

A Bibliometrics Portrait of Chinese Research through the Lens of China Economic Review. A research proposal

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Abstract: Notwithstanding, in the last two decades, there has been a noticeable increase in published work on the research field of Chinese economy. There are few studies, which analyze the evolution of Chinese economics research, and the weight of international economics within it, by resorting to objective methods, namely bibliometrics. Giving our focus on Chinese economics related research, we select to base our empirical analysis on the “seed journal” China Economic Review (CER), which is the most important economic journal especially concerned with the issues of Chinese economy. We classify and assess all the (522) articles that were published in CER from its genesis (1989) up to December 2010. We construct three main databases: the first database as bibliographic database that contains the more than 500 articles published in CER, where we classify articles by themes (such as Macroeconomics, Microeconomics and International Economics) and types (such as formal vs. empirical); the second database includes the references of those 500 articles, which we denominate ‘roots of Chinese economics research’; and the third database, the ‘influence of Chinese economics research’, where we have all the studies that cited (more than 3000 references) the 500 articles published in CER. By undertaking an exploratory statistical analysis on the three databases - bibliographic database, ‘roots’ database and ‘influence’ database, we are able to assess three main group of issues: 1) the importance, within Chinese economics of the topic ‘international economic’; the types of research that are pursued in the period of analysis (formal vs empirical); and the most prolific authors in the area; 2) the ‘roots’ of Chinese economics, that is, who and which outlets are influencing most Chinese economics research; 3) the scope of influence of Chinese economics literature.

Keywords: Evolution of research; Economics; Bibliometrics; China Economic Review

JEL Codes: B30; B40; C89; F00

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1. Motivations and Research Aims

From the perspective of events on Chinese economy since 1978, when the first step of economic reform took place in China, the economy’s average growth rate in the eighties and nineties reached 9.7% (McMillan and Naughton, 1992). This high growth rate is contributed by the development of China’s industrial sector and to 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, progressively more autonomy of state owned enterprises, a diversified banking system, the development of stock markets, and the rapid growth of the private sector (Ravenhill, 2006).

Not surprisingly, therefore, there are growing academic scientific interests on Chinese economy and economics. Between 2007 to the present (November 2010), there are about 408 journal articles, published in hundred journals that analyses and discuss Chinese economy (ISI Web of knowledge, 2010). These data confirms that the evolution and performance of Chinese economy has attracted much attention from academic researchers, compare with other BRIC member countries (namely, Brazil, Russia, India) (Calvani and Alderman, 2010).

In additional, International economics, such as FDI, international trade, have a huge influence to Chinese economy. More recently, Foreign Direct Investment (FDI) in China, which increased dramatically, from US\$ 1bn in 1980 up to US\$ 83bn in the end of 2007 (Fetscherin *et al.*, 2010), has been one of the favourite researched issues, attracting the interest of many researchers within Chinese economics research (*e.g.* Giner and Giner, 2004; Fetscherin *et al.*, 2010). Related with FDI, some authors examined several issues involving preferential policy, wage cost, labour market (Giner and Giner, 2004). Meanwhile, several authors enlarged such research further into interrelated topics of international trade, such as free-trade area, regional agricultural, more liberalization of foreign trade in Chinese market (Wong, 2003; Anderson *et al.*, 2004; Shafaeddin, 2004).

From 2007 to the present times (2011), despite that the global financial crisis has triggered a liquidity shortfall in the United States banking system (Aloui *et al.*, 2010), which impacted on other world economies, including China, Chinese economy is still one of the economic systems that attracted the most business and research attention (OECD, 2010).

In this context, it would be scientifically pertinent to know in greater detail how Chinese related economics has evolved, which kind of themes have been interesting to Chinese researchers, who are the most important

researchers in this area, and the (geographical) scope of influence of this research. In brief, it would be useful to assess whether the dynamics of Chinese economics research is paralleling to the dynamics of Chinese economy.

In order to account for the evolution of Chinese economics in terms of research topics and type of research, bibliometrics seems to be a 'natural' choice in terms of tool of analysis (Silva and Teixeira, 2008). Bibliometrics has become a strand of tool to measure the science policy and research management in recently years (Uysal, 2010).

In brief, bibliometrics includes collecting, handling and analyzing quantitative literature data from scientific publications (Skoie, 1999; Rafael *et al.*, 2004). Through this technique, the activation of research and usage of scientific information can be assessed (Silva and Teixeira, 2008). The term bibliometrics refers to methods of mathematical and statistical analysis that analyzes articles appeared in the publications and documents. Nowadays, it has been successfully applied to the analysis of different scientific areas, such as innovation management, research evaluation, knowledge management, operations management research and engineering (Skoie, 1999; Teichert and Shehu, 2010). Specifically, bibliometrics has been used for assessing scientific output of members, including for instance, journals and organizations (King, 2004). Normally, the main methods within bibliometrics include citation analysis, co-citation analysis and usage of journal impact factor (Skoie, 1999). Citation analysis is based on the premise that authors cite some important articles they believed in the development of their research (Rafael *et al.*, 2004). Similarly, co-citation analysis is used to measure the number of documents that have been cited by any given pair of documents (Rafael *et al.*, 2004). These methods can identify the groups of authors and topics as well as can help us understand the way in which these groups interrelate to each other. Additionally, journal impact factor studies, which also named as journal-ranking studies, have been conducted in many different fields (Linton and Thongpapanl, 2004). The journal ranking studies are a fundamental citation-based measurement for significance and performance of scientific journals (Glänzel and Moed, 2002). The typical methods of journals ranking studies are based on opinion surveys of researchers and on conducting the citation analysis of relevant journals (Linton and Thongpapanl, 2004).

