may contribute to the understanding of the progress of international publication by mainland scholars. It may also be interesting to compare domestic and international PA publications and explore how mainland PA scholars maintain their research traditions, while embracing new international research standards.

Chinese Public Administration Society is not like ASPA or other professional associations, but is a creature of the Chinese government with executive government roles as well as professional association roles. This may (or may not) inhibit its capacity to foster a truly independent and high quality PA research community.

In previous research, peers have selected PA journals first. By adopting this strategy, it may sometimes be misleading and time-consuming, as some journals might have changed their names over time. Since this paper focuses on PA internationalization, we utilized the strategy of researching all articles concerning PA research, proving a much simpler process, with no crucial difference in the final outcome.

In terms of paper quality, we paid attention to its impact on other scholars. We adopted the most frequently used index, cited times. Though recent scholars have argued the incompleteness of cited times measuring individual paper impact, these newly developed indices are still in their infancy. For example, some have proposed social impact in terms of social media/altmetrics, as complementary to scholarly impact; while the concept is good, it may only be applied to newly-published papers. For a comprehensive review, please refer to Weller(Weller 2015). Another concern is that the cited times differ between databases. If compared to Google's 'Cited by' count, a sharp underestimation of the citation is discovered in contrast to the SSCI database. As Google's citation includes all citing types, the quality of citing references cannot be guaranteed. From this perspective, we believe that counting the cited times in the SSCI database is suitable for the intended research.

For the period pre-2000, we did find book review types. However, all three book reviews were written by James L. Chan (single-authored). He was affiliated to UIC, but also SUFE at that time.

The H-index value of an author results from the counting of his/her quoted publications (Hirsch 2005). Hirsch (2005) defined H-index as "A scientist has index *h* if h of his or her N*p* papers have at least *h* citations each and the other (N*p* – *h*) papers have fewer than *h* citations each". In other words, the H-index reflects both the number of publications and the number of citations per publication. It is widely used as an index that attempts to analyse the productivity and impact of the published work of a scientist or scholar. The index can also be applied to the productivity and impact of a group of scientists, such as a department, university or country, as well as a scholarly journal.

We adopted the 2014 Journal Citation Rank (JCR) list. The JCR ranks journals into four levels, depending upon their impact factor. If the journal impact factor falls within the range of the first quarter of all the journals in a field, then the journal is regarded as a Q1 journal. For 46 PA journals, indexed in SSCI, the first quarter consists of the top 11 journals. The Q1 PA journals include JPART (Journal of Public Administration and Theory), JPAM (Journal of Policy Analysis and Management), PS (Policy Science), Governance, PSJ (Policy Study Journal), PAR (Public Administration Review), JEPP (Journal of European Public Policy), R&G (Regulation Government), CP (Climate Policy), EPC (Environment and Planning C) and PA (Public Administration).

In this paper, Bangcheng Liu (SJTU) was the co-author. Although it is widely recognised that the first mainland scholar publishing in JPART was Jiannan Wu from XJTU (Bretschneider, Marc-Aurele, and Wu 2005), it was not possible to identify this paper through the search strategies employed as that paper only identified one affiliation, namely Syracuse University.

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Table 1 Publication of top 10 countries in PA research, 2000–2014

Country	2000-2004		2005-2009		2010-2014		□	□
	NP	Share,%	NP	Share,%	NP	Share,%	Total	Share,%
USA	2364	35.57	2821	34.99	3516	33.63	8701	34.58
UK	1852	27.87	1947	24.15	1999	19.12	5798	23.04
Canada	599	9.01	617	7.65	749	7.16	1965	7.81
Australia	304	4.57	411	5.10	572	5.47	1287	5.11
Netherlands	139	2.09	292	3.62	576	5.51	1007	4.00
Germany	143	2.15	243	3.01	387	3.70	773	3.07
Spain	42	0.63	173	2.15	375	3.59	590	2.34
China*	**48**	**0.72**	**131**	**1.62**	**325**	**3.11**	**504**	**2.00**
Denmark	69	1.04	117	1.45	216	2.07	402	1.60
Belgium	50	0.75	107	1.33	192	1.84	349	1.39
Global	6646	□	8063	□	10,456	□	25,165	□

Note: The data for China includes mainland China, Hong Kong and Macao. NP denotes the Number of Publications. The data shown here was collected on 24 July 2016.

