

#### Contents lists available at SciVerse ScienceDirect

# China Economic Review



#### Review

# A bibliometric account of Chinese economics research through the lens of the China Economic Review

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#### ARTICLE INFO

#### Article history: Received 19 September 2011 Received in revised form 13 April 2012 Accepted 13 April 2012 Available online 21 April 2012

JEL classification:

B30 B40

C89

F00

Keywords: Evolution of research Economics Bibliometrics China Economic Review

#### ABSTRACT

Very few studies on the assessment and evolution of Chinese economics research draw on quantitative methods, namely bibliometrics. Bibliometrics is a powerful tool that helps to explore, organize and analyze large amounts of information in a quantitative manner. Selecting the most important economic journal focusing on the Chinese economy - the China Economic Review (CER) – we classified and assessed all the (512) articles that have been published in CER from its founding (1989) to December 2010. Based on these articles, and undertaking an exploratory statistical analysis on three databases - a 'bibliographic' database (512 articles), a 'roots' database (over 10 thousand citations), and an 'influence' database (over 3 thousand citations), we concluded that: 1) 'Economic Development, Technological Change, and Growth'; 'Economic Systems', and 'International economics' are the most important topics for Chinese economics literature; 2) there is a trend in Chinese economics research for growing 'rigor', associated to a noticeable rise in the weight of formal/mathematical-based articles; 3) the 'International economics' topic does not influence nor is it influenced by Chinese economics literature; and 4) Chinese economics literature is characterized by a certain level of endogamy, given that its range of influence is rather concentrated (geographically) in China and the USA.

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#### 1. Introduction

The Chinese economy has experienced rapid growth and development in the past two decades. Since 1978, when the first step towards economic reform took place in China, economic growth has averaged around 10%/year (IMF, 2011). This high growth rate is explained by the development of China's industrial sector and by the openness of the country's policy to international trade and investment, as well as its transformation from a centrally-planned economy to a progressively more market-oriented one. Indeed, in this period, China has experienced price liberalization, fiscal decentralization, increasing autonomy of state-owned enterprises, a more diversified banking system, the development of stock markets, and the rapid growth of the private sector (Ravenhill, 2006).

Not surprisingly, there is growing academic interest in the Chinese economy and economics, having become one of the most researched topics in recent years, when compared to the other BRIC member countries (i.e., Brazil, Russia, India) (Calvani & Alderman, 2010).

Between 1996 and December 2011, 4505 articles were published in 40 journals, analyzing and discussing the Chinese economy. The evolution and performance of the Chinese economy has attracted a great deal of attention from academic researchers in terms of both articles published and citations. Indeed, the annual average growth rate of articles published on and citations to Chinese economics literature reached 8% and 42%, respectively between 1996 and 2011.

Additionally, Foreign Direct Investment (FDI) in China, which increased dramatically from US\$ 1bn in 1980 to US\$ 83bn by the end of 2007 (Fetscherin, Voss, & Gugler, 2010), has been one of the most favored research topics, attracting the interest of many researchers within Chinese economics research (e.g., Fetscherin et al., 2010; Giner & Giner, 2004). Related with FDI, some authors have examined a number of issues, such as preferential policy, wage costs, and the labor market (Giner & Giner, 2004). Furthermore, after China officially joined the World Trade Origination (WTO) in 2001 (Wong, 2003), reflecting not only that China's economy was more closely linked to the world economy, but also implied more foreign trade liberalization in the Chinese market (Anderson, Huang, & Ianchovichina, 2004; Shafaeddin, 2004), several authors took such research further into interrelated topics of international trade, such as free-trade areas, regional agriculture, and manufacturing (Anderson et al., 2004; Wong, 2003).

From 2007 to the present (2011), despite the global financial crisis that has triggered a liquidity shortfall in the United States banking system (Aloui, Aïssa, & Nguyen, 2011), having impacted on other world economies including China, the Chinese economy is still among the economic systems that have attracted the most business and research attention (OECD, 2010).

In this context, it seemed scientifically pertinent to find out, in greater detail, how Chinese-related economics has evolved, which topics have drawn the researchers' interest, who are the most important researchers in this area, and the (geographical) scope of influence of Chinese-related research. In brief, it would be useful to evaluate whether the dynamics of Chinese economics research is matched by the (economic and business) dynamics of the Chinese economy. Moreover, it would be interesting to assess the extent to which international economics-related matters have receiving increasing attention and how specific is this theme, namely in terms of the type of research (i.e., degree of formalization).

In order to account for the evolution of Chinese economics both in research topics and type of research, bibliometrics, which has become a standard tool to measure science policy and research management in recent years (Uysal, 2010), seems to be a 'natural' choice in terms of tool of analysis (Silva & Teixeira, 2008). Based on the "advancement of knowledge" perspective, bibliometrics can be applied to research on the importance of articles published in international journals (Skoie, 1999). There are many important and interesting studies which use bibliometric techniques to analyze the fields of technology, medicine, and the social sciences, and particularly in this latter case, economics (e.g., Culnan, O'Reilly, & Chatman, 1990; Rafael, Rodriguez, & Navarro, 2004; Robert, Wilson, Gaudy, & Arreto, 2007; Teixeira, 2011; Wong, Ho, & Chan, 2007). However, to the best of our knowledge, to date, there are few or no studies that examine and assess Chinese economics research based on bibliometric methods in order to analyze the evolution of the topics focused on (e.g., Macroeconomics, Microeconomics, International Economics), types of methods (e.g., 'Empirical', 'Formal', 'Appreciative', 'Formal plus Empirical', 'Empirical plus Appreciative', and 'Surveys'), and the scope of its geographical influence.

Accordingly, the present study aims to overcome this gap by contributing with an overall assessment of Chinese economics research. Given this purpose, our empirical analysis focuses on a 'seed journal', the *China Economic Review* (CER), a major outlet for research on Chinese economics (Ravenhill, 2006). It is indexed in ISI with an impact factor of 0.947 (year of reference 2010), ranking at 116th among 304 journals from the economics research area. Using bibliometric methods, we read and classified all (512) original articles that were published in CER from 1989 (first volume) to December 2010. Thus, from a quantitative perspective, we were able to assess the importance of the international topic, within economics-related research on China, more specifically, in the research developed in CER and its researchers.

Summing up, through the lens of CER, we seek to answer three main research questions: (1) What is the evolution of Chinese economics-related research by topics and types, and what are the dynamics of the international topic within it?; (2) Who are the most-cited researchers and studies in Chinese economics literature?; and (3) What is the scope of influence of Chinese economics literature?

<sup>&</sup>lt;sup>1</sup> Data obtained from the SciVerse Scopus database using 'China economy' as the key search words. The search was restricted to the 1996–2011 period, since before 1996 the Scopus database is not representative. Furthermore, only articles and reviews in the scientific fields of 'Social Sciences', 'Economics, Econometrics and Finance', and 'Business, Management and Accounting' were considered.

The paper is structured as follows. Section 2 presents a brief overview of the literature dedicated to the evolution of the (social) sciences based on bibliometric methods. Section 3 discusses the methodological underpinnings, namely why we chose the China Economics Review (CER) as the seed journal, and explain how we built the three bibliographic databases to answer the study's three research questions. The empirical analysis of the state-of-the-art of Chinese economics research, using CER as the reference journal, is presented in Section 4. Finally, the Conclusions summarizes the main contributions of the research.

#### 2. Analyzing the evolution of a research field based on bibliometric tools: a review of the literature

The term bibliometrics was first introduced by Pritchard (1969), who explained that the term "deals with relationships among numbers of scientific papers, numbers of patents, amounts of exports and other quantities" (Pritchard, 1969: 348–349). Other authors proposed additional definitions for bibliometrics. For instance, Boyce and Kraft (1985: 163–170) claimed that "bibliometrics is the quantitative study of written communication through its physical realization". Donohue (1972: 4, in Broadus, 1987) also published a short and clear definition of bibliometrics as a "quantitative analysis of gross bibliographical units such as books, journal articles, and the like".

In recent years, the use of bibliometrics, which is a common research method to analyze the literature and "trends" in research, has grown significantly (Willett, 2007). Bibliometrics generally involves counting citations in publications in a given area of research using these counts to develop statistical distributions (Culnan, 1986; Willett, 2007). In addition, bibliometrics analyzes the scientific research activity and represents a relatively new form of "meta-reviewing" the literature (Kim & McMillan, 2008). As a tool, bibliometric citation analysis evaluates the advancement of a research area and its empirical development (Glänzel & Moed, 2002). Furthermore, citation analysis also serves to measure impact and not necessarily intrinsic value, although the two may often intersect (Culnan, 1986).

Using bibliometric citation methods, Wong et al. (2007) analyzed the development of nanotechnology based on scientific publications and citation studies, whilst Robert et al. (2007) assessed the impacts of physiology, biochemistry and endocrinology on sleep science. Meanwhile, bibliometrics has been also used to analyze certain phenomena, such as identifying key researchers (Fetscherin et al., 2010; Teixeira, 2011) and journals (Anyi et al., 2009), and the extent to which different journals assemble the most-cited articles on a given matter (Culnan, 1986; Linton & Thongpapanl, 2004). Finally, researchers can identify the centers of influence and the research related to a relevant field by applying a simple count of publications (Moed, 2002).

With regard to the latter aspect, it is undeniable that the characteristics of modern science include the development of new and rapidly changing interdependencies within a field of research yet, at the same time, its scope is not clear (Cahlik, 2000). Thus, to understand the evolution of a scientific research field, it should be identified and classified by means of bibliometric methods. So as to analyze the scientific field, its structure should be defined in cognitive and social layers (Cahlik, 2000).

The cognitive layers can be defined as an aggregation of scientific fields, which are networks of scientific topics, whilst the scientific topics are networks of keywords or citations (Beckmann & Persson, 1998; Cahlik, 2000). The social layer includes scientists, researchers and other actors linked to the financial and informational flows. According to Cahlik (2000), the cognitive and social layers can be analyzed on the basis of bibliometric methods. In the field of Information Science, Teixeira (2011) analyzed respectively the invisible colleges in entrepreneurship research, whereas Anyi et al. (2009) provided a comprehensive review of (82) studies that made bibliometric analyses of single journals. Within the Management field of research, Rafael et al.'s (2004) study aimed to gain insight into strategic management research and its evolution based on studies by a vast number of researchers in this field. They analyzed all the original articles published in the *Strategic Management Journal* (SMJ) from 1980 to 2000, using citation and co-citation analysis. Moreover, these authors consider that citation and co-citation analysis could also be used as a tool to identify the authors, documents and journals that are most widely read among the researchers in a given discipline and detect relational links among them.

In the area of Business, Inkpen and Beamish (1994) analyzed the twenty-five years of research published in the *Journal of International Business Studies* (JIBS). They examined the authors' relative contribution to JIBS and discussed the development of the JIBS by performing analyses of authors, editors and reviewers. These authors concluded that JIBS has become a major journal in the business research field and in interdisciplinary research. Later, Dubois and David (2000) analyzed and ranked the quality of 30 international business journals using a citation analysis and survey approach. They concluded that the slow development of the Business area could be explained by the fact that some authors did not wish to explore such a risky subject; instead, they preferred to study other more conservative areas of international business.

In the field of Marketing, Baumgartner and Pieters (2003), based on citation analysis, investigated the influence of a comprehensive set of marketing and marketing-related journals over a 30-year period. Specifically, they assessed the influence of each journal in the marketing sciences and in five specific sub-areas: Core Marketing, Consumer Behaviour, Marketing Applications, Marketing Education and Managerial Marketing. Overall, the authors found that citation analysis can highlight the journals' influence as well as, more broadly speaking, the creation and diffusion of scholarly knowledge within a discipline. In the same the field, Tellis, Chandy & Ackerman (1999) used citation analysis to analyze major marketing journals based on the relative diversity among them. One of their most important findings was that, although each marketing journal focuses on different scientific areas, they are related to each other. The issue of quality and status was analyzed by Zinkhan and Thomas (1999) focusing on *The Journal of Advertising* (JA) and embracing a comprehensive set of general and specialty advertising,

marketing, and business areas. They primarily aimed to analyze the quality of *The Journal of Advertising* by applying citation analysis. They concluded that the cited and cited-to-citing ratios influence the journal's ranking.