Regardless the bibliometric technique used, the bibliometrics exercise contributes to the advancement of knowledge (Skoie, 1999). From an "advancement of knowledge" perspective, the bibliometrics can be applied to research on the roles of articles published in international journal as well as its impacts on other related articles (Skoie, 1999). There are many important and interesting studies use the bibliometric technique to analyze the technology field, medicine areas and social sciences (*e.g.*, Culnan *et al.*, 1990; Rafael *et al.*, 2004; Robert *et al.*, 2007; Wong *et al.*, 2007). However, to the best of our knowledge, up to the present date, there are

few or no studies that investigate Chinese economics resorting to the bibliometrics methods to analyze the evolution of topics (*e.g.*, Macroeconomics, Microeconomics, International Economics), types of methods ('Empirical', 'Formal', 'Appreciative', 'Formal plus Empirical', 'Appreciative and Empirical', and 'Surveys'), and scope of geographical influence of Chinese related research.

Thus, the present paper aims to overcome this gap by contributing with an overall assessment of Chinese economics research. For that we focus our analysis in the 'seed journal' China Economic Review (CER).

This is one of the most important outlets for research in Chinese economics by researchers (Ravenhill, 2006). It is indexed in ISI with an impact factor of 1.066 (year of reference 2009), ranking in 31st among 247 journals from the economics research area. Using CER, we classify the articles published by topic and type. Through this method, from a quantitative perspective, we are able to assess the importance, within economics, to CER and Chinese researchers, of the international topic. For that purpose we read and classify about 520 articles published in CER from 1989 (first volume) up to the present (December 2010). Thus, through the lens of CER, we seek to answer three research questions:

- (1) What is the evolution of Chinese economics by themes and type, and what is the dynamics of the international topic within it?
- (2) Who are the most cited researchers and studies in Chinese economics literature?
- (3) What is the scope of influence of Chinese economics literature?

This thesis proposal is structured as follows. In the next section, we undertake a literature review regarding to the usefulness of bibliometrics in describing the evolution of a scientific area in economy, and the main themes and types of methodologies in economics. The third section details the methodology used in the present research. Then, in Section 4, a detail of the thesis' timetable is presented.

2. A Review of the literature

2.1. Bibliometrics as a tool for studying the evolution of scientific areas

The term bibliometrics was firstly introduced by Pritchard (1969), who explained that, the term bibliometrics "deals with relationships among number of scientific paper, numbers of patents, amounts of exports and other quantities" (Prithchard, 1969: 348-349). Meanwhile, 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 for bibliometrics as a "quantitative analysis of gross bibliographical units such as books, journal articles, and the like".

In recently years, the using of bibliometrics as research method, which is a common research method to analysis literature and “trends” in researches, has grown significantly (Willett, 2007). The bibliometrics generally involves counting citations in other publications in literature and using these counts to develop statistical distributions (Culnan, 1986; Willett, 2007). Generally, bibliometric analyzes the science research activity and represents a relatively new form of “meta-review” of the literature (Kim and McMillan, 2008).

As a tool, bibliometrics citation analysis evaluates the evolution of a research area and the empirical development of that field (Glänzel and Moed, 2002). Furthermore, citation analysis also is a measure of impact and not necessarily the intrinsic value, although the two may often coincide (Culnan, 1986). Using citation bibliometric methods, Wong *et al.* (2007) analyzed the development of nanotechnology based on scientific publications and citations studies, whereas Robert *et al.* (2007) assessed the impacts of physiology, biochemistry and endocrinology on the sleep science. Furthermore, bibliometrics is also used to analyze some phenomena like the identification of key researchers (Fetscherin *et al.*, 2010), and the extent to which different journals assemble the most-cited articles on a given matter (Culnan, 1986; Linton and Thongpapanl, 2004). Finally, researchers can identify the centers of influence and the research related to a relevant field by applying a simple counting of publications (Moed, 2002).

In what concerns the latter issue, it is a fact that the characteristics of modern science include the development of new and fast changing interdependencies within a field of research while at the same time the scope of the science field is not clear (Cahlik, 2000). Therefore, to understand the evolution of a science field, we should identify and classify the social science field by using bibliometrics methods. In order to perform such analysis of the scientific field we should define its structure in cognitive and social layers (Cahlik, 2000).

The cognitive layers can defined as an aggregation of scientific fields, which are nets of scientific themes while the scientific themes are nets of keywords or citations (Beckmann and Persson, 1998; Cahlik, 2000). The social layer includes scientists, researchers and other actors tied with financial, informational flows. The cognitive and social layers can be analyzed, according to Cahlik (2000), by applying bibliometric methods. The social sciences research fields have been quite under explored in what refers to the analysis of the scientific field, in particular the field of Economic, Management, Business and Marketing(*e.g.*, Liebowitz and Palmer, 1984; Culnan *et al.*, 1990; Dubois and David, 2000; Baumgartner and Pieters, 2003). Nevertheless, there are some key studies on this latter areas that use bibliometrics tools. In Table 1, we present some of these studies and provide some information on the characteristics of social sciences areas include Economic, Management, Business and Marketing.

In the field of Management, Culnan *et al.* (1990) explored the structure of organizational behavior (OB) by

applying co-citation and quantitative bibliographic tools. This study identifies the subfields of OB research that are represented by the authors who constitute them. The unit of analysis is articles associated with 52 OB researchers (as sole or first authors), more specifically, joint citation counts of 52 OB researchers during 1972-1984.

Later, Phelan *et al.* (2002) focused on Strategic Management Journal (SJM), assessed the changes in the contents over a twenty year period by applying the method of bibliometrics to relevant articles published in this journal. This study concluded that these articles had grown in size over the years; cite more references, use larger samples and more and more co-authorship. Also within the Management research of field, Rafael *et al.* (2004) wrote an article aimed to gain an opinion of strategic management research and its evolution by considering the literatures of a huge number of researchers in this field. This paper analyzed all original articles published in the Strategic Management Journal (SMJ), from 1980-2000, using the citation and co-citation analysis. Meanwhile, these authors consider that citation and co-citation analysis could 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 between 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 relative contribution of authors to JIBS and discussed the development of the JIBS through doing analyzes of authors, editors and reviewers. These authors considered that JIBS has become a major journal for the business research of field and interdisciplinary research. Later, Dubois and David (2000) analyzed and ranked the quality of 30 international business journals using a citation analysis and a survey approach. These authors concluded that the slow development of the Business area could be explained by the fact that some authors did not desire to investigate such a risky subject; instead, they would prefer to study other more conservative areas of international business.