Table 2 Citation index of top 10 countries in PA research, 2000–2014

Country	TC	ATC	AC	H-index
USA	78117	64102	8.98	93
UK	47122	41599	8.13	71
Canada	9589	8860	4.88	40
Australia	9154	8455	7.11	40
Netherlands	12237	11510	12.15	50
Germany	9830	9337	12.72	48
Spain	3256	2961	5.52	27
China*	**3664**	**3213**	**7.27**	**28**
Denmark	3703	3496	9.21	26
Belgium	2875	2729	8.24	27

Note: TC denotes the Total number of Citations; ATC the Adjusted Total number of Citations (total citations excluding self-citations) and AC denotes Average Citations. The data for China includes mainland China, Hong Kong and Macao. The data shown here was collected on 24 July 2016.

Table 3 Top 10 PA Journals publishing mainland China scholars' work, 2000-2014

Journal Name	NP	Share,%	IF	Quartile in category
JAPP, Journal of Accounting & Public Policy	26	11.02	0.547	Q3 (Business, Finance/PA)
PPM, Public Personnel Management	23	9.75	0.295	Q4 (Industrial Relations & Labor/PA)
CEP, Contemporary Economic Policy	14	5.93	0.478	Q3 (Economics) Q4 (PA)
AJPA, Australian Journal of Public Administration	13	5.51	0.416	Q4 (PA)
PAR, Public Administration Review	**13**	5.51	**1.973**	**Q1(PA)**
CP, Climate Policy	**11**	4.66	**1.675**	**Q1(PA) Q2(Environmental Studies)**
P&S, Policy & Society	10	4.24	0.42	Q3 (Political Sciences) Q4 (PA)
SPA, Social Policy Administration	10	4.24	0.854	Q2 (PA) Q3 (Planning & Development/Social Issues)
PA, Public Administration	**9**	3.81	**1.518**	**Q1 (Political Science/PA)**
IRAS, International Review of Administrative Sciences	9	3.81	0.658	Q3 (PA)

Total	1 3 8	58.4 7		

Note: The Impact Factor (IF) data relates to 2014, as published in JCR-2015. The data relating to Quartile in category is also taken from the JCR journal ranking.

Table 4 Symposia paper published by at least one mainland author

Name	Symposia/Conference/Workshop	Y(N)
IRAS	Biennial conference of the Commonwealth Association of PA and Management, Creating Self-confident Government: Reflections and new frontiers, Glasgow, 2002	2003(1)
PSci	67th Annual American Society for Public Administration (ASPA) National Conference, Denver, 2006	2008(1)
PAR	Comparative Chinese/American Public Administration, Marc Holzer and Mengzhong Zhang, Rutgers University–Campus at Newark, 2009	2009(8)
AS	5th Cross-Strait Conference on Public Management: PA in a changing world, challenges, opportunities and innovations, Hong Kong, 2009	2010(1)
AJPA	Public-Private Partnerships: Promises, Politics and Pitfalls, Hong Kong, 2007	2010(1)
AS	The Dynamics of Civil Society Coalition in Asia Policy, Hong Kong, 2012	2012(1)
ROPPA	Public HRM in China	2012(4)
IPMJ	Collaborative Governance in Mainland China and Hong Kong: Issues and perspectives	2012(3)
JCPA	Designing Disaster Resilience and Public Policy: Comparative perspectives, Part II	2012(2)
PAD	PA & Sustainability: The role of public institutions in creating a	2012(1)

	sustainable future	
PAD	Governance & the Eradication of Poverty: New perspectives from multidisciplinary analysis	2012(1)
PPM	Unidentified Special Issue	2012(11)
AJPA	Citizens engagement in Australia and China	2012(4)
AJPA	Inter-Governmental Relations in China and Australia	2013(6)
CP	Supplement 1- Low Carbon Drivers for a Sustainable World	2013(2)
JAPP	Accounting and Corporate Governance	2013(2)
PA	Reform and Transition in Public Administration Theory and Practice in Greater China， Tsai-Tsu Su, Richard M. Walker and Lan Xue	2013(4)
PA	Understanding Crises and Transformations of Welfare States: The role of ideas， Mikko Kuisma	2013(1)
PMR	Developments in Theory	2013(1)
PMR	Performance Management in Asia-Pacific	2013(2)
ROPPA	Equity, Sustainable Development and Climate Policy	2013(1)
JCPA	Policy Change in Comparative Contexts: Applying the advocacy coalition framework outside of western europe and north america	2014(1)
PSci	Policy Design Workshop, Singapore, 2013	2014(1)
PAD	Public Policy for Pensions Reform: A governance challenge for PA and development	2014(1)
PMR	Innovation in Public Services	2014(2)
PPM	Public Human Resource Management in China	2014(7)