Finally, in the area of Economics, Liebowitz and Palmer (1984) explored the influence of journal rankings on the writings of academic authors in the economic profession by using journal impact factors. These authors attempted to control for both journal size and age by building a measure of journal impact and considered this procedure to be a significant improvement over previous methods. Also in Economics, Laband and Piette (1994) examined the changing scope of the market for scientific knowledge in terms of both pages published and citations of the literature. They additionally examined the changing levels of citations among the premier journals and market penetration by new journals.

Most of the studies that use bibliometrics in the area of the social sciences, and most particularly in economics, draw on these techniques to evaluate the intellectual structure of a given area (e.g., Culnan et al., 1990; Rafael et al., 2004) or journal rankings (e.g., Laband & Piette, 1994; Liebowitz & Palmer, 1984; Tellis, Chandy, & Ackerman, 1999). More recently, some studies have proposed a new research direction in the field of economics by using bibliometrics. Specifically, they analyze the evolution of given scientific areas, such as regional science (Cruz & Teixeira, 2010), evolutionary economics (Silva & Teixeira, 2009), and structural change (Silva & Teixeira, 2008), by classifying the abstracts of articles published in the corresponding areas' seed journals (Cruz & Teixeira, 2010; Silva & Teixeira, 2008) or in a given scientific area within economics (Silva & Teixeira, 2009).

Cruz and Teixeira (2010) critically assessed the evolution of the literature on regional studies and regional science by examining the evolution of the cluster literature, based on two main bibliometric methods: classification of citations and topics. The study involved the analysis of 5000 citations and the classification of almost 3000 abstracts from 1962 to 2008. By means of these methodologies, they concluded that although research innovation comes from regional science and areas within regional studies, 'convergence' between the methodologies used in regional science and regional studies is a chimera (Cruz & Teixeira, 2010).

In the area of structural change, which has an important tradition in economic theory, Silva and Teixeira (2008) organized the literature from its early foundations until a more recent period. Apart from a survey of the articles on structural change from an economic perspective that emphasized 'seminal' contributions, they also interpreted the most recent trends in that literature. The authors analyzed citations and co-authoring, taking *Structural Change and Economic Dynamics* as the 'seed journal'. Furthermore, by means of bibliometrics, they concluded that "most contributions [within structural change] put great emphasis on technology-driven growth and lack an appropriate treatment of the demand side" (Silva & Teixeira, 2008).

Through a quantitative review of all the theoretical and empirical articles on evolutionary economics that were published in journals included in the Econlit database over the past 50 years, Silva and Teixeira (2009) explored the main research paths and contributions in this scientific area. Silva and Teixeira (2009), similar to Silva and Teixeira (2008), used bibliometrics to classify articles by topics and types, but this time based on a myriad of journals instead of only one 'seed journal'. They studied the evolution of the scientific field through abstract classification, co-citation analysis and co-authoring analysis, from which it was possible to measure the influence of authors and articles. As the authors pointed out, research on evolutionary economics needs to combine economic theory with empirics. They demonstrated that in reality evolutionary economic research focuses on rather conceptual and even formalized approaches, lacking studies of an empirical type. Therefore, they argued that there is a need to redirect the evolutionary research agenda towards quantified evidence.

With regard to Chinese-related research and the use of bibliometrics, it should be noted that many researchers (e.g., Chen, Chen, Wang, & Chou, 2006; Meng, Hu, & Liu, 2006) have already used bibliometrics to analyze the development of science, technology, education and culture in China. For example, Chen et al. (2006) analyzed China's research output in the medical area based on medical journals included in the Science Citation Index Expanded and related databases. Meanwhile, Meng et al. (2006) investigated Chinese Research and Development (R&D) through bibliometrics methods. Furthermore, Ma, Dai, Ni, and Li (2009) assessed the main research directions of information science in China by using author co-citation analysis. However, most of the studies that use bibliometrics in this context (e.g., Chen et al., 2006; Ma et al., 2009; Meng et al., 2006), have only focused on classifying the technological dynamics of China as reflected in its scientific output, neglecting the evolution of the Chinese social sciences, most particularly, Chinese economics. Given the recent prominence of Chinese economics-related trajectories and performance, this stands as a key issue to be explored.

In our study, we classify all the articles published in the *Chinese Economics Review* (CER), from its founding to December 2010, and, following Silva and Teixeira (2008), Silva and Teixeira (2009) and Cruz and Teixeira (2010), by topics/themes (e.g., Macroeconomics, International Economics), and types of methods (e.g., 'Empirical', 'Formal', 'Appreciative'), aiming to gauge the dynamics of Economics and, within it, the international topic. Additionally, we analyze who are the most-cited researchers and studies in Chinese economics literature, and their scope of influence.

#### 3. Methodological considerations

We chose to focus our empirical research on journal articles because they are considered "certified knowledge" (Rafael et al., 2004), which is the term commonly used to describe knowledge that has been submitted to the critical review of fellow researchers. The use of citations from articles in research journals is a standard practice that enhances the reliability of results (Boyce & Kraft, 1985; Rafael et al., 2004).

Given that the main goal of the present work is to analyze Chinese economics literature, our 'natural' choice was the *China Economic Review* (CER). This journal is considered the 'seed journal' (Leydesdorff, 2007) for Chinese economics research because

it is one of the most important journals in the area of economics with an explicit focus on China. CER is the official journal of The Chinese Economists Society and its scope explicitly mentions that it "... publishes original works of scholarship which add to the knowledge of the economy of China and to economics as a discipline." CER is also indexed in the ISI Web of Knowledge and is ranked 116th in a total of 304 economic journals, with an impact factor of 0.947 (reference year 2010).

In brief, the reasoning behind the choice of CER can be summarized as follows: (1) all the published articles focus on issues related to Chinese economics; (2) CER is one of the most relevant scientific journals in the field of economics which explicitly analyzes China's economy; and (3) CER is regarded as an important source by researchers in this field.

Since 1989, the date of CER's first issue, the journal has become a multidisciplinary outlet focusing on Chinese-related macroeconomic issues, its foreign trade system, high-tech innovation industry and industrial firms (Liang & Klein, 1989; Shan, 1989; Simon, 1989). The Chinese economy has undergone continuous development over the past ten years (IMF, 2011) and, as a result, several of CER's authors have introduced more Chinese economy-related issues, such as labor market, agriculture, and intellectual property rights (Johnson, 2001; Wu, 2001).

In this study, we highlight the development of publications over more than 20 years by analyzing the structural evolution of CER. All the bibliometric information (articles published in CER, and these articles' cited and citing sources) were retrieved from SciVerse Scopus.<sup>3</sup> The number of issues published in CER is growing steadily every year — from 1989 to 2010, the number of issues published in each volume has increased from 2 (1989–1999) to 5 (in 2010). The number of articles in each volume has been also steadily increasing. In fact, more than 522 articles were published from the spring of 1989 to 2010, of which 387 articles were published between 2000 and 2010. This represents almost 74% of the total published articles.

After analyzing all the articles published in CER, we found that 512 articles published in CER were original, whereas the others were identified as conference papers. Thus, our research was restricted to the 512 original articles.

First, a bibliographic database was built with all of the CER's articles. This database includes information regarding the number of authors, authors' affiliation and research field. Then, all the Chinese economics-related articles were classified according to the JEL codes so as to identify the main themes/topics, and they were further classified by type of method used (formal, appreciative, empirical, formal and empirical, appreciative and formal, survey). This database, and the corresponding analysis, enabled us to answer our first research question: What is the evolution of Chinese economics by topics and type, and what are the dynamics of the international topic within it?'

Based on this first database containing all the papers published in CER, another database was built, the 'roots' database, which contains the references/citations from these articles.<sup>7</sup> As a result, more than 10,000 citations from CER were classified and analyzed. This second database provided the answer to our second research question: 'Who are the most-cited researchers and studies in Chinese economics literature?'

Finally, based on who cites the papers published in CER, we built a third database (the 'influence' database), encompassing studies that cited articles published in CER.<sup>8</sup> This third database served to respond to our third and last research question: 'What is the scope of influence of Chinese economics literature?'.

<sup>&</sup>lt;sup>2</sup> This information is taken from CER official webpage at Elsevier. Webpage accessed on 20th November 2010.

<sup>&</sup>lt;sup>3</sup> We use SciVerse Scopus bibliographic database (from Elsevier) instead of ISI Web of Knowledge as the former covers all articles published in CER since its genesis, whereas the latter only covers CER from 1995 onwards.

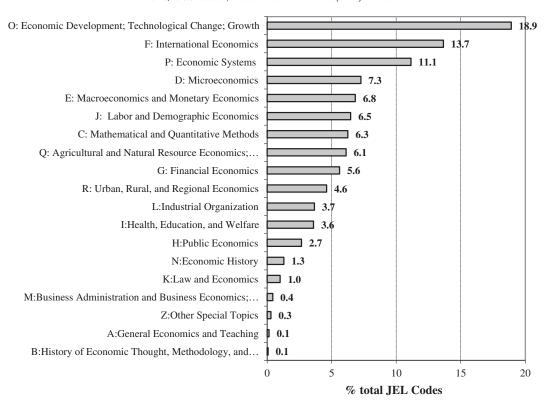
<sup>&</sup>lt;sup>4</sup> JEL code details can be viewed at http://www.aeaweb.org/jel/jel\_class\_system.php.

<sup>&</sup>lt;sup>5</sup> Nelson and Winter (1982, in Silva and Teixeira, 2009) proposed a distinction between formal and appreciative types of research. Later, Silva and Teixeira (2008, 2009) extended it to include additional types such as 'Empirical', 'Formal plus Empirical', 'Empirical plus Appreciative' and 'Surveys'. In order to capture the difference between theoretical arguments which follow a mathematical rationale from those that do not follow any model, Silva and Teixeira (2008, 2009) considered that "formal" included a structured theorization, whereas "appreciative" could be considered as a more intuitive form based on value judgments and common sense (Nelson & Winter, 1982: 9, in Cruz & Teixeira, 2010). Thus, in the present study, the articles are classified as "Formal" when they include mathematical models or are based on an analytical or logical framework. When the "formal" literature includes the analysis of economic data in their models, they are classified as "Formal and Empirical". If the article was substantially concerned with the econometric or statistical testing of data, it was classified as "Empirical". Furthermore, articles are classified as "Appreciative" when they include critiques, value judgments, appraisals, assessments and theoretical arguments. Articles containing appreciation or comments on empirical data analysis are classified as "Empirical plus Appreciative". Finally, articles that assess a literature review or overview from a special perspective of research are classified as "Survey".

<sup>&</sup>lt;sup>6</sup> It is important to emphasize that 'China economics related research' is analyzed through the lens of CER. Although CER is not the only (main) journal whose articles focus on Chinese economy, it is, among the top 5 journals publishing this topic (beside CER, *China and World Economy* (CWE), *Journal of Contemporary China* (JCC), *China Report* (CR), and *China Quarterly* (CQ)), the only one that is specialized in the Economics field and the one with the highest impact factor (CER: 0.947; CWE: 0.575; JCC: 0.437; CR: not indexed; CQ: 0.907, cf. ISI 2010 impact factor).

<sup>&</sup>lt;sup>7</sup> We retrieved all references from SciVerse Scopus and built the roots database. Instead of using automatic procedures available in Scopus, we preferred to harmonize each reference and treat the outcome by author, journal/source, topic, and authors' country affiliation. Despite being a time consuming task, it guarantees a more rigorous procedure.