In the field of Marketing, Tellis and Ackeman (1999) relied on citation analysis to analyze the publication of major marketing journals on the basis of their diversity relative to each other. The important finding of these authors included that although each marketing journal focuses on different scientific areas, they are related to each other. In the same year, 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 at analyzing the quality of The Journal of Advertising by applying citation analysis. They concluded that the cited, cited-to-citing ratio influence the journals ranking. In the same the field of scientific, using citation analysis, Baumgartner and Pieters (2003) investigated the influence of a comprehensive set of marketing and marketing-related journals during 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 Behavior, Marketing Applications, Marketing Education and Managerial Marketing. Overall, the result of this article shows that citation analysis can evidence the journals' influence as well as, more broadly, the creation and diffusion of scholarly knowledge within a discipline.

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

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

Cruz and Teixeira (2010) critically assessed the evolution of the literature on regional studies and regional science by researching the evolution of the cluster literature. This article is based on two main bibliometrics methods: citation and themes classification. The study involved the analysis of 5000 citations analysis and the classification of almost 3000 abstracts from 1962 to 2008. Through use of these methodologies, they concluded that although the innovation of research comes from regional science and regional studies areas, the 'convergence' between regional science and regional studies methodologies is a chimera (Cruz and Teixeira, 2010).

In the area of structural change, which has an important tradition in economic theory, Silva and Teixeira (2008) organized some literature from its early foundations until a more recent period. Apart from a survey of the economic articles on structural change that emphasized the '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 using 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 and Teixeira, 2008).

Through a quantitative review of all 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), similarly to Silva and Teixeira (2008), used bibliometrics by classifying articles by themes and types but this time using a myriad of journals instead one 'seed journal'. They studied the evolution of a scientific area through abstract classification, co-citation analysis and co-authoring analysis, which permitted to measure the influence of authors and articles. The two authors pointed out, the evolutionary economic research area needs to combine economic theory with empirics. They demonstrate that in reality the evolutionary economic research field focuses on rather conceptual and even formalized research, lacking studies of empirical type. Therefore, these authors argument the need to redirect the evolutionary research agenda towards quantified evidence.

In the present study, we resort to a similar methodology of these three later studies, namely by categorizing an area of research (Economics) into main topics (*e.g.*, Macroeconomics, Microeconomics, International Economics) and types of methods used ('Formal', 'Formal plus Empirical', Empirical', 'Empirical plus Appreciative', "Appreciative" and 'Surveys'), but focusing on a rather unexplored context, the Chinese scientific economics production.

In what concerns Chinese related research and the use of bibliometrics, we might point that many researchers (*e.g.*, Chen *et al.*, 2006; Meng *et al.*, 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 by using medical journals that are included in Science citation index expanded and related databases. Meanwhile, Meng *et al.* (2006) investigated Chinese Research and Development (R&D) through bibliometrics methods. Furthermore, Ma *et al.* (2009) assessed main research directions of information science in China by using author co-citation analysis. However, most of studies that used bibliometrics in this context (*e.g.*, Chen *et al.*, 2006; Meng *et al.*, 2006; Ma *et al.*, 2009), focused only on the classification of the technological dynamics of China as reflected by the scientific output, neglecting in their analysis the evolution of Chinese social science, most particularly, Chinese economics. Given the recent prominence of Chinese economics related trajectories and performance this stands as a key subject to be explored.

By focusing on all articles published in Chinese Economics Review (CER), from its inception to December 2010, we classify, following Silva and Teixeira (2008; 2009) and Cruz and Teixeira (2010), the articles published in CER by topics/themes (*e.g.*,

Macroeconomics, International Economics), types of methods (*e.g.*, 'Empirical', 'Formal', 'Appreciative'), aiming to assess 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 the scope of influence of this same literature.

Table 1: Studies that use bibliometrics tools in some areas of the social science

Area	Bibliometrics analysis types	Title	Times Cited	Authors	Year	Journal	Journal Impact Factor
Management	Citation analysis	The First Twenty Years of the Strategic Management Journal	13	Phelan, S.E.; Ferreira, M.; Salvado, R.	2002	Strategic Management Journal	4.464
	Co-citation analysis; Citation analysis	Changes in the Intellectual Structure of Strategic Management Research: A Bibliometric Study of the Strategic Management Journal, 1980-2000	39	Rafael, A.; Rodriguez, R.; Navarro, J.R.	2004	Strategic Management Journal	4.464
	Co-citation analysis; Quantitative bibliographic	Intellectual Structure of Research in Organizational Behavior, 1972-1984: A Co-citation Analysis	59	Culnan, M.J.; O'Reilly, C.A.; Chatman, J.A.	1990	Journal of the American Society for Information Science	2.300
Business	Journal ranking; citation analysis; survey approach	Ranking the International Business Journals	64	Dubois, F.L.; David, R.	2000	Journal of International Business Studies	3.766
	Assessment of the Journal's influences by analyzing number of authors per article, names of most published authors and nationality of author's country	An analysis of Twenty-five Years of Research in the Journal of International Business Studies	45	Inkpen, A.C.; Beamish, P.W.	1994	Journal of International Business Studies	3.766
Marketing	Citation analysis; Assessment of the journal's influence by using opinion survey	The Structural Influence of Marketing Journals: A Citation Analysis of the Discipline and Its Subareas Over Time	67	Baumgartner, H.; Pieters, R.	2003	Journal of Marketing	3.779
	Citation analysis; Analysis the diversity of journals	In Search of Diversity: the Record of Major Marketing Journals	32	Tellis, G.J.; Chandy, R.K.; Ackerman, D.S.	1999	Journal of Marketing Research	3.099
	Citation analysis; Expert surveys	Assessing the Quality Ranking of the Journal of Advertising, 1986-1997	27	Zinkhan, G. M.; Thomas, L.W.	1999	Journal of Advertising	1.165