Total	26	70

Note: This list of comprehensive symposia papers may have some omissions due to incomplete attributes in the SSCI database.

Table 5 Top 10 international collaborators of mainland China's PA research

Rank	Countries/Regions	Total number	Share (%)
1	USA	68	28.8
2	Hong Kong	36	18.3
3	Netherlands	14	5.9
4	Australia	13	5.5
5	Taiwan	12	5.1
6	UK	12	5.1
7	Singapore	6	2.5
8	Germany	6	2.5
9	France	5	2.1
10	Canada	5	2.1

Table 6 Top international collaborating institutes of mainland China's PA research

Rank	Institute	Total number	Share (%)
1	City University of Hong Kong, CityU	18(164)	7.6
2	Delft University of Technology, DUT	10(63)	4.2
3	University System of Georgia, USG	6(818)	2.5
3	University of Hong Kong, UHK	6(125)	2.5
3	Hong Kong Polytechnic University, HKPU	6(30)	2.5
6	University of Southern California, USC	4(351)	1.7
6	University of Georgia, UG	4(481)	1.7
6	University of New South Wales, UNSW	4(153)	1.7
6	University of Illinois System, UIS	4(351)	1.7
6	University of Illinois Chicago, UIC	4(205)	1.7

Note: The number in parenthesis indicates the total number of papers identified in SSCI PA journals, 2000-2014.

Table 7 Top 5 international scholars collaborated with mainland China's PA research

Full Name	Affiliation	Total number	Share (%)
Martin De Jong	DUT	10(12)	4.2
Richard M. Walker	CityU	4(67)	1.7
James L. Chan	UIC	4(7)	1.7
Tom Christensen	University of Oslo	3(31)	1.3
Martin Painter	CityU	3(35)	1.3
Hon Chan	CityU	3(17)	1.3

Note: The number in parenthesis indicates the total number of papers identified in SSCI PA journals, 2000-2014.Since quite a number of scholars outside China contributed to 2 papers, we only listed the top 5.

Table 8 The impact of collaboration patterns on citation

Authorship Pattern	Total Number	Total Citation	Average Citation
Mainland China only	88	379	4.31
Mainland + Hong Kong only	21	106	5.05
Mainland +Taiwan only	3	6	2
Greater China area	113	494	4.37
Mainland +non-Mainland	148	835	5.64
Mainland +non-Great China	109	646	5.93

Table 9 Geographic distribution of mainland China scholars with PA publication

Location	Province	NP	P
East	Beijing	93	39.7
East	Shanghai	47	20.1
East	Guangdong	28	12.0
East	Zhejiang	21	9.0
Central	HeilongJiang	11	4.7
East	Jiangsu	9	3.8
East	Tianjin	9	3.8
Central	Hubei	7	3.0
Central	Liaoning	5	2.1
West	Shaanxi	5	2.1
East	Fujian	5	2.1
West	Sichuan	4	1.7
Central	Jilin	3	1.3
West	Gansu	2	0.9
East	Shangdong	1	0.4
Central	Henan	1	0.4
Central	Hunan	1	0.4
Central	Anhui	1	0.4
East	Guangxi	1	0.4
West	Chongqing	1	0.4
West	Yunnan	1	0.4

Total	21	256*	109.1

Note: NP denotes Number of Publications, while P expresses them as a percentage of the total number of publications (236). *As the province for each paper was taken directly from the address, it is possible that one paper indicates more than one province. The total number of mainland China publications is, therefore, greater than 236.