<sup>&</sup>lt;sup>8</sup> As in the case of the roots database, here we opted to retrieve all of each citation (of articles published in CER) in a one to one basis, and build a database, the 'influence' database, with the information properly treated. We prefer to do this manual procedure instead of resorting to automatic tools from Scopus (or ISI) as we realize, by comparing figures, that a lot of information would be lost using the automatic procedures (both from Scopus and ISI) — for instance, in the automatic procedure we obtain 29 cites for the author 'Smyth, R.' whereas with our manual procedure we have 66 cites (more than double). In terms of countries, citing data on 'China' totals 920 cites with the automatic procedure whereas with our manual procedure we obtain 1617 cites. These huge differences compelled us to opt by the non-automatic but more rigorous method.



Note: The mean and median of JEL code assigned per article is 3 with a standard deviation of 1.149.

**Fig. 1.** Distribution (% total) of articles published in CER by JEL codes, 1989–2010. *Source*: Authors' computation.

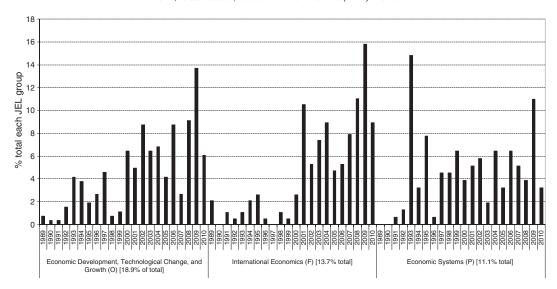
# 4. Empirical results

# 4.1. The evolution of Chinese economics by topic and type

Aggregating the common entries in terms of JEL codes, we found that most of the articles published focused on the subject of *Economic Development, Technological Change, and Growth* (O), which represents nearly 19% of the total JEL codes included, followed by *International Economics* (F), with 13.7%, and *Economic Systems* (P), with 11.1%. Indeed, these three research areas have appeared more than 600 times, which account for approximately 43% of the total JEL codes used (cf. Fig. 1).<sup>9</sup>

Indeed, the relatively higher importance of these topics is likely to be related with the rapid development of the Chinese economy, which fostered the authors' research interests on given topics in the research field of *Economic Development*, *Technological Change*, *and Growth* (O), namely the impact of government policies on productivity (Pandey & Dong, 2009), an empirical analysis of the growth performance of the Chinese economy (Tian, Wang, & Chen, 2010), and the assessment of differences in the growth of the regional economy (Jia & Gan, 2010). In the same line, several researchers have attempted to analyze many issues related to the topic of *International Economics* (F), for instance, Goetz and Grethe (2010), who analyzed the evolution of the price system for food, including fresh fruit and vegetable exports from China to the EU, reported that export prices vary with the season. Moreover, the performance of foreign direct investment in China, namely from Japan, the EU and the USA, is the focus for several authors (e.g., Salike, 2010; Zhang & Song, 2001). Chen et al. (2006) highlighted the effect of the WTO on Chinese industries. In addition, some topics, such as the behavior of state-owned enterprises (Hu et al., 2005) and agriculture (Rozelle & Swinnen, 2009) in the period of economic restructuring, fall in the research field of *Economic Systems* (P).

<sup>&</sup>lt;sup>9</sup> For the bulk of the articles, a two digit JEL codes (up to 6 codes) are assigned by the papers' authors when they are published in CER. Only a residual number of articles (about 10% of the total) does not have JEL codes, with the vast majority of these latter published in the beginning period of CER (1989–1992). In this case, the classification was made by the authors of the present study based on the full reading of the papers helped, in some of the cases, by the keywords that papers' authors assigned. In order to guarantee that JEL codes were properly assigned, each of the authors of the present study did the assignment autonomously and then compared and doubled check the classification in the case it emerged distinct classification for the same paper. For the whole journal articles in analysis, the mean and median of JEL codes assigned is 3 with a standard deviation of 1.149.



**Fig. 2.** Distribution (%) of JEL codes in the three most important fields, 1989 to 2010. Source: Authors' computation.

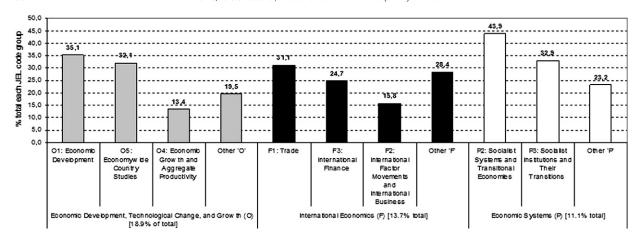
Regarding the remaining JEL codes, we found that *Microeconomics* (D) accounts for 7.3% of the total JEL codes used, followed by *Macroeconomics and Monetary Economics* (E) (with 6.8%), *Labour and Demographic Economics* (J) (6.5%), *Mathematical and Quantitative Methods* (C) (6.3%), *Agricultural and Natural Resource Economics* (Q) (6.1%), *Financial Economics* (G) (5.6%), *Urban, Rural, and Regional Economics* (R) (4.6%), and *Industrial Organization* (G) (3.7%). These eight JEL code categories account for approximately 47% of the total JEL code classification.

The three most important fields were then thoroughly analyzed, and Fig. 2 depicts the evolution of the sub-topics over the 1989–2010 period. It is interesting to note that in the late 1970s, the Chinese leader, Deng Xiaoping, observed that the development of the Chinese economy did not seem to adequately adapt to the existing "Soviet-style economic system" (Balassa, 1987; Perkins, 1988). Thus, as from 1989, Xiaoping attempted to implement a new economic system, the "Socialist market economy system" (Gu & Shen, 2003). As depicted in Fig. 2, from 1989 to 1992, a period which coincides with the transition of China's economic institutions, none or very few of the articles published in CER focused on this matter. However, five years after the reforms, and based on the official statistics, the real national income increased by 12%, as compared to 1989 (Chow, 1993). The production sectors, namely agriculture and state-run industries, had steadily grown and private enterprises were flourishing (Wang, 1993). At the same time, in the scientific domain, several authors showed high interest in topics related with the performance of the Socialist market economy system (Chow, 1993), and the transition to a market economy (Lee, 1993). Indeed, the weight of articles in this topic reached its highest point, with almost 15%, in the past two decades. Furthermore, between 1994 and 2008, the average weight of articles focusing on the economic system steadily increased from 5% to 9% with little variation: there was a decrease of 1% in 1996 and 2% in 2003. In 2009, the number of papers related to this topic had risen to 9%.

The issue of reform has been at the core of Chinese social and economic life (Newbery, 1993). At the same time, *Economic Development, Technological Change, and Growth* (O) was also identified as one of the key research areas in the field of Chinese economics. From a global perspective, the average weight of articles published under this code in CER from 1989 to 1999 is lower than that of the most recent period (2000–2010). More precisely, these articles include topics such as agricultural output (Mead, 2000), productivity growth (Szirmai & Ruoen, 2000), and economic development/regional inequality (Lee, 2000; Song, 2000), which account for almost 6% of the corresponding total, four times greater than in 1999. Furthermore, in 2001, the weight of these articles decreased to 5%, increasing afterwards to 9% in 2002. In 2009, the weight of these articles reached 15%.

With regard to *International Economics* (F), and for the period 1989 to 2000, the average weight of published articles is lower than the corresponding average weight in the following period (2001 to 2010). The recent interest in topics related to International Economics is likely to be associated with recent events in the Chinese economy, such as joining the World Trade Organization (WTO) in 2001 (Wong, 2003). Indeed, joining the WTO had a huge impact on Chinese political and economic reforms (Zhang & Song, 2001): based on the provision of WTO agreements, the structure of China's market became more liberalized and open in almost all industries, for instance, at the level of agricultural trade policy, high-tech industries and manufacturing industries, HR management in foreign enterprises, openness and trade policies, and the relationship between the Chinese economy and the WTO (Chen & Feng, 2001; Johnson, 2001; Liu & Woo, 2001; Wu, 2001). However, after 2001, the weight of published articles related to international topics dropped significantly to only 5%. However, from 2005, their weight increased steadily from 5% to almost 16% in 2009. Nuclear exports, Chinese and world equity markets, and FDI (Faria & Mollick, 2009; Lin, Menkveld, & Yang, 2009) stand out among the preferred topics at this stage in the literature.

Analyzing the three main JEL code categories by sub-codes/topics (Fig. 3), we found that *Economic Development* (O1), which encompasses research on the differences in economic growth among cities in China (Chen, 2010), and the development of



**Fig. 3.** Distribution (%) of JEL codes in the three most important fields. *Source*: Authors' computation.

Chinese manufacturing (Guan and Chen, 2009), accounts for 36% of the total published papers in the 'O' code, followed by *Economy-wide Country Studies* (O5), which includes studies on the domestic economy (China) during the 1980s (Brun, Combes, & Renard, 2002), representing 32.1% of the total published papers.

As for *Economic Systems* (P), more than 43.9% articles are related to *Socialist Systems and Transitional Economies* (P2), including, for instance, the development of the Chinese economy in the period of economic reforms (Rozelle & Swinnen, 2009). It is followed by the sub-topic/code *Socialist Institutions and Their Transitions* (P3) (with 32.9%) which includes studies on the evolution of the tax system between the 1970s and 2000s (Lin, 2008).

Finally, with regard to *International Economics* (F), the bulk of the published papers fall under *Trade* (F1) (31.1%) and *International Finance* (F3) (24.7%). It is interesting to note that trade, international business, and foreign exchange were considered key factors in the rapid development of the Chinese economy (Liu, Wang, & Wei, 2001; Shi, 2002). More specifically, several articles have focused on trade relationships between China and the EU or the USA (Baak, 2008; Goetz & Grethe, 2010), agricultural liberalization based on the Doha Round (Gomes Pereira, Teixeira, & Raszap-Skorbiansky, 2010), and the evolution of the exchange rate policy (Bagnai, 2009).

In accordance with the original categorization of methods proposed by Nelson and Winter (1982), then extend by Silva and Teixeira (2009) and Cruz and Teixeira (2010), there are six different types of papers (in terms of the methods used): 'Formal', 'Formal plus Empirical', 'Empirical plus Appreciative', 'Appreciative', and 'Survey'. Fig. 4 compares total articles ('All topics') with articles focused on *International Economics* (F) ('International topic') by main types of methods.

As shown in Fig. 4, in the past twenty years, articles related to 'All topics' are mostly "Formal plus Empirical" (45%), followed, at some distance, by the "Empirical plus Appreciative" type of articles, with 17.4%, and the "Empirical", with 14.8%. The corresponding share for the "Survey" type of articles is only 2.9%. This distribution is similar to that of the 'International topic'. In fact, almost 49% of the articles in this area are "Formal plus Empirical", whilst the share of "Empirical plus Appreciative" is around 15%, and the "Empirical" around 13%. The remaining proportion (21%) falls under "Appreciative", with 11.2%, "Formal" with 9.7%, and "Survey" with 0.7%.

Dividing the entire time period into five-year periods: 1989–1994, 1995–1999, 2000–2004 and 2005–2010 (cf. Fig. 5), the "Formal plus Empirical" approach shows a clear rising trend, particularly in the 'International' topic.

In fact, the weight of 'Formal plus empirical' increased from 33.3% to 53.1% from the initial period (1989–1994) to the most recent (2005–2010). This is likely to reflect the trend in Chinese economics research for growing "rigor", often associated to formal articles and mathematical models (Castro Silva & Teixeira, 2011). This trend is even more pronounced in the international topic, which rose from 36.4% in 1989–1994 to 55.9% in 2005–2010.