Table 1 (cont.): Studies that use bibliometrics tools in some areas of the social science

Area	Bibliometrics analysis types	Title	Times Cited	Authors	Year	Journal	Journal Impact Factor
Economics	Journal ranking; Citation analysis	Assessing the Relative Impacts of Economics Journals	191	Liebowitz, S. J.; Palmer, J.P.	1984	Journal of Economic Literature	6.919
	Citation analysis	The Relative Impact of Economics Journals:1970-1990	143	Laband, D.J.; Piette, M.J.	1994		6.919
	Citation analysis; Classification articles by abstracts	The Evolution of the Cluster Literature: Shedding Light on the Regional Studies-Regional Science Debate	0	Cruz, S.; Teixeira, A.A.C.	2010	Regional Studies	1.462
	Classification articles by themes and types; Citation analysis; Co-citation analysis	On the divergence of Evolutionary Research Paths in the Past 50 Years: A Comprehensive Bibliometric Account	1	Silva, S.T.; Teixeira, A.A.C.	2009	Journal of Evolutionary Economics	0.947
	Citations and co-authoring analysis	Surveying Structural Change: Seminal Contributions and A Bibliometric Account	5	Silva, e.g.; Teixeira, A.A.C	2008	Structural Change and Economics Dynamics	-

2.2 The Main sub-scientific areas of Economics

Nowadays, all articles related to the research field of economic in economic journals are usually classified through use of JEL classification codes, whose system was proposed by the Journal of Economic Literature (JEL). Hence, in order to clarify the classification system used in our research, we briefly describe the main sub-sciences areas of economic by using JEL classification system.

The JEL classification system considers 19 main areas: A - General Economics and Teaching; B - History of Economic Thought, Methodology, and Heterodox Approaches; C - Mathematical and Quantitative Methods; D - Microeconomics; E - Macroeconomics and Monetary Economics; F - International Economics; G - Financial Economics; H - Public Economics; I - Health, Education, and Welfare; J - Labor and Demographic Economics; K - Law and Economics; L - Industrial Organization; M - Business Administration and Business Economics; Marketing; Accounting; N - Economic History; O - Economic Development, Technological Change, and Growth; P - Economic Systems; Q - Agricultural and Natural Resource Economics; Environmental and Ecological Economics; R - Urban, Rural, and Regional Economics; Y - Miscellaneous Categories; Z - Other Special Topics.

Today, economics has developed to be one of the most specialized social sciences. It can analyze the production, distribution, and consumption of goods and service

(Mcmillan and Naughton, 1992; Ravenhill, 2006). Until now, economic has extended to other disciplines such as psychology, sociology and religion (Ravenhill, 2006).

Articles related to general economic and teaching are normally classified as 'A'. One example of an article classified in JEL 'A' is the one from Rae (2010), who considers that the education of economics should continue to change in order to adapt themselves to the development of economics.

The field of JEL 'B' focuses on the History of Economic Thought, and Heterodox Approaches. Adam Smith is often cited as the father of modern economics for his treatise *The Wealth of Nations* (Hooas and Madigan, 1999). Then, other economists such as Ricardo (1817, in Hollander, 1982) and Keynes (1930, in Hooas and Madigan, 1999) proposed different views of the economy beside classical and neoclassical. Moreover, after 20th century, some economic researchers expound more diversification views on economics. For instance, Stiglitz (1993: 112) studied information economics and showed that "information economics represents a fundamental change in the prevailing paradigm within economics". Meanwhile, Krugman (1979) testified the influence of the economics of scope. Therefore, according to the JEL classification system, most of the literature related to the history of economic thought appeared in this area, as well as some articles related to heterodox approaches.

Economic methodology is the study of methods, usually scientific methods (Lazear, 2000), which are related to

econometric and statistical methods and methodology, econometric modeling, mathematical methods, programming models, etc. The JEL classification code also classifies articles related to economic methods in the area 'C'.

Moreover, microeconomics is a branch of economics that researches the behavior of family, consumer and firm, as well as allocation of resources (Field, 1984; Blundell and Duncan, 1998). Indeed, the relationships between the company with its consumers are very close (Dmitri and Ying, 2010; Tine and Patrick, 2010). In general, the firm sets up its market structure, defines the price of product, and needs to investigate the consumer behaviors (Tine and Patrick, 2010). Thus, in this area 'D' of JEL classification code it is highlighted some literature related to the general microeconomic behavior, household behavior and family economics, market structure and pricing. Additionally, other articles that are related to welfare economics, analysis of collective decision-making, information, knowledge, and uncertainty are also included in area 'D'.

Macroeconomics and Monetary Economics is in 'E' code of the JEL classification system. It includes Money and Interest Rates, Monetary Policy, the Supply of Money and Credit, Macroeconomic Policy, Macroeconomic Aspects of Public Finance. In general, macroeconomic mainly researches the performance, structure, behavior and decision-making of the entire economy that includes national, regional, or global economies (Galor and Zeira, 1993; Blaug, 1997). Meanwhile, some authors (*e.g.* Clarida *et al.*, 2000) consider that macroeconomics mainly studies aggregated indicators such as GDP, unemployment rates to understand how the whole economy functions. Additionally, the field of 'E' also contains some articles relevant to aggregative models in the field of macroeconomics.

International economics (JEL code 'F') includes international trade and finance; it focuses on economic activity of international differences in productive resources and consumer preferences that affect them (Krugman, 1979). From a macro perspective, it analyzes trade, finance and business in different countries (Redding and Venables, 2004). According to JEL, some studies that related trade, international factor movement, international finance, macroeconomic aspects of international trade and international political economy are included in area 'F'.