Table 10 Top 10 most productive mainland institutes

University	National Rank	PA Rank	NP	NPR	Ratio
Tsinghua University, THU C9	3	2	28	16	0.57
Sun Yet Sen University, SYSU	9	5	22	15	0.68
Renmin University of China, RUC	19	1	19	9	0.47
Zhejiang University, ZJU C9	2	NA*	19	15	0.78
Peking University, PKU C9	1	3	16	4	0.25
Shanghai University of F & E, SUFE	84	29	14	5	0.36
Fudan University, FDU C9	5	7	13	8	0.62
Harbin Institute of Technology, HIT C9	12	NA*	13	5	0.38
Nanjing University, NJU C9	6	NA*	9	7	0.77
Shanghai Jiaotong University, SJTU C9	4	7	8	4	0.50
Nankai Unviersity, NKU	14	NA*	8	6	0.75

Note: NP denotes Number of Publications and NPR the Number of Publication as Responding Person. NA* indicates that this institute has not participated in the official rank and may have a high academic performance in the given areas. For national rank, we adopted the 2015 report on Evaluation of Chinese Universities. Although Chinese Academy of Social Science (CASS) and Chinese Academy of Science(CAS) contributed a considerable number of publication, this table did not listed them for their enormous size as a research institute.

Table 11 Contribution and PA research across disciplines, 2000–2014

Web of Science Category	Global		China		Mainland	
	Rank	NP	Rank	NP	Rank	NP
Political Science	1	6,034	1	82	1	30
Planning development	3	3093	2	68	3	24
Social work	4	2811	3	46	6	18
Business finance	11	216	4	42	2	26
Social issues	2	3191	5	37	6	18
Environmental studies	5	1716	6	29	5	19
Industrial relations labor	8	441	7	27	4	23
Management	7	1318	7	27	9	14
Economics	6	1535	9	24	8	17
Social Science interdisciplinary	9	312	10	23	11	2
Laws	12	203	11	5	10	3
Public administration		25,165		504		236

Note: NP denotes Number of Publications. Apart from the listed areas, the global PA publication also involves business, education educational research, philosophy and ethics.

Table 12 Core authors involved in mainland PA research, 2000–2014

Rank	Author Full name	NPF
1	Yijia Jing	7
2	Xufeng Zhu	5
3	Jun Ma	4
4	Martin de Jong	3
5	Bangcheng Liu	3
6	Kinglun Ngok	3
7	Sun De-chao	3
8	Evan Berman	2
9	Hon S Chan	2
10	Cheng Chen	2
11	Kai Chen	2
12	Xiaomei Deng	2
13	Yuan Ding	2
14	Keyong Dong	2
15	Lisheng Dong	2
16	Michael Firth	2
17	Karen R Fisher	2
18	Guan Xinping	2
19	Arie Halachmi	2
20	Wanxin Li	2
21	Zhigang Li	2

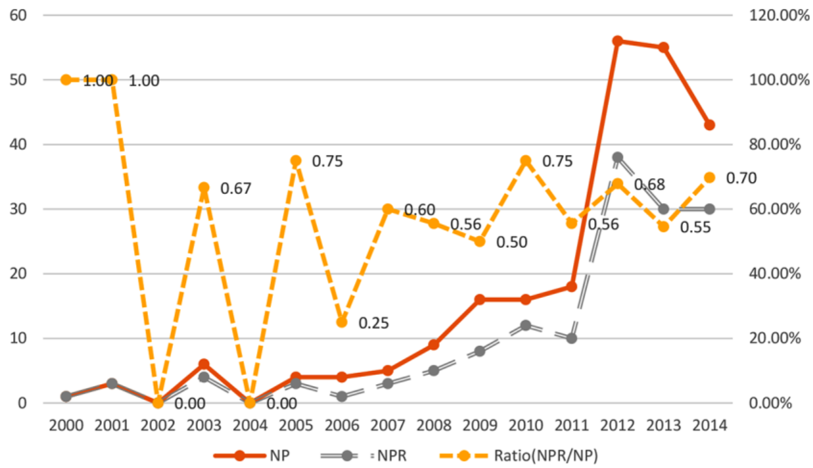
22	Liang Ma	2
23	Andrew Podger	2
24	Xiaoyuan Shang	2
25	Richard M Walker	2
26	Lan Xue	2
27	Yongheng Yang	2
28	Guang Zhang	2
29	Haibo Zhang	2

Note: NPF denotes Number of Publications as First Author.