An interesting aspect during the initial period (1989–1994) is that none of the articles which focus on the 'International' topic employed "Empirical" methods. However, in the second period (1995–1999), this method rose sharply to 33.3%. At the same time, before 2000, there were very few papers published in CER employing the "Appreciative" method, but during the 2000–2004 period, "appreciative" articles reached 24.5%, having, nevertheless, dropped to 4.4% in the last period (2005–2010).

Trade (F1), International Finance (F3) and International Factor Movement and International Business (F2) were identified as the three most important research sub-topics within International Economics (cf. Fig. 6). Trade and International Factor Movement and International Business were more formalized than International Finance (for the whole period, with weights at 70%, 63% and 58%, respectively). Around 1/3 of the papers published under the sub-topics International Factor Movement and International Business and International Finance employed, in part or entirely, Appreciative methods.

In dynamic terms, *Trade* became much more diversified in the last two periods in analysis, following a more empirically-led strand. In contrast, *International Finance* saw its weight of *Formal* methods almost treble between 2001–2005 (with 5.9%) and 2006–2010 (with 15.4%). The trend towards formalization but associated with Empirical methods is also noticeable in

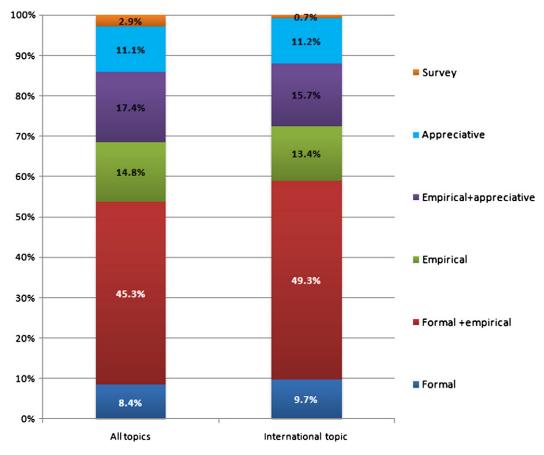
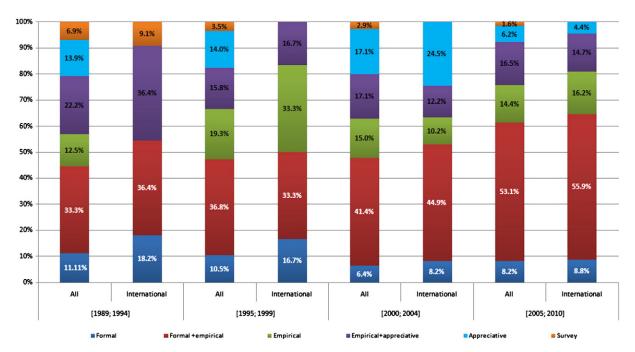
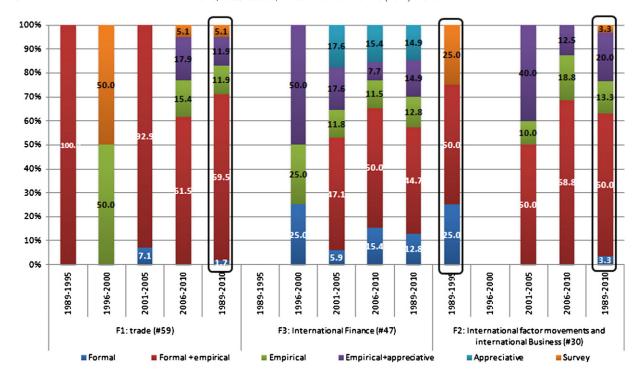


Fig. 4. Distribution (%) of articles related to 'All' and 'International' topics based on main method for the entire period (1989–2010). Source: Authors' computation.



**Fig. 5.** Distribution (%) of articles related to 'All' and 'International' topics based on type of main method, 1989–2010. *Source*: Authors' computation.



**Fig. 6.** Distribution (%) of articles related to 'International' sub-topics based on type of main method, 1989–2010. *Source*: Authors' computation.

*International Factor Movement and International Business*. Indeed, the share of *Formal plus Empirical* type of methods increased from 50% in 2001–2005 to 68.8% in 2006–2010.

## 4.2. The roots of Chinese economics literature

The intellectual basis of the literature published in CER between 1989 and 2010 is analyzed by responding to three sub-research questions: "Who are the most-cited researchers?", "Which are the most important studies?" and "Which are the major sources?" in Chinese economics literature.

Based on 512 articles published in CER, we obtained over 10 thousand references (10,794), which were cited in more than 8900 different studies. The top 50 most-cited studies represent 0.6% of the total studies and were cited almost 448 times, which accounts for 4.2% of the total citations.

Table A1 (in Appendix) presents the list of the top 50 cited studies, providing some information on the number of citations, research fields, type of document, and JEL codes of the studies in analysis. Cited references may be published in academic journals, books and reports. The main outlets for Chinese economics literature are academic journals. In addition, from the top 50 cited references list, we found that journal articles cover around 90% of the studies listed, which contrasts with 9% for books.

With regard to the research topics, among the top 50, ten main research fields emerge: Economic Development/Regional Inequality (Fleisher & Chen, 1997; Jian, Sachs, & Warner, 1996); Economic Growth (Chow, 1993; Mankiw, Romer, & Weil, 1992); Econometrics (Engle & Granger, 1987); Labor Market (De Brauw, Huang, Rozelle, Zhang, & Zhang, 2002); Sectoral Studies (Lin, 1992); SOE Reform (Groves, Hong, McMillan, & Naughton, 1994); Economic Development (McMillan, Whalley, & Zhu, 1989); Education (Mincer, 1974); Industrial Economics (Dixit & Stiglitz, 1977); and International Economics (Poncet, 2003).

Three of the ten research fields — 'Economic development/regional inequality', 'Economic growth', and 'Econometrics', have emerged as the most influential research topics for articles published in CER. Specifically, several authors have focused on China's economic development in terms of inequality in income and rural—urban disparities (Fleisher & Chen, 1997; Jian et al., 1996).

'Economic growth' accounts for 23% of the top 50 cited references list, 'Economic development/regional inequality' accounts for 21%, followed by Econometrics, with approximately 19% of the total. In addition, 'SOE Reform' account for 9.4% whereas 'Labor market', 'Sectoral studies' and 'International Economics' share equally 5.7% of the top 50 cited references. The remaining studies (nearly 12% of the total) refer to a variety of fields, such as economic development, education, and industrial economics.

'International Economics' did not emerge as a core influential field of research in Chinese economics literature. Among the Top50 most influential studies, only 3 studies are centered on international-related matters, two articles by Poncet (2003) and Cheng and Kwan (2000), and a book by Caves (1996), with 8, 6 and 6 citations, respectively.

In terms of the most-cited authors (cf. Table A2, in Appendix), 32 (out of 52) authors are affiliated to top universities, including Stanford University, Princeton University and the University of California in the United States, which represents nearly 62% of the

top 50 cited researchers, followed by 10 authors affiliated to institutions in China (incl. Hong Kong), accounting for 19% of the top 50 cited researchers. The remaining authors are affiliated to institutions in the UK (3), Canada (3), Australia (2), Denmark (1), and Japan (1). Although the most-cited authors are from the USA, it is worth noting that there are Chinese authors among them, accounting for about 40% of the total, who are affiliated to universities and institutions located in the USA. According to the data gathered, the most-cited authors from the USA have the greatest impact on the articles published on CER.

Analyzing the top 50 cited researchers, the most cited author, with a total of 90 citations, is Scott Rozelle, a professor of Chinese economy at Stanford University (USA). Currently, Scott Rozelle's main research topics on China's economy are related to: agricultural policy; market evolution; and the economics of poverty and inequality. He is followed by Justin Yifu Lin from the World Bank (USA) and Barry Naughton from the University of California (USA), with 82 and 69 citations, respectively. Justin Yifu Lin has specialized in research related to economics, finance and the social sciences. Barry Naughton is a senior researcher whose main research topics include industry, trade and finance and China's transition to a market economy. He focuses on regional economic growth in China and the relationship between foreign trade, investment and regional growth in recent years.

Out of the 50 most-cited authors, 16 (31% of total) develop research directly related to China's economy, particularly the issue of Chinese reforms and regional inequality. Only 2 of these 12 authors, Barry Naughton and Zhi Wang, focus on international economics. Additionally, three renowned authors are cited in international economics: Alwyn Young (University of Chicago), Paul Krugman (Princeton University), Robert C. Feenstra (University of California), and Jeffrey A. Frankel (Harvard University). Therefore, it seems that in terms of most influential authors, international economics attracts more attention in the CER's published articles than in studies on international economics.

About 62% of the total citations (i.e., 6726) were extracted from journal articles. These referred to 950 different journals. The top 50 most-cited journals (cf. Table A3) account for 61% of the total journal citations.

The most influential journal is (quite expectedly) the *China Economic Review* (CER), with 415 citations, that is, about 4% of the total citations (6% of the total journal citations). It is closely followed by the *American Economic Review*, one of the most important journals in economics research. Most of the journals that are cited in Chinese economics literature are quite renowned in the field of economics. In fact, 14 of the top 50 list are among the journals with the highest impact factors in the 2011 Journal Citation Report (JCR) of Thomson Reuters (for a median of the impact factor distribution of 0.753, these journals are outliers, with impact factors ranging from almost 2.000 — *Journal of Econometrics* to 7.432 — *Journal of Economic Literature*). Among these, we also have the *American Economic Review*, *Journal of Political Economy*, *Quarterly Journal of Economics*, and *Journal of Finance*, which account for 28% of the total top 50 most-cited journals. They are followed by journals with intermediate impact factors (that is, in the second quartile of the 2010 impact factor distribution), namely the *China Economic Review*, *Journal of Comparative Economics*, *Journal of Development Economics* and *American Journal of Agricultural Economics*, which make up 42% of the total top 50 most-cited journals. Again, 'International Economics' ranks low in terms of influence on Chinese economics literature. Indeed, only one journal from International economics appears among the top 30 most-cited list — the *Journal of International Economic Studies*. This journal, however, is not indexed in ISI which reflects its low importance among economics publications. If we consider the top 50 most cited journals 3 additional International economics outlet emerge – *International Economic Review* (rank 32), *Review of World Economics* (rank 41), and *The World Economy* (rank 48) – but with relatively low number of citations.

#### 4.3. The influence of Chinese economics literature

In order to evaluate the range of influence of Chinese economics literature, we built an additional database, called the "influences" database, which includes studies that cite articles published in CER.

We found that 383 original articles published on CER were cited in more than 3000 different studies, which represents 71.1% of the total of original articles (a total of 538 articles/conference papers published in CER). More precisely, from those 383 original articles, around 170 articles (45% of the total) have been cited more than six times in more than 2700 different journals (with 4%), conferences (4.9%), reports (0.2%), and books (0.2%).

Based on the analysis of the "influence" database, we identified which research areas were (more) influenced by Chinese economic studies, which countries the more influential authors are from and who are the most important researchers in Chinese economics literature. Table A4 (in Appendix) shows that most important citing sources, namely the top-50 journals comprising the "influences" database, and contains the corresponding number of citations, the journal's main research area and its impact factor. The 55 most-citing journals yielded more than 1466 citations, which account for approximately 54% of the total. There are five China focused journals – the *China Economic Review, China and World Economy, Frontiers of Economics and China, The Chinese Economy* and *China Quarterly* – that most cite the articles published in CER.

Among these journals, the journal that most cites CER's articles is CER itself, with 332 citations in the citing sources, that is, about 12.2% of the total citations (22.2% of the total top-50 journal citations). As mentioned earlier, the *China Economic Review* analyzes primarily all research areas related to the Chinese economy and discusses the relationship between China's economy and the world economy. It is followed, at a certain distance, by the *Journal of Comparative Economics* with almost 3.4% of the total citations (6.2% of the total top-50 journal citations), one of the most important journals in the field of comparative economics. Next on the list is *China and the World Economy*, which also focuses on all fields of the Chinese economy, with 2.1% of the total citations (4.0% of the total top-50 journal citations).