Financial economics is also a branch of economy (Blundell and Duncan, 1998); it mainly analyzed some issues within financial crisis, financial market, financial institution and services, corporate finance and governance. Thus, studies related to similar topics belong to the field 'G' of JEL.

Furthermore, public economics, which is included in 'H' JEL code, studies issues such as fiscal policies and behavior of economic agents, national budget in public sectors such government (Hammond, 1988).

Articles published in subjects of health, education and welfare are classified in JEL code 'I'. Health economics is a branch of economics (Arrow, 1963; Blundell and

Duncan, 1998), which mainly researches health care system, social welfare, and their impacts on each person (Briggs *et al.*, 1994). Articles related to research education system or institutions also appear on this area 'I', focusing on the development of economic within a local, regional or national extent by analyzing the output of their knowledge-producing organizations such as universities or R&D institution (Moore and Suffrin, 1974).

Labor and demographic economics are two different areas of research which appear in code 'J'. In fact, the objective of labor economics is to analyze the function of labor market and its dynamics. It mainly researches the relationship between suppliers of labor services (workers) and demanders of labor services (employers) in the aspect of wages, labor costs and labor contracts (*e.g.*, Heckman *et al.*, 1999; Nickell and Layard, 1999). Demographic economics is also included in this area and stands as the application of economics to demography, including demographic trends and forecasts; marriage; fertility and economics of the elderly (Nickell and Layard, 1999).

Law economics encompasses the analysis of laws within business law, contract law and tax law by applying the methods of economics (Nickell and Layard, 1999), which belongs to the scope 'K' in the JEL system. In this domain, for example, Rose (2010) considers that property rights protect the rights of the asset owners, whereas Odell (2010) points out that given that the World Trade Organization (WTO) has some laws, this leads to the reduction of small states negotiation advantages in the trade.

Industrial Organization is also a field of economics (Blundell and Duncan, 1998), included in code 'L'. It studies the structures between firms and markets and firm strategy and market performance. It further investigates each company's objectives, organization and behaviors. Additionally, industrial organization analyses goals that the structures and behavior of each industry within manufacturing, primary products and construction, services and transportation. Caves (1980: 70) summarizes that "an industry's performance depends on the conduct of its firms, which then depends on the structure".

The code 'M' includes business administration and business economics, marketing, and accounting. Business administration includes production management, personnel management, IT management and international business administration; it can be defined as the process of organizing people and resources efficiently to directly reaching common goals and objectives (Chimhamhiwa *et al.*, 2009). Furthermore, the relationship is very close between marketing and advertising. In fact, several corporate marketing activities for customers by advertising include television advertising, online advertising and newspaper or magazine advertising (Wymer, 2010). Marketing is used to identify the customer, to satisfy the customer, and to keep the customers (Wymer, 2010). Advertising is a tool to attract more customers (Chimhamhiwa *et al.*, 2009; Wymer, 2010). Thus, several articles related to business

administration and business economics; marketing and advertising are published in code 'M'. Additionally, other literature that have something to do with accounting and personal economics also appear on in this area.

'Economic History', 'N' JEL code, studies the evolutionary of economic phenomena from an historical perspective (North, 1978); its main research fields include macroeconomics, financial markets and institutions, welfare, government, natural resources and regional and urban history. Schumpeter (1947) combines historical methods, statistical methods and economic theories analysis in economic history. Meanwhile, from regional perspective, in this JEL code, the economic history research is divided into six regions: United States, Europe, Asia, Latin America, Africa and Oceania.

Economic development refers to the social and technology progress; it aims to study the development of both low and high developed economies (Blundell and Duncan, 1998). Economic development research considers several issues such as macroeconomic analyses of economic development (Mafafo, 2001), microeconomic analyses of economic development (Wainger and Price, 2004), agriculture, natural resources (Wainger and Price, 2004), financial market, human resources. Research related to economic development is classified in the 'O' JEL code. In addition, some articles related to the development, planning, and policy, technological change, economic growth and economy wide country studies also are included in this code.

Economic system, such as capitalist systems, socialist systems, transitional economies, socialist institutions and comparative economic systems, encompassing the structure of production, allocation of economic inputs, distribution of economic outputs, and consumption of

goods and services in an economy (OECD, 2010), are included in JEL code 'P'.

The code 'Q' includes articles related to agricultural and natural resource economics; environmental and ecological economics, such as renewable resources, energy, technological innovation in environmental. Long (2010: 20) argued that "Natural resource economics is a field of academic research within economics that aims to address the connections and interdependence between human economies and natural system, as well as, environmental and ecological economics aims to solve the interdependence and evolution of human economies and natural ecosystems".

Regional economic analyzes economic issues within urban, rural, or regional (Armstrong and Taylor, 2000). Topics in regional economics include not only regional economic activity, econometric and input-output models, but also housing market, transportation system, production analysis and regional government analysis. Some articles related to the problems of regional economics, such as finance in urban and rural economies, government and private investment analysis, housing supply and markets, are also included under the JEL code 'R'.

In code 'Y' it is included studies about economic book reviews, economy data, and general economy topic discussion, whereas code 'Z', includes special economics topics like economics of the arts and literature, economic sociology; economic anthropology; social and economic stratification. Economics of the arts and literature studies the "economics of creation, distribution, and the consumption of works of art and literature." (Baumol and Bowen, 1968: 300-320).