Table 13 Core domestic authors involved in mainland PA research, 2000–2014

Author	NP	Affiliation	PhD
Yijia Jing	10	FDU	OSU, Public Policy (2005)
Jun Ma	6	SYSU	Univ. Nebraska at Omaha, Public Administration (2002)
Xufeng Zhu	5	NKU→THU	THU, Public Management (2005)
Quanquan Zheng	4	ZJU	Engineering (1991)
Lan Xue	4	THU	CMU, Engineering and Public Policy (1991)
Kinglun Ngok	4	SYSU	CityU, Public Administration (around 2000)
Xiaoyuan Shang	4	BNU	Univ. Sussex, Development(1998)
Keyong Dong	3	RUC	PKU, Economics (2001)
Lisheng Dong	3	CASS	Universitaire Instelling Antwerpen, Political Science (1992)
Jiannan Wu	3	XJTU→SJTU	XJTU, Management (1999)
Dechao Sun	3	JLU	Jilin U, Law (2010)
Liang Ma	3	NPU→RUC	XJTU, Public Policy (2012)
Bangcheng Liu	3	SJTU	SJTU, Management (2005)
Linxiu Zhang	3	CAS	Univ. Reading, Economics(1995)
Yuan Ding	3	CEIBS	Université Montesquieu-Bordeaux IV, Accounting (2002)

Figure 1 International PA publications by mainland China scholars, 2000-2014.



Note: NP denotes the total Number of Publications; NPR the Number of Respondent Persons identified by mainland China-affiliated Publications and Ratio is the ratio of NPR to NP.

Figure 2 PA Q1 Publications by mainland scholars, 2000-2014

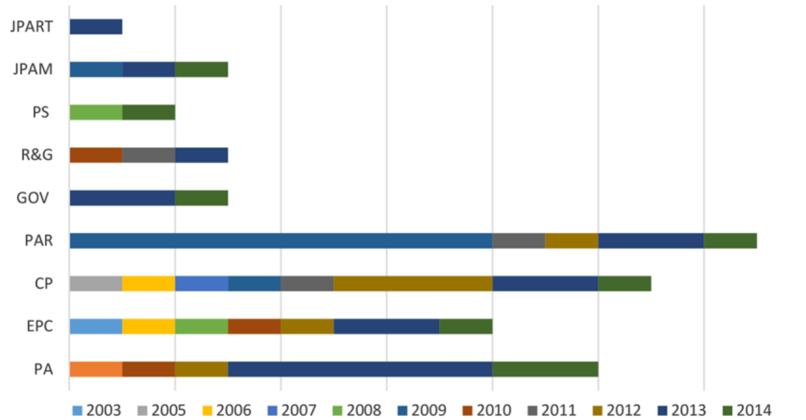


Figure 3 Authorship variation of PA Q1 papers by mainland scholars, 2000-2014

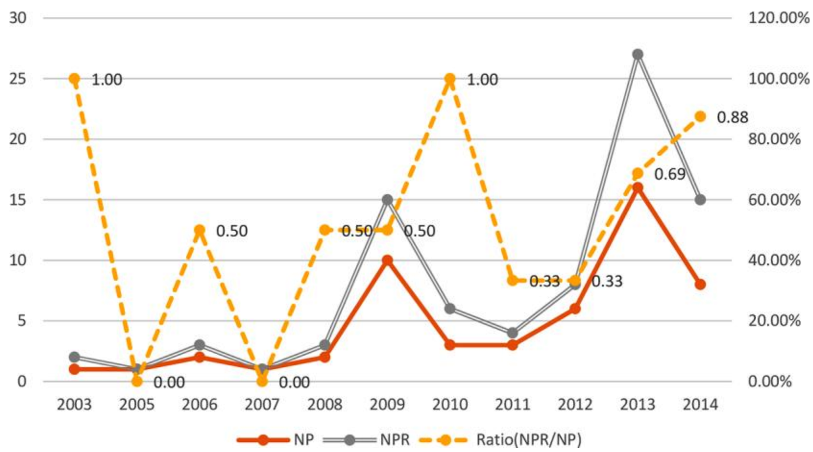


Figure 4 Collaboration of mainland PA research at institute level, 2000-2014

Figure 5 Collaboration of mainland PA research at individual level, 2000-2014