Most of the journals that were influenced by the literature on Chinese economics are quite important within the field of economics. Sixteen journals among the top-50 list have high impact factors (above the median impact factors in 'Economics', ranging from 2.883 — *Review of Economics and Statistics* to 0.793 — *Journal of Development Studies*). In between, we have, for

example, the *Ecological Economics*, *Energy Economics*, and *China Economics Review*. On the global these 16 journals make up 29% of the total top-50 list (if we add the 10 journals with high impact factors from other scientific areas, this percentage would increase to 61%). The groups of journals with lower impact factors includes, among others, *China and World Economy*, *Economics of Transition*, *Applied Economics*, *Asian Economic Review* and *Journal of the Asia Pacific Economy*, and accounts for 25% of the top citing journals.

Not ISI indexed journals that cite CER, that is, journals with low impact on the economics literature, amount to 14 (26% of the total), including, among others, *Journal of Asian Economics, Frontiers of Economics in China, Economic Change and Restructuring, The Chinese Economy, Applied Financial Economics, China Agricultural Economic Review, International Review of Economics and Finance, and Journal of Contemporary China.* 

With regard to international economics, *World Development*, *World Economy*, *Economic Modelling* and *China Agricultural Economic Review*, despite including several international topics, such as trade policy, agricultural trade and international models, are not truly sources in international economics. Although several journals that cite CER are focused on international relations, none of the citing journals in the top-50 source list are specifically concern with topics related to international economics.

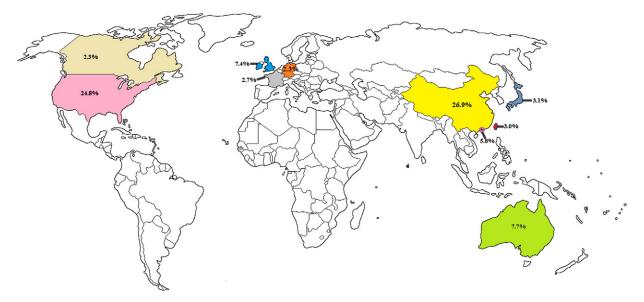
Moreover, analyzing the geographical origin/affiliation of the authors who cite articles published in CER, that is, the geographical range of influence of Chinese economics literature, we found that the Chinese economics literature 'influenced' 2475 authors from 61 countries. It mainly affected economics researchers from ten countries/regions (Fig. 7), among which China, USA, Australia, UK, Hong Kong and Japan, which account for approximately 86% of total cites.

Chinese economics literature has more influence on authors from China (with 26.9% of the total countries) and from the USA (with 24.8%), which together cover slightly more than half of the total top-10 countries. Authors from Australia and the UK account for 7.3% and 7.4%, respectively. They are followed by Hong Kong, with 5.8%. The remaining share (almost 13%) includes Japan (3.1%), Taiwan (3.0%), France (2.7%), Canada (2.3%), and Germany (2.3%).

In order to further analyze who was influenced by the Chinese economics literature, we focus on the top 50 authors who most cited CER articles (Table A5, in Appendix). Among these, there are 22 authors who are affiliated with universities/institutions in China (including Hong Kong), representing nearly 38% of the top 50 authors, followed by 15 authors affiliated with universities/institutions in the USA, with 25% of the total top 50 authors. The authors from China and the USA account for 62.4% of the top 50 authors. Therefore, based on the data collected, Chinese economics literature has more influence on authors affiliated with universities/institutions in China (incl. Hong Kong) and the USA.

The author who most cites articles published in CER, with a total of 66 citations, is Russell Smyth, a professor of Asian economy from Australia. Currently, his main research interests include Asian and Chinese economics and law economics. He is followed by Scott Rozelle, a professor of Chinese economy at Stanford University (USA), and Wang Xiaozhou from Hong Kong, with 53 and 38 citations, respectively. As mentioned previously, Scott Rozelle's main research interests focus on three areas of China's economy: agricultural policy; market development and the economics of poverty and inequality. Wang Xiaozhou has interests in several topics related to economics, econometrics and finance. Important citing authors are Also Huang Jikun, a senior researcher focusing on topics related to China's agricultural and rural development, with 37 citations, and Paresh Kumar Narayan, a professor from Australia with 34 citations, whose research interests include financial econometrics and financial markets.

According to the data collected, 19 authors (32% of the total top-50 most citing authors) focus on research fields directly related to China's economy, particularly issues in Chinese economic reform, Chinese agricultural and economic development, and



**Fig. 7.** Geographical range of influence of Chinese economics literature. *Note*: On the total 6015 cites to CER articles were attributed to 61 distinct countries. The 10 (16.4% of the total) countries depicted represent 86% of total cites. *Source*: Authors' computations based on citations from the "influence" database.

China's economic transition. With regard to topics in international economics, there are only two authors — Liu Xiaming from the UK, and Wang Zhi from the USA, who deal with this area, more specifically, FDI, international business strategy, and international trade. Accordingly, Chinese economics literature seems to have little influence on the research field of international economics.

#### 5. Conclusions

From the early 1990s, and most particularly, over the past decade, research on the Chinese economy, namely the economic system, the impact of economic policies on different sectors, and international economics, observed noticeable dynamics. Nevertheless, and to the best of our knowledge, none of the articles in this domain has assessed the evolution of Chinese economics-related research.

To fill this gap, the present study used bibliometric tools and the *China Economics Review* (CER) as its 'seed' journal, to analyze the weight and dynamics of key topics/themes and types/methods of research associated with the articles published in CER between 1989 and 2010. Moreover, it analyzed the 'roots' and 'influence' of Chinese economics literature, through the lens of CER, seeking to perceive the relevance of the International Economics topic within that literature.

Two research areas – "Economic Development, Technological Change, and Growth" and "Economic Systems" – emerged as particularly relevant fields within Chinese economics, areas which find echo in the recent economic evolution of the Chinese economy. Additionally, "International economics" was also one of the most researched topics by authors publishing in CER. We found that the dynamics of the scientific topics focused on by articles published in CER is likely to be associated with recent developments in Chinese international economic policy, more specifically the program of Chinese economic reform that ended the "Planned economic system" (Yeh & Wu, 1999), and eliminated price control, opening China to foreign investment and international trade, and granted greater autonomy to state-owned enterprises.

With regard to the main methods employed in the articles published in CER, generally speaking, more than 45% articles analyzed the economic data by means of mathematical models or logical frameworks (i.e., used a "Formal plus empirical" approach). In dynamic terms, the weight of 'Formal plus empirical' increased from one third (1989–1994) to half in the more recent period (2005–2010). This tendency is even more pronounced in the international topic. This is likely to reflect a trend in Chinese economics research for growing "rigor", often associated to formal articles and mathematical models.

The most influential research fields for Chinese economics literature (more precisely, for all the articles published in CER) were "Economic development/regional inequality", "Economic Growth", and "Econometrics". The influence of the 'International economics' topic was found to be negligible. In terms of outlets, the *China Economic Review* is the most-cited journal but other core and high impact factor economics journals (namely, the *American Economic Review*) exert significant influence on Chinese economics research.

With regards to the scope of influence of Chinese economics research, we found that it is quite concentrated (geographically) in China and the USA, with the weight of other Asian countries/regions, such as Hong Kong, Taiwan and Japan, assuming a reasonable share. Moreover, the outlets that cite the articles published in CER more frequently are not highly influential within economics (influence measured by the ISI impact factor). Finally, 'International economics' did not emerge as particularly influenced by Chinese economics literature, either in terms of outlets (journals) or authors. Summing up, our analysis showed that Chinese economics literature does not have much effect on international economics research.

It would be interesting, as another potential avenue for further research, to assess who and which journals devote more attention to Chinese economic issues. This would bring a more comprehensive overview to the research on China's economy, going significantly beyond the one performed in the present study, and which could identify additional outlets for such an interesting scientific area.

## **Appendix**

**Table A1**Top 50 cited references by articles published in the China Economic Review.
Source: Authors' computations based on citations from all articles were published on CER.

Rank	Cited references	Number of citations	Research fields	Type of document	JEL
1	Lin, J.Y., Rural reforms and agricultural growth in China (1992) American Economic Review, 82 (1), pp. 34–51	19	Sectoral studies	Journal article	047; P27; Q11
2	Fleisher, B., Chen, J., The coast–no coast income gap, productivity, and regional economic policy in China (1997) Journal of Comparative Economics, 25 (2), pp. 220–236	18	Economic development — regional inequality	Journal article	015; 018; 047; 053
3	Chen, J., Fleisher, B.M., Regional income inequality and economic growth in China (1996) Journal of Comparative Economics, 22 (2), pp. 141–16	17	Economic development — regional inequality	Journal article	
4	Jian, T.L., Sachs, J.D., Warner, A.M., Trends in regional inequality in China (1996) China Economic Review, 7 (1), pp. 1–21	15	Economic development — regional inequality	Journal article	010; 040; 053
5	Kanbur, R., Zhang, X., Which regional inequality? The evolution of rural-urban and inland-coastal inequality in China from 1983 to 1995 (1999) Journal of Comparative Economics, 27 (4), pp. 686–701	12	Economic development — regional inequality	Journal article	010
6	Mankiw, G.N., Romer, D., Weil, D.N., A contribution to the empirics of economic growth (1992) Quarterly Journal of Economics, 105 (2), pp. 407–437	12	Economic growth	Journal article	

Table A1 (continued)