Table 1: The description of JEL codes

JEL-Codes	Description	Areas included	Autors (date)
A	General Economic and Teaching	Role of economic; Economic Education Collected writings of individuals	Mcmillan and Naughton, (1992); Ravenhill, (2006)
B	History of Economic Thought, Methodology, Heterodox Approaches	The history of economic (classical, neoclassical)	Hoas and Madigan, (1999); Krugman, (1979)
C	Mathematical and Quantitative Methods	Econometric and statistical methods; Programming models	Lazear, (2000)
D	Microeconomics	General microeconomic behavior; Household behavior; Family economic; Market structure; Pricing	Field, (1984); Dmitri and Ying, (2010)
E	Macroeconomics and Monetary Economics	Money and interest rates; Monetary policy; Macroeconomic policy; Macroeconomic aspects of public finance	Blaug, (1997); Galor and Zeira, (1993)
F	International Economics	International trade; Finance; The analysis of finance and trade in a macro perspective	Redding and Venables, (2004); Krugman, (1979)
G	Financial Economics	Financial crisis; Financial market; Financial institution and services; Corporate finance and governance	Blundell and Duncan ,(1998)
H	Public Economics	Fiscal policies; Behavior of economic agents, National budget in public sectors	Hammond, (1988)

Table 2 (cont.): The description of JEL codes

JEL-Codes	Description	Areas included	Autors (date)
I	Health, Education, and Welfare	Health care system; Social welfare; Education system or institutions	Blundell and Duncan,(1998)
J	Labor and Demographic Economics	Function of labor market and its dynamics; The application of economics to demography	Heckman <i>et al.</i> , (1999)
K	Law and Economics	Business law, Contract law; Tax law	Nickell and Layard, (1999)
L	Industrial Organization	Structures between firms and markets; Firm strategy; Market performance	Caves, (1980)
M	Business Administration and Business Economics; Marketing; Accounting	Marketing; IT management; Advertising	Chimhamhiwa <i>et al.</i> , (2009); Wymer, (2010)
N	Economic History	The evolutionary of economic phenomena from historical perspective such as: macroeconomics, welfare, government; The economic history research can be divided into six regions from regional perspective	North, (1978); Schumpeter, (1947)
O	Economic Development; Technological Change; Growth	Macroeconomic/Microeconomic analyses of economic development; Natural resources; Financial market;	Blundell and Duncan, (1998); Mafafo, (2001); Wainger and Price, (2004)
P	Economic Systems	Capitalist systems; Socialist systems; Transitional economies; Socialist institutions; Comparative economic systems	OECD, (2010)
Q	Agricultural and Natural Resource Economics; Environmental and Ecological Economics	Renewable resources; Technological innovation in environmental; Energy; Nonrenewable resources and conservation	Long, (2010)
R	Urban, Rural, and Regional Economics	Regional economic activity; Housing market; Transportation system; Production analysis; Finance in urban and rural economies;	Armstrong and Taylor, (2000)
Y	Miscellaneous Categories	Economic book reviews; Economy data; General economy topic discussion	
Z	Other special topics	Economics of the arts and literature; Economic sociology; Economic anthropology;	Baumol and Bowen, (1968)

2.3. Main types of methodologies

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 encompass the difference between theoretical arguments which follow a mathematical logic from those that do not follow any model, Silva and Teixeira (2008, 2009) considered that "formal" would include the logic of a structured theorization, whereas "appreciative" can be suggested as a more intuitive form based on value judgments and common sense" (Nelson and Winter, 1982: 9, in Cruz and Teixeira, 2010).

Thus, in 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" literatures include the analysis of economy 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 approach as "Empirical". Further, 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 literatures review or overview form special scope of research are classified as "Survey".

3. The Evolution of Chinese economic through the Lens of CER: Methodological Considerations

In present study, we aim to analyze all articles published in China Economic Review (CRE), from its genesis (1989) until December 2010, by using bibliometrics methods, which include citation analysis, and classification of

articles by themes and types of methods used. Specifically, we seek to answer the following questions:

(1) What is the evolution of Chinese economics by themes and type, and what the topics within the dynamics of the international economy are?;

(2) Who are the most cited researchers and studies in Chinese economics literature?

(3) What is the scope of influence of Chinese economics literature?

We choose to focus our empirical research on journal articles because these are considered as “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 and Kraft, 1985; Rafael *et al.*, 2004).

Given that the main objective of the present work is to analyze Chinese economics literature, our ‘natural’ choice was China Economic Review (CER). This journal is considered as the ‘seed journal’ (Leydesdorff, 2007) of Chinese economics research because it is one of the most important journals in the area of economics with an explicitly focus on China. CER is the official journal of The Chinese Economists Society and in its scope it is explicitly referred 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 ISI Web of Knowledge and it is ranked in 86th place out of 247 economic journals with an impact factor of 1.066 (2009 reference year).

In summary, the reasoning behind the choice of CER’s articles can be summarized as follows: (1) According to their nature, all the published articles focus on Chinese economics related issues; (2) CER is one of the scientific economic journals which explicitly analyzes Chinese economic related issues; and (3) CER is regarded as an important source by researchers who are researching this field.

Since 1989, the date of the first issue of CER, the journal has been characterized as a multidisciplinary outlet focused on Chinese related macroeconomics issues,

foreign trade system, high-tech innovation industry and industrial firms (Liang and Klein, 1989; Shan, 1989; Simon, 1989). Chinese economy has been observing a continued development over the past ten years (Mcmillan and Naughton, 1992), as a result, several authors from CER introduced more Chinese economy related issues, such as labor market, agriculture, intellectual property rights (Johnson, 2001; Wu, 2001).

The research work is conducted in three separated interrelated steps, which addresses our three main research questions.

Firstly, we will set up a bibliographic database with all articles that were published on CER. This database includes information regarding the number of authors, authors’ affiliation, and research field. Then, we classify all Chinese economics related articles using JEL codes for identifying the themes/topics and we classify them by type of method used (formal, appreciative, empirical, formal and empirical, appreciative and formal, survey). Such database and the corresponding analysis will permit us to respond to our research question 1: ‘what is the evolution of Chinese economics by themes and type, and what the topics within the dynamics of the international economy are?’.

Departing from the first database containing all the papers published in CER, we will set up another database, the ‘roots’ database, which contains the references/citations of those papers. As a result, we classify and investigate more than 15000 citations from all articles were published on CER. Based on second database within 15000 citations, we will answer our second research question: ‘Who are the most cited researchers and studies in Chinese economics literature?’.

Finally, based on who cites the published papers in CER, we will build a third database (the ‘influence’ database) which includes the studies that cited articles published in CER. The third database permits to respond to our third and last research question: ‘What is the scope of influence of Chinese economics literature?’

4. Provisional chronogram of the research work

	Jan.	Feb	Mar.	Apr.	May	June
Literature review						
Data gathering and classification in themes and types						
Discussion of the results						
Analyses and discuss citation and cited patterns						
First draft of the thesis						
Final version - submission						

References

- Armstrong, H.; Taylor, J. (2000), *Regional Economic and Policy*, 3rd Edition, U.K: Blacwell Publishers.
- Arrow, K.J. (1963), "Uncertainty and the welfare economics of medical care", *The American Economic Review*, 53(5): 941-973.
- Anderson, K.; Huang, J.; Ianchovichina, E. (2004), "Will China's WTO accession worsen farm household incomes?", *China Economic Review*, 15(4): 443-456.
- 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.
- 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, p.163, White Plains, N.Y, Knowledge industry publications
- Blundell, R.; Duncan, A. (1998), "Kernel regression in empirical microeconomics", *Journal of Human Resources*, 33(1):62-87.
- Broadus, R.N. (1987), "Toward a definition of "Bibliometrics"", *Scientometric*, 12(5-6): 373-379.
- Blaug, M. (1997), *Economic Theory in Retrospect*, 5th edition, Cambridge University Press.
- Briggs, A.; Sculpher, M.; Buxton, M. (1994), "Uncertainty in the economic evaluation of health care technologies: The role of sensitivity analysis", *Health Economic*, 3(2): 95- 104.
- Baumol, W.J.; Bowen, W.G. (1968), *Performing Arts - The Economic Dilemma*, The MIT Press.
- Cahlik, T. (2000), "Search for fundamental articles in economics", *Scientometrics*, 49(3): 389-402.
- Casey, D.L.; Mcmillan, G.S. (2008), "Identifying the "Invisible Colleges" of the industrial & labor relations review: A bibliometric approach", *Industrial and Labor Relations Review*, 62 (1): 207-255.
- Chen, T.J.; Chen, Y.C.; Wang, S.J.; Chou, L.F. (2006), "The rise of China in gastroenterology? A bibliometric analysis of ISI and Medline databases", *Scientometrics*, 69(3): 539-549.
- 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.
- Clarida, R.; Gali, J.; Gertler, M. (2000), "Monetary policy rules and macroeconomic stability: Evidence and some theory", *Quarterly Journal of Economics*, 115(1): 147-180.
- Caves, R. E. (1980), "Industrial organization, corporate strategy and structure", *Journal of Economic Literature*, 18(3):64-92.
- Chimhamhiwa, D.; Molen, P van der.; Mutanga, O.; Rugege, D. (2009), "Towards a framework for measuring end to end performance of land administration business processes – A case study", *Computers, Environment and Urban Systems*, 33(4): 293-301.
- Cruz, S.C.S.; Teixeira, A.C.C. (2007), "A new look into the evolution of 'cluster' literature: A bibliometric exercise", *FEP Work papers*, 257(11):1-37.
- Dubois, F.L.; David, R. (2000), "Ranking the international business journals", *Journal of International Business*, 31(4): 689-704.
- Dmitri, K.; Ying, X. (2010), "Pricing, frills, and customer ratings", *Marketing Science*, 29(5): 925-943.
- 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.
- Field, A.J. (1984), "Microeconomics, norms, and rationality", *Economic Development and Cultural Change*, 32(4):687-711.
- Glänzel, W.; Moed, H.F. (2002), "Journal impact measures in bibliometric research", *Scientometrics*, 53(2): 171-193.
- Godin, B. (2006), "On the origins of bibliometrics", *Scientometrics*, 68(1): 109-133.
- Galor, O.; Zeira, J. (1993), "Income-distribution and macroeconomics", *Review of Economic Studies*, 60(1): 35-52.
- 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.
- Hoaas, D.J.; Madigan, L.J. (1999), "A citation analysis of economists in principles of economics textbooks", *The Social Science Journal*, 36(3): 525–532.
- Hollander, S. (1982), "The Economics of David Ricardo: A response to professor O'Brien", *Oxford Economic Paper*, 34(1): 224-246.
- Hammond, P.J. (1990), "Theoretical progress in public economics: A provocative assessment", *Oxford Economic Papers*, 42(1): 6-33.
- Heckman, J.J.; Lalonde, R.J.; Smith, J.A. (1999), "The economics and econometrics of active labor market programs", *Handbook of Labor Economics*, 3(1): 1865-2097.
- 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.
- King, D.A. (2004), "The scientific impact of nations-What different countries get for their research spending", *Nature*, 430(15): 311-316.
- Krugman, P.R. (1979), "A model of balance-of-payment crises", *Journal of Money, Credit, and Banking*, 11(3): 315-325.
- Laband, D.J.; Piette, M.J. (1994), "The relative impact of economics journals: 1970-1990", *Journal of Economic Literature*, 32(6): 640-666.
- Lazear, E.P. (2000), "Economic imperialism", *Quarterly Journal of Economics*, 115(1): 99-146.
- Liebowitz, S.J.; Palmer, J.P. (1984), "Assessing the relative impacts of economics journals", *Journal of Economic Literature*, 12(3):77-88.
- Linton, J. D.; Thongpapanl, N.T. (2004), "Perspective: Ranking the technology innovation management journals", *Journal of Product Innovation Management*, 21(2): 123-139.
- Leydesdorff, L. (2007), "Visualization of the citation impact environments of scientific journals: An online mapping exercise", *Journal of the American Society for Information Science and Technology*, 58(1): 25-38.
- Long, N.V. (2010), "Dynamic games in the economics of natural resources: A survey", *Dynamic Games and Applications*, 9(8):1-34.
- Liang, Y.; Klein, L.R. (1989), "The two-gap paradigm in the Chinese case: A pedagogical exercise", *China Economic Review*, 1(1):1-8.
- McMillan, J.; Naughton, B. (1992), "How to reform a planned-economy - lessons from China", *Oxford Review of Economic Policy*, 8(1): 130-143.
- Meng, W.; Hu, Z. H.; Liu, W.B. (2006), "Efficiency evaluation of basic research in China" *Scientometrics*, 69(1): 85-101.
- Moed, H.F. (2002), "Measuring China's research performance using the science citation index", *Scientometrics*, 53(3): 281-296.
- Moore, C.L.; Suffrin, S.C. (1974), "Syracuse university: the impact of a nonprofit institution on regional income", *Growth and Change*, 51(1): 36-40.
- Mafafo, M.M. (2001), "Fantasies of development and housing provision for all? Revisiting urbanization issues in Swaziland", *Urban Forum*, 12(1): 107-118.
- 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.
- Nelson, R.; Winter, S. (1982), *An Evolutionary Theory of Economics Change*, Cambridge, MA: Harvard University Press.
- Nickell, S.; Layard, R. (1999), "Labor market institutions and economic performance", *Handbook of Labor Economics*, 3(3): 3029-3084.
- North, D.C. (1978), "Structure and performance: The task of economic history", *Journal of Economic Literature*, 16(9): 963-978.
- OECD (2010), *OECD Economic Outlook*; Paris: OECD.
- Ohara, M. ; Oldfield, G.S. (1986), "The microeconomics of market making", *Journal of Financial and Quantitative Analysis*, 21(4): 361-376.
- Odell, J.S. (2010), "Negotiating from weakness in international trade relations", *Journal of World Trade*, 44(3): 545-566.
- Phelan, S.E.; Ferreira, M.; Salvador, R. (2002), "The first twenty years of the Strategic Management Journal", *Strategic Management Journal*, 23(12): 1161-1168.
- Prithchard, A. (1969), "Statistical bibliography or bibliometrics", *Journal of Documentation*, 25 (4): 348-349.
- Rae, D. (2010), "Universities and enterprise education: Responding to the challenges of the new era", *Journal of Small Business and Enterprise Development*, 17(4): 591-606.
- Rafael, A.; Rodriguez, R.; Navarro, R.J. (2004), "Change in the intellectual structure of Strategic management research: A bibliometric study of the Strategic Management research", *Strategic Management Journal*, 25(10): 981-1004.
- Ramos, R.; Royuela, V.; Surinach, J. (2007), "An analysis of the determinants in Economics and Business publications by Spanish universities between 1994 and 2004", *Scientometrics*, 71(1): 117-144.
- Ravenhill, J. (2006), "Is China an economic threat to southeast Asia?", *Asian Survey*, 46(5): 653-674.
- Redding, S.; Venables, A.J. (2004), "Economic geography and international inequality", *Journal of International Economic*, 62(1):53-82.
- Robert, C.; Wilson, C.; Gaudy, J.F.; Arreto, C.D. (2007), "The evolution of the sleep science literature over 30 years: A bibliometric analysis", *Scientometrics*, 73(2): 231-256.
- Rose, C. (2010), "The transfer of property rights by theft: an economic analysis", *European Journal of Law and Economics*, 30(3): 247-266.
- Schumpeter, J.A. (1947), "The creative response in economic history", *The Journal of Economic History*, 7(2): 149-159.
- Silva, e.g.; Teixeira, A.A.C. (2008), "Surveying structural change: Seminal contributions and a bibliometric account", *Structural Change and Economic Dynamics*, 19(4): 273-300.
- Skoie, H. (1999), "Bibliometrics-some warnings from the North", *Scientometrics*, 45(3): 433-437.
- Shan, W. (1989), "Reforms of China's foreign trade system: Experiences and prospects", *China Economic Review*, 1(1):53-55.
- Shafaeddin, S.M. (2004), "Is China's accession to WTO threatening exports of developing countries?", *China Economic Review*, 15(2):109-114.
- 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.
- Silva, S.T.; Teixeira, A.A.C. (2009), "On the divergence of evolutionary research paths in the past 50 years: A comprehensive bibliometric account", *Journal of Evolutionary Economics*, 19(5): 605-642.