Rank	Cited references	Number of citations	Research fields	Type of document	JEL
7	McMillan, J., Whalley, J., Zhu, L., The impact of China's economic reforms on agricultural productivity growth (1989) Journal of Political Economy, 97 (4), pp. 781–807	12	Economic development	Journal article	010
8	Chow, G.C., Capital formation and economic growth in China (1993) Ouarterly Journal of Economics, 108 (3), pp. 809–842	11	Economic growth	Journal article	010
9	Engle, R.F., Granger, C.W.J., Co-integration and error correction: Representation estimation and testing (1987) Econometrica, 55 (2), pp. 251–276., March	11	Econometrics	Journal article	C20
10	Groves, T., Hong, Y., McMillan, J., Naughton, B., Autonomy and incentives in Chinese state enterprises (1994) The Quarterly	11	SOEs reform	Journal article	L
11	Journal of Economics, 109 (1), pp. 183–209., February Groves, G.T., Hong, Y., McMillan, J., Naughton, B., China's evolving managerial labor market (1995) Journal of Political Economy, 103 (4), pp. 873–892	10	Labor Market	Journal article	J4
12	Jefferson, G.H., Rawski, T.G., Zheng, Y., Growth efficiency and convergence in China's state and collective industry (1992)	10	Economic Growth	Journal article	01
13	Economic Development and Cultural Change, 40 (2), pp. 239–266 Dixit, A.K., Stiglitz, J.E., Monopolistic competition and optimum product diversity (1977) American Economic Review, 67 (3), pp. 297–308	9	Industrial Economics	Journal article	C10
14	Greene, W.H., (2003) Econometric analysis. (5th ed.),,, Prentice Hall, Upper Saddle River, NJ	9	Econometrics	Book	
15	Wang, Y., Yao, Y., Sources of China's economic growth 1952–1999: Incorporating human capital accumulation (2003) China Economic Review, 14 (1), pp. 32–52	9	Economic Growth	Journal article	040; 015; 053
16	de Brauw, A., Huang, J., Rozelle, S., Zhang, L.X., Zhang, Y.G., The evolution of China's rural labor markets during the reforms (2002) Journal of Comparative Economics, 30, pp. 329–353	8	Labor Market	Journal article	J2; O1; P2
17	Johansen, S., Juselius, K., Maximum likelihood estimation and inference on counteraction — with applications to the demand for money (1990) Oxford	8	Econometrics	Journal article	CO
18	Bulletin of Economics and Statistics, 52 (2), pp. 169–210 Kanbur, R., Zhang, X., Fifty years of regional inequality in China: A journey through central planning, reform and openness (2005)	8	Economic development — regional inequality	Journal article	D63; O18; P27
19	Review of Development Economics, 9 (1), pp. 87–106 Lucas, R., On the mechanics of economic development (1988) Journal of Monetary Economics, 22 (1), pp. 3–42	8	Economic growth	Journal article	C50
20	Mincer, J., (1974) Schooling, Experience and Earnings, New York: Columbia University Press for the National Bureau of Economic Research	8	Education	Book	
21	Poncet, S., Measuring Chinese domestic and international integration (2003) China Economic Review, 14 (1), pp. 1–21	8	International Economics	Journal article	F02; F14; F15; O52; R58
22	Raiser, M., Subsidizing inequality: Economic reforms, fiscal transfers and convergence across Chinese provinces (1998) Journal of Development Studies, 34 (3), pp. 1–26	8	Economic development — regional inequality	Journal article	032, 836
23	Romer, P.M., Increasing returns and long-run growth (1986) Journal of Political Economy, 94 (5), pp. 1002–1037	8	Economic growth	Journal article	C30
24	(2001) The lournal of Development Studies, 38 (2), pp. 167–186	8	Economic development — regional inequality	Journal article	018
25	Arellano, M., Bover, O., Another look at the instrument variable estimation	7	Econometrics	Journal	C3
26	of error-components models (1995) Journal of Econometrics, 68 (1), pp. 29–52 Bai, C., Li, D., Tao, Z., Wang, Y., A multi-task theory of the state enterprise	7	SOEs reform	article Journal	
27	reform (2000) Journal of Comparative Economics, 28 (4), pp. 716–738 Chow, G.C., Li, K.W., China's Economic Growth: 1952–2010 (2002)	7	Economic growth	article Journal	018
28	Economic Development and Cultural Change, 51 (1), pp. 247–256 Dickey, D.A., Fuller, W.A., Distribution of the estimators for autoregressive time series with a unit root (1979) Journal of the American Statistical	7	Econometrics	article Journal article	C2
29	Association, 74 (366), pp. 427–431 Fan, S., Effects of technological change and institutional reform on production growth in Chinese agriculture (1991) American Journal of Agricultural	7	Sectoral studies	Journal article	040
30	Economics, 73 (2), pp. 266–275 Fan, S., Zhang, L., Zhang, X., Growth, Inequality and Poverty in Rural China: The Role of Public Investments (2002) International Food Policy Research	7	Economic development — regional inequality	Journal article	R1
31	Institute, Research Report, pp. 125 Fan, S., Zhang, L., Zhang, X., Growth, Inequality and Poverty in Rural China: The Role of Public Investments (2002) International Food	7	Economic development — regional inequality	Journal article	R1
32	Policy Research Institute, Research Report, p. 125 Fleisher, B.M., Liu, Y., Economies of scale, plot size, human capital and productivity in Chinese agriculture (1992) Quarterly Review	7	Economic development	Journal article	013
33	of Economics and Finance, 32 (3), pp. 112–123 Johansen, S., Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive models (1991) Econometrica, 59 (6), pp. 1551–1580	7	Econometrics	Journal article	C2

Table A1 (continued)

Rank	Cited references	Number of citations	Research fields	Type of document	JEL
34	Knight, J., Song, L., The determinants of urban income inequality in China	7	Economic development –	Journal	
	(1991) Oxford Bulletin of Economics and Statistics, 53 (2), pp. 123–154		regional inequality	article	
35	Kuznets, S., Economic growth and income inequality (1955)	7	Economic growth	Journal	
	American Economic Review, 45 (1), pp. 1–28		<u> </u>	article	
36	Naughton, B., (1995) Growing out of the Plan: Chinese Economic	7	Economic development	Book	
	Reforms 1978–1993,, Cambridge: Cambridge Univ. Press		•		
37	Naughton, B., (2007) The Chinese economy: Transitions and growth,	7	Economic growth	Book	
	The MIT Press, Cambridge, Massachusetts London, England				
38	Rozelle, S., Rural industrialization and increasing inequality: Emerging	7	Economic development -	Journal	
	patterns in China's reforming economy (1994) Journal of Comparative		regional inequality	article	
	Economics, 19 (3), pp. 362–391				
39	Woo, W.T., Hai, W., Jin, Y., Fan, G., How successful has Chinese	7	SOEs reform	Journal	L1
	enterprise reform been? Pitfalls in opposite biases and focus			article	
	(1994) Journal of Comparative Economics, 18 (3), pp. 410–437				
40	Yusuf, S., China's macroeconomic performance and management during	7	SOEs reform	Journal	EO
	transition (1994) Journal of Economic Perspective, 8 (2), pp. 71–92			article	
41	Cai, F., Wang, D., Du, Y., Regional disparity and economic growth in China:	6	Economic growth	Journal	
	The impact of labor market distortions (2002) China Economic Review,		<u> </u>	article	
	13 (2–3), pp. 197–212				
42	Caves, R., (1996) Multinational Enterprise and Economic Analysis.	6	International Economics	Book	
	Second Edition,, Cambridge, Cambridge University Press				
43	Cheng, L.K., Kwan, Y., What are the determinants of the location of	6	International Economics	Journal	F21; O18; O5
	foreign direct investment? The Chinese experience (2000) Journal			article	
	of International Economics, 51 (2), pp. 379–400., August				
44	Farrell, M.J., The measurement of productive efficiency (1957)	6	Econometrics	Journal	
	Journal of the Royal Statistical Society, 120, pp. 253–281			article	
45	Heckman, J., Sample selection bias as a specification error (1979)	6	Econometrics	Journal	C5
	Econometrica, 47 (1), pp. 153–162., January			article	
46	Johansen, S., Statistical analysis of cointegrating vectors (1988)	6	Econometrics	Journal	C6
	Journal of Economic Dynamics and Control, 12, pp. 231–254			article	
47	Park, A., Sehrt, K., Tests of financial intermediation and banking reform	6	Sectoral studies	Journal	G21, O16,
	in China (2001) Journal of Comparative Economics, 29 (4), pp. 608–644			article	O53, P34
48	Perron, P., The Great Crash, the oil price shock, and the unit root	6	Econometrics	Journal	C0
	hypothesis (1989) Econometrica, 57 (6), pp. 1361–1401			article	
49	Putterman, L., Chiacu, A.F., Elasticities and factor weights for agricultural	6	Economic growth	Journal	040
	growth accounting: A look at the data for China (1994) China Economic		<u> </u>	article	
	Review, 5 (2), pp. 191–204				
50	Solow, R.M., A contribution to the theory of economic growth (1956)	6	Economic growth	Journal	02
	Quarterly Journal of Economics, 70 (1), pp. 65–94		3	article	
51	State Statistical Bureau (2008) China city statistical yearbook, State	6	Statistics	Report	C0
	Statistical Bureau, Beijing				
52	Xu, X., Wang, Y., Ownership structure and corporate governance in Chinese	6	SOEs reform	Journal	L
	stock companies (1999) China Economic Review, 10 (1), pp. 75–100			article	
53	Zhang, L., Huang, J., Rozelle, S., Employment, emerging labor markets,	6	Labor Market	Journal	J4
	and the role of education in rural China (2002) China Economic Review,			article	•
	13 (23), pp. 316–331				

Note: The studies included in this table (0.6% of a total of 8964 distinct studies) encompass about 4.2% of total (10794) citations.

**Table A2**Top 50 most cited researchers by articles published in the China Economic Review.

Source: Authors' own computations based on citations from all articles were published on CER.

Rank	Authors	Number of citations	Country	University
1	Rozelle, S.	90	USA	Stanford University
2	Lin, J.Y.	82	USA	Work Bank
3	Naughton, B.	69	USA	University of California
4	Jefferson, G.H.	64	USA	University of Brandeis
5	Huang, H.Z.	62	USA	Department of Research, Washington
6	Yao, S.J.	61	China	University of Nottingham
7	Knight, J.	56	UK	University of Oxford
8	Barro, R.J.	50	USA	University of Harvard
9	Rawski, T.G.	50	USA	University of Pittsburgh
10	Chow, G.C.	44	USA	University of Princeton
11	Fleisher, B.M.	43	USA	University of Ohio State
12	Woo, W.T.	43	USA	University of California
13	Fan, S.	40	USA	International Food Policy Research Institute (IFPRI)

(continued on next page)

Table A2 (continued)

Rank	Authors	Number of citations	Country	University
14	Sachs, J.D.	40	USA	University of Columbia
15	Lardy, N.R.	39	USA	The Peterson Institute for International Economics
16	Yang, D.T.	38	USA	Virginia Polytechnic Institute and State of University
17	Wang, Z.	37	USA	George Mason of University
18	Shleifer, A.	36	USA	University of Harvard
19	Young, A.	36	USA	University of Chicago
20	Zhang, L.X.	36	China	Chinese Academy of Sciences
21	Zhang, X.	35	USA	International Food Policy Research Institute (IFPRI)
22	Xu, X.N.	34	China	China Europe international business school
23	Zhao, Y.	33	China	China Centre for Economic Research
24	Bai, C.E.	32	China	University of Tsinghai
25	Krugman, P.R.	31	USA	University of Princeton
26	Qian, Y.Y.	31	USA	University of California
27	Sicular, T.	29	Canada	University of Western Ontario
28	Wu, Y.R.	29	Australia	The University of Western Australia
29	Berger, A.N.	28	USA	University of Pennsylvania
30	Feenstra, R.C.	27	USA	University of California
31	Brandt, L.	26	Canada	University of Toronto
32	Johansen, S.	26	Denmark	University of Aarhus
33	Romer, P.M.	26	USA	University of Stanford
34	Wu, H.X.	26	Japan	University of Hitotsubashi
35	Zhang, J.X.	26	China	Shanghai University of Electric Power
36	Chang, G.H.	25	USA	University of Toledo
37	Li, S.	24	China	Hefei University of Technology
38	McKinnon, R.I.	24	USA	University of Stanford
39	Zhang, K.H.	24	USA	University of Illinois State
40	Zhang, Y.G.	24	China	Beijing University of Technology
41	Deaton, A.S.	23	USA	University of Princeton
42	Dixit, A.K.	23	USA	University of Princeton
43	Frankel, J.A.	23	USA	University of Harvard
44	Kanbur, R.	23	USA	University of Cornell
45	Chen, J.J.	22	United Kingdom	University of Surrey
46	Dong, X.Y.	22	Canada	University of Winnipeg
47	Goldstein, M.A.	22	USA	The Stephen D. Cutler Center for Investments and Finance
48	Heckman, J.J.	22	USA	University of Chicago
49	Maddison, A.	22	United Kingdom	University of Groningen
50	Meng, X.	22	Australia	University of Australian National
51	Park, A.	22	Hong Kong	Hong Kong University of Science & Technology
52	Tsui, K.Y.	22	Hong Kong	University of Hong Kong

**Table A3**Top 50 most cited sources by articles published in the China Economic Review.

Source: Authors' own computations based on citations from all articles were published on CER.

Rank	Journal	Citations	Impact factor (2010)
1	China Economic Review	415	0.947
2	American Economic Review	352	3.150
3	Journal of Comparative Economics	347	0.835
4	Journal of Political Economy	244	4.065
5	Econometrica	187	3.185
6	Quarterly Journal of Economics	169	5.940
7	Journal of Development Economics	132	1.747
8	The American Journal of Agricultural Economics	130	1.233
9	Economic Development and Cultural Change	127	1.392
10	Journal of Finance	124	4.151
11	China Quarterly	117	0.907
12	Journal of Financial Econometrics	94	0.846
13	World Development	94	1.612
14	Journal of Econometrics	92	1.815
15	Review of Economics and Statistics	89	2.883
16	Journal of International Economic Studies	83	
17	Applied Economics	81	0.424
18	The Economic Journal	77	2.271
19	Journal of Banking & Finance	77	2.731
20	Journal of Economic Literature	63	7.432
21	Journal of Monetary Economics	60	1.654
22	Economics Letters	52	0.449
23	European Economic Review	50	1.162
24	Journal of Development Studies	49	0.793

Table A3 (continued)

Rank	Journal	Citations	Impact factor (2010)
25	Journal of International Financial Markets, Institutions & Money	44	
26	Economics of Transition	43	0.536
27	Review of Economic Studies	42	3.113
28	Agricultural Economics	40	1.329
29	Oxford Bulletin of Economics and Statistics	40	1.182
30	Journal of Public Economics	39	1.732
31	Journal of Chinese Economic and Business Studies	36	
32	International Economic Review	34	1.516
33	Journal of Economic Perspectives	34	3.702
34	The Quarterly Journal of Economics	33	5.940
35	Journal of Productivity Analysis	31	0.580
36	China &World Economy	30	0.575
37	Pacific Economic Review	30	0.370
38	Canadian Journal of Economics	29	
39	Journal of Money, Credit and Banking	29	1.150
40	Review of Income and Wealth	29	0.750
41	Review of World Economics	29	0.966
42	The Review of Economics and Statistics	29	2.883
43	Journal of Applied Economics	28	0.182
44	Journal of Business & Economic Statistics	28	1.693
45	Applied Economics Letters	26	0.245
46	European Journal of Operational Research	26	2.158
47	Pacific-Basin Finance Journal	26	
48	The World Economy	26	0.878
49	Review of Development Economics	25	0.434
50	World Bank Economic Review	25	1.318

Note: Out of the total 6751 citations to 950 distinct journals, the top-50 here represents, respectively 61.3% and 5.3% of the corresponding total.

**Table A4**Top 50 citing sources of the articles published in the China Economic Review. *Source*: Authors' computations based on citations from "Influence" database.

Rank	Journal	Citations	2010 impact factor	ISI scientific area
1	China Economic Review	332	0.947	Econ.
2	Journal of Comparative Economics	91	0.835	Econ.
3	China &World Economy	58	0.575	Econ.
4	Journal of Development Economics	41	1.747	Econ.
5	Journal of Asian Economics	40		Econ.
6	World Development	36	1.225	Econ.; P&D
7	World Economy	34	0.878	Bus.; Fin.; IR.; Econ.
8	Eurasian Geography and Economics	33	1.472	Area.; Geo.
9	Economics of Transition	30	0.536	Econ.
10	Energy Policy	29	2.629	Env.
11	Review of Income and Wealth	28	0.750	Econ.
12	Applied Economics	27	0.424	Econ.
13	Frontiers of Economics in China	27		Econ.
14	Pacific Economic Review	27	0.370	Econ.
15	Urban Studies	25	1.513	Env.; Urban.
16	Asian Economic Journal	24	0.205	Econ.
17	Economic Change and Restructuring	24		Econ.
18	Economic Development and Cultural Change	24	1.392	Area.; Econ.; P&D
19	Journal of the Asia Pacific Economy	24	0.275	Econ.
20	The Chinese Economy	23		Econ.
21	Developing Economies	22	0.156	Econ.; P&D
22	Journal of Policy Modeling	22	0.911	Econ.
23	China Quarterly	21	0.907	Area
24	Review of Development Economics	20	0.434	Econ.; P&D
25	Economic Systems	19		Econ.
26	Agricultural Economics	17	1.329	Econ.
27	Economic Modelling	17	0.601	Econ.
28	Post-Communist Economies	16	0.362	Econ.
29	Applied Financial Economics	15		Econ.
30	China Agricultural Economic Review	15		Econ.
31	International Review of Economics and Finance	15		Econ.
32	Journal of Contemporary China	15		Econ.; Bus.; SS

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Table A4 (continued)

Rank	Journal	Citations	2010 impact factor	ISI scientific area
33	Journal of International Development	15		Econ.
34	Oxford Bulletin of Economics and Statistics	15	1.182	Econ.; SS.; MM
35	Journal of Development Studies	14	0.793	P&D Econ
36	Land Use Policy	14	2.070	Env.
37	Revue d'Economie du Developpement	14		Econ.; P&D
38	Comparative Economic Studies	13		Econ.
39	Energy Economics	13	2.466	Econ.
40	Asia Pacific Business Review	12		Econ.
41	Contemporary Economic Policy	12	0.523	Econ.; PA.
42	Ecological Economics	12	2.754	Econ.; Env.
43	Regional Studies	12	1.259	Env.; Geo.
44	Singapore Economic Review	12	0.129	Econ.
45	Annals of Regional Science	11	1.010	Env.; Geo.
46	Feminist Economics	11	1.234	Econ; Wom.
47	Food Policy	11	1.831	Econ.
48	International Research Journal of Finance and Economics	11		Econ.
49	Issues and Studies	11		IR
50	Papers in Regional Science	11	1.236	Env.; Geo.
51	Review of Economics and Statistics	11	2.883	Econ.; SS.; MM
52	Asia Pacific Journal of Management	10	3.355	Man.
53	Australian Journal of Agricultural and Resource Economics	10	1.117	Econ.
54	Chinese Geographical Science	10		Geo
55	Environment and Planning A	10	2.070	Env.; Geo.

*Note*: The journals included in this table (8.4% of total sources that cite CER articles) encompass about 55% of total cites.

Legend: Area: Area Studies; Bus: Business; Econ: Economics; Env: Environmental Studies; Fin: Finance, Geo: Geography; IR: International Relations Man: Management; MM: Mathematical Methods; P&D: Planning and Development; PA: Public Administration; SS: Social Sciences; Urban: Urban Studies; and WOM: Women studies.

**Table A5**Top 50 citing authors of the articles published in the China Economic Review. *Source*: Authors' computations based on citations from "Influences" database.

Rank	Authors	Country	Citations
1	Smyth, R.	Australia	66
2	Rozelle, S.	USA	53
3	Wang, X.	Hong Kong	38
4	Huang, J.	China	37
5	Narayan, P.K.	Australia	34
6	Zhang, L.	China	28
7	Dong, X.Y.	China	26
8	Chen, Y.	Hong Kong	24
9	Knight, J.	UK	24
10	Nielsen, I.	Australia	24
11	Hao, R.	China	23
12	Holz, C.A.	Hong Kong	22
13	Ravallion, M.	USA	22
14	Wang, Y.	USA	22
15	Yao, S.	UK	22
16	Li, X.	China	21
17	Liu, X.	UK	21
18	Wang, Z.	USA	21
19	Yang, C.H.	Taiwan	21
20	Zhang, X.	USA	21
21	Qian, X.	Australia	20
22	Wei, Z.	UK	19
23	Ma, H.	China	18
24	Zhang, Y.	USA	18
25	Zhang, Z.	China	18
26	Li, D.	Australia	17
27	Li, H.	Hong Kong	17
28	Liu, H.	China	17
29	Putterman, L.	USA	17
30	Zhang, C.	China	17
31	Zhang, J.	Hong Kong	17
32	Groenewold, N.	Australia	16
33	Heerink, N.	Netherlands	16
34	Herzfeld, T.	Netherlands	16

Table A5 (continued)

Rank	Authors	Country	Citations
35	Huang, Y.	China	16
36	Chen, Z.	USA	15
37	Fleisher, B.M.	USA	15
38	Fung, K.C.	USA	15
39	lizaka, H.	Japan	15
40	Li, K.W.	Hong Kong	15
41	Park, A.	Hong Kong	15
42	Siu, A.	Hong Kong	15
43	Tong, C.S.P.	USA	15
44	Woo, W.T.	USA	15
45	Yang, D.T.	Hong Kong	15
46	Chen, S.	USA	14
47	Glauben, T.	Germany	14
48	Jalil, A.	China	14
49	Liu, T.	USA	14
50	Ding, S.	UK	13
51	Li, S.	Australia	13
52	Ma, Y.	China	13
53	Narayan, S.	Australia	13
54	Song, S.	USA	13
55	Wang, J.	Singapore	13
56	Wang, S.	China	13
57	Wu, Y.	Australia	13
58	Yang, J.	New Zealand	13
59	Zhou, H.	China	13

Note: On the total 6015 cites to CER articles were attributed to 2475 distinct authors. The 59 (2.4% of the total) authors represent almost 20% of total cites.

#### References

Aloui, R., Aïssa, M. S. B., & Nguyen, D. K. (2011). Global financial crisis, extreme interdependences, and contagion effects: The role of economic structure? *Journal of Banking & Finance*, 35(1), 130–141.

Anyi, K. W. U., Zainab, A. K., & Anuar, N. B. (2009). Bibliometric studies on single journals: a review. Malaysian Journal of Library & Information Science, 14(1), 17–55.

Anderson, K., Huang, J., & lanchovichina, E. (2004). Will China's WTO accession worsen farm household incomes? China Economic Review, 15(4), 443–456.

Baak, S. (2008). The bilateral real exchange rates and trade between China and the U.S. China Economics Review, 19(2), 117–127.

Bagnai, A. (2009). The role of China in global external imbalances: Some further evidence. *China Economic Review*, 20(3), 508–526. Balassa, B. (1987). China's economic reforms in a comparative. *Journal of Comparative Economics*, 11(3), 410–426.

Baumgartner, H., & Pieters, R. (2003). The structural influence of marketing journals: A citation analysis of the discipline and its subareas over time. *Journal of Marketing*, 67(4), 123–139.

Beckmann, M., & Persson, O. (1998). The thirteen most cited journals in economics. Scientometrics, 42(2), 267-271.

Boyce, B. R., & Kraft, D. H. (1985). Principles and theories information science. In M. E. Williams (Ed.), *Annual Review of Information Science and Technology, Inc.*, 20. (pp. 163)White Plains, N.Y.: Knowledge Industry Publications.

Broadus, R. N. (1987). Toward a definition of "bibliometrics". Scientometrics, 12(5-6), 373-379.

Brun, J. F., Combes, J. L., & Renard, M. F. (2002). Are there spillover effects between coastal and non-coastal regions in China? *China Economics Review*, 13(2–3), 161–169.

Cahlik, T. (2000). Search for fundamental articles in economics. Scientometrics, 49(3), 389-402.

Calvani, T., & Alderman, K. (2010). BRIC in the international merger review edifice. Cornell International Law Journal, 43(1), 73-145.

Castro Silva, M., & Teixeira, A. A. C. (2011). A bibliometric account of the evolution of EE in the last two decades is ecological economics (becoming) a post-normal science. *Ecological Economics*, 70(11), 849–862.

Caves, R. (1996). Multinational Enterprise and Economic Analysis (Second Edition). Cambridge: Cambridge University Press.

Chen, A. (2010). Reducing China's regional disparities: Is there a growth cost? China Economic Review, 21(1), 2-13.

Chen, T. J., Chen, Y. C., Wang, S. J., & Chou, L. F. (2006). The rise of China in gastroenterology? A bibliometrics analysis of ISI and Medline databases. *Scientometrics*, 69(3), 539–549.

Chen, B., & Feng, Y. (2001). Openness and trade policy in China: An industrial analysis. China Economic Review, 11(4), 323-341.

Cheng, L. K., & Kwan, Y. (2000). What are the determinants of the location of foreign direct investment? The Chinese experience. *Journal of International Economics*, 51(2), 379-400.

Chow, G. C. (1993). How and why China succeeded in her economic reform. China Economic Review, 4(2), 117-128.