- Stiglitz, J. (1993), "Post Walrasian and post Marxian economics", *Journal of Economic Perspectives*, 7(1):109-114.
- Teichert, T.; Shehu, E. (2010), "Investigating research streams of conjoint analysis: A bibliometric study", *Business Research Official Open Access Journal of VHB*, 3(1): 49-68.
- 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):120-131.
- Tine, De B.; Patrick, V.K. (2010), "Consumer ethics: The role of self-regulatory focus", *Journal of Business Ethics*, 91(2): 241-255.
- 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.
- Van Raan, A.F.J. (2003), "The use of bibliometric analysis in research performance assessment and monitoring of interdisciplinary scientific developments", *Technikfolgenabschätzung-Theorie und Praxis / Technology Assessment-Theory and Practice*, 12(1): 20-29.
- Willett, P. (2007), "A bibliometric analysis of the journal of molecular graphics and modelling", *Journal of Molecular Graphics and Modelling*, 26(3): 602-606.
- 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.
- Wainger, L.A.; Price, E.W. (2004), "Evaluating quality of life, economic vulnerabilities, and drivers of ecosystem change", *Environmental Monitoring and Assessment*, 94(1-3): 69-84.
- Wymer, W. (2010), "Rethinking the boundaries of social marketing: Activism or advertising?", *Journal of Businesses Research*, 63(2): 99-103.
- Wu, X.D. (2001), "Foreign direct investment, intellectual property rights, and wage inequality in China", *China Economic Review*, 11(4): 361-384.
- 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.
- 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.