Cruz, S., & Teixeira, A. A. C. (2010). The evolution of the cluster literature: shedding light on the regional science—Regional studies debate. *Regional Studies*, 44(9), 1263–1288.

Culnan, M. J. (1986). The intellectual development of management information systems, 1972–1982: A co-citation analysis. *Management Science*, 32(2), 156–171. Culnan, M. J., O'Reilly, C. A., & Chatman, J. A. (1990). Intellectual structure of research in organizational behavior, 1972–1984: A co-citation analysis. *Journal of the American Society for Information Science*, 41(6), 453–458.

De Brauw, A., Huang, J., Rozelle, S., Zhang, L. X., & Zhang, Y. G. (2002). The evolution of China's rural labor markets during the reforms. *Journal of Comparative Economics*, 30(1), 329–353.

Dixit, A. K., & Stiglitz, J. E. (1977). Monopolistic competition and optimum product diversity. American Economic Review, 67(3), 297–308.

Dubois, F. L., & David, R. (2000). Ranking the international business journals. Journal of International Business, 31(4), 689-704.

Engle, R. F., & Granger, C. W. J. (1987). Co-integration and error correction: Representation estimation and testing. Econometrica, 55(2), 251–276.

Faria, J. R., & Mollick, A. V. (2009). The effect of oil price on China's exports. China Economic Review, 20(4), 793-805.

Fetscherin, M., Voss, H., & Gugler, P. (2010). 30 Years of foreign direct investment to China: An interdisciplinary literature review. *International Business Review*, 19(3), 235–246.

Fleisher, B., & Chen, J. (1997). The coast–no coast income gap, productivity, and regional economic policy in China. *Journal of Comparative Economics*, 25(2), 220–236. Giner, J. M., & Giner, G. (2004). An interpretative model of foreign direct investment in China: An economic policy approach. *China Economic Review*, 15(3), 268–280.

Glänzel, W., & Moed, H. F. (2002). Journal impact measures in bibliometrics research. Scientometrics, 53(2), 171-193.

Goetz, L., & Grethe, H. (2010). The entry price system for fresh fruit and vegetable exports from China to the EU — Breaking a fly on the wheel? China Economic Review, 21(3), 377–393.

Gomes Pereira, M. W., Teixeira, E. C., & Raszap-Skorbiansky, S. (2010). Impacts of the Doha Round on Brazilian, Chinese and Indian agribusiness. China Economic Review, 21(2), 256–271.

Groves, T., Hong, Y., McMillan, J., & Naughton, B. (1994). Autonomy and incentives in Chinese state enterprises. *Quarterly Journal of Economics*, 109(1), 183–209. Gu, C., & Shen, J. (2003). Transformation of urban socio-spatial structure in socialist market economies: The case of Beijing. *Habitat International*, 27(1), 107–122. Guan, J., & Chen, Z. (2009). The technological system of Chinese manufacturing industry: A sectorial approach. *China Economic Review*, 20(4), 767–776.

Hu, A. G. Z., Jefferson, G. H., & Jinchang, Q. (2005). R&D and technology transfer: Firm level evidence from Chinese industry. *Review of Economics and Statistics*, 87, 780–786.

IMF (2011). Tensions from the two-speed recovery. Unemployment, commodities, and capital flows. World Economic Outlook, International Monetary Fund, April 2011. Inkpen, A. C., & Beamish, P. W. (1994). An analysis of twenty-five years of research in the Journal of International Business Studies. *Journal of International Business Studies*, 25(4), 703–714.

Jia, N., & Gan, L. (2010). Heterogeneous production functions and regional disparity. China Economic Review, 21(1), 12-19.

Jian, T. L., Sachs, J. D., & Warner, A. M. (1996). Trends in regional inequality in China. China Economic Review, 7(1), 1-21.

Johnson, D. G. (2001). The WTO and agriculture in China. China Economic Review, 11(4), 402-404.

Kim, J., & McMillan, S. (2008). Evaluation of internet advertising research: A bibliometric analysis of citations from key sources. *Journal of Advertising*, 37(1), 99–112. Laband, D. J., & Piette, M. J. (1994). The relative impact of economics journals: 1970–1990. *Journal of Economic Literature*, 32(6), 640–666.

Lee, C. (1993). China's transition towards the market: "Socialization" of the safety net. China Economic Review, 4(2), 169-180.

Lee, J. (2000). Changes in the source of China's regional inequality. China Economic Review, 11(3), 232-245.

Leydesdorff, L. (2007). Environment and Planning B: Planning and Design as a journal: The interdisciplinarity of its environment and the citation impact. *Environment and Planning B: Planning and Design*, 34(5), 826–838.

Liang, Y., & Klein, L. R. (1989). The two-gap paradigm in the Chinese case: A pedagogical exercise. China Economic Review, 1(1), 1-8.

Liebowitz, S. J., & Palmer, J. P. (1984). Assessing the relative impacts of economics journals. Journal of Economic Literature, 12(3), 77-88.

Lin, J. Y. (1992). Rural reforms and agricultural growth in China. American Economic Review, 82(1), 34-51.

Lin, S. (2008). China's value-added tax reform, capital accumulation, and welfare implications. China Economics Review, 19(2), 197-214.

Lin, K. P., Menkveld, A. J., & Yang, Z. (2009). Chinese and world equity markets: A review of the volatilities and correlations in the first fifteen years. China Economic Review, 20(1), 29–45.

Linton, J. D., & Thongpapanl, N. T. (2004). Perspective: Ranking the technology innovation management journals. *Journal of Product Innovation Management*, 21(2), 123–139. Liu, X., Wang, C., & Wei, Y. (2001). Causal links between foreign direct investment and trade in China. *China Economic Review*, 12(2–3), 190–202.

Liu, G. S., & Woo, W. T. (2001). How will ownership in China's industrial sector evolve with WTO accession? China Economic Review, 12(2-3), 137-161.

Ma, R., Dai, Q. B., Ni, C. Q., & Li, X. L. (2009). An author co-citation analysis of information science in China with Chinese Google scholar search engine, 2004–2006. Scientometrics, 81(1), 33–46.

Mankiw, G. N., Romer, D., & Weil, D. N. (1992). A contribution to the empirics of economic growth. Quarterly Journal of Economics, 105(2), 407-437.

McMillan, J., Whalley, J., & Zhu, L. (1989). The impact of China's economic reforms on agricultural productivity growth. *Journal of Political Economy*, 97(4), 781–807. Mead, R. W. (2000). China's agricultural reforms: The importance of private plots. *China Economic Review*, 11(1), 54–78.

Meng, W., Hu, Z. H., & Liu, W. B. (2006). Efficiency evaluation of basic research in China. *Scientometrics*, 69(1), 85–101.

Mincer, J. (1974). Schooling, experience and earnings. New York: Columbia University Press for the National Bureau of Economic Research.

Moed, H. F. (2002). Measuring China's research performance using the science citation index. Scientometrics, 53(3), 281-296.

Nelson, R., & Winter, S. (1982). An evolutionary theory of economics change. Cambridge, MA: Harvard University Press.

Newbery, D. M. (1993). Transformation in mature versus emerging economies: Why has Hungary been less successful than China? China Economic Review, 2(4), 89–116. OECD (2010). OECD economic outlook. Paris: OECD.

Pandey, M., & Dong, X. Y. (2009). Manufacturing productivity in China and India: The role of institutional changes. China Economic Review, 20(4), 754-766.

Perkins, D. (1988). Reforming China's economic system. *Journal of Economic Literature*, 46, 601–645.

Poncet, S. (2003). Measuring Chinese domestic and international integration. China Economic Review, 14(1), 1–21.

Pritchard, A. (1969). Statistical bibliography or bibliometrics. Journal of Documentation, 25(4), 348-349.

Rafael, A., Rodriguez, R., & Navarro, R. J. (2004). Change in the intellectual structure of Strategic management research: A bibliometrics study of the strategic management research. Strategic Management Journal, 25(10), 981–1004.

Ravenhill, J. (2006). Is China an economic threat to southeast Asia? Asian Survey, 46(5), 653-674.

Robert, C., Wilson, C., Gaudy, J. F., & Arreto, C. D. (2007). The evolution of the sleep science literature over 30 years: A bibliometrics analysis. *Scientometrics*, 73(2), 231–256.

Rozelle, S., & Swinnen, J. F. M. (2009). Why did the communist party reform in China, but not in the Soviet Union? The political economy of agricultural transition. *China Economic Review*, 20(2), 275–287.

Salike, N. (2010). Investigation of the "China effect" on crowding out of Japanese FDI: An industry-level analysis (1990–2004). China Economic Review, 21(4), 582–597.

Shafaeddin, S. M. (2004). Is China's accession to WTO threatening exports of developing countries? China Economic Review, 15(2), 109–114.

Shan, W. (1989). Reforms of China's foreign trade system: Experiences and prospects. China Economic Review, 1(1), 53-55.

Shi, T. (2002). Ecological economics in China: Origins, dilemmas and prospects. Ecological Economics, 41(1), 5-20.

Silva, E. G., & Teixeira, A. A. C. (2008). Surveying structural change: Seminal contributions and a bibliometrics account. Structural Change and Economic Dynamics, 19(4), 273–300.

Silva, S. T., & Teixeira, A. A. C. (2009). On the divergence of evolutionary research paths in the past 50 years: A comprehensive bibliometrics account. *Journal of Evolutionary Economics*, 19(5), 605–642.

Simon, D. F. (1989). China's hi-tech thrust: Beijing's evolving approaches to the process of innovation. *China Economic Review*, 1(1), 73–92.

Skoie, H. (1999). Bibliometrics—Some warnings from the North. Scientometrics, 45(3), 433-437.

Song, S. (2000). Intercity regional disparity in China. *China Economic Review*, 11(3), 246–261.

Szirmai, A., & Ruoen, R. (2000). Comparative performance in Chinese manufacturing, 1980-1992. China Economic Review, 11(1), 16-53.

Teixeira, A. A. C. (2011). Mapping the (in)visible college(s) in the field of entrepreneurship. Scientometrics, 89(1), 1-36.

Tellis, G. J., Chandy, R. K., & Ackerman, D. S. (1999). In search of diversity: The record of major marketing journals. *Journal of Marketing Research*, 36(2), 120–128. Tian, L., Wang, H. H., & Chen, Y. (2010). Spatial externalities in China regional economic growth. *China Economic Review*, 21(1), 20–31.

Uysal, O. O. (2010). Business ethics research with an accounting focus: A bibliometric analysis from 1988 to 2007. *Journal of Business Ethics*, 93(10), 137–160. Wang, Y. (1993). Eastern Europe and China: Institutional development as a resource allocation problem. *China Economic Review*, 4(1), 37–47.

Willett, P. (2007). A bibliometric analysis of the journal of molecular graphics and modelling. Journal of Molecular Graphics & Modelling, 26(3), 602-606.

Wong, K. Y. (2003). The impacts of China's WTO accession on the Southeast Asian economies: A theoretical analysis. *China Economic Review*, 14(3), 208–226. Wong, P. K., Ho, Y. P., & Chan, C. K. (2007). Internationalization and evolution of application areas of an emerging technology: The case of nanotechnology.

Scientometrics, 70(3), 715–737.

Wu, H. X. (2001). China's comparative labour productivity performance in manufacturing, 1952–1997: Catching up or falling behind? *China Economic Review*, 12(2–3), 162–289.

Yeh, A., & Wu, F. (1999). The transformation of the urban planning system in China from a centrally-planned to transitional economy. *Progress in Planning*, 51(3), 167–252. Zhang, K. H., & Song, S. (2001). Promoting exports: The role of inward FDI in China. *China Economic Review*, 11(4), 385–396.

Zinkhan, G. M., & Thomas, L. W. (1999). Assessing the quality ranking of the journal of advertising, 1986–1997. Journal of Advertising, 38(2), 51–70.