

Bibliometrical Analysis of Sinicization of Marxism after the Reform and Opening-Up: In view of Politics, Philosophy and Political Economy

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Abstract. Sinicization of Marxism is one of the most important thematic focuses for Chinese social science researchers. Sampling relevant literature from CNKI database since Reform and Opening Up, this paper employs text mining and bibliometric analysis to generalize the evolutionary characteristics and transitional logics of researches on Sinicization of Marxism. Based on delineation and comparison of four temporal stages in Marxism Sinicization study, this paper synthesizes two major transitional logics including, namely, disciplinary paradigm change and research field change. The transitional logics can be interpreted through “discipline structuralization-guided” mechanism and “practice development-driven” mechanism. For future studies on Sinicization of Marxism, theoretical innovation based on socialism practice with Chinese characteristics will become a critical issue and concern for the future of studies on Sinicization of Marxism.

Keywords: Sinicization of Marxism, Text Mining, Bibliometrics, Knowledge Evolution, Transitional Logics

1. Introduction

The Practice Development of Sinicization of Marxism and the Focus of Academia will be dealt with in this paper.

This paper takes the literature on Sinicization of Marxism itself as our research subject, considering how Sinicization of Marxism, a concept initially raised in political and practical spheres, was gradually constructed and evolved in the relevant domestic academic community since Reform and Opening Up. Specifically, what are the keywords that Sinicization of Marxism literature focused on? What are the characteristics of citation networks for these literatures? How do keyword and co-word centrality change over time? Was the change in the fashion of classical Marxism tradition or does it emphasize more on the practice with Chinese characteristics? By investigating all these questions, we can reveal at a macro level the transitional path and characteristics of Sinicization of Marxism as a major academic topic and crucial concern for socio-political debate within Chinese academia. We may arrive at a deeper understanding of the evolving path of the Sinicization of Marxism as an academic discourse.

In this way, it helps us to appreciate the contribution by the academic community better in advancing the Sinicization of Marxism and explore relevant theoretical and practical hot spots and directions for the future.

2. Literature Review

The Course and Research Approach of the Sinicization of Marxism will be taken up in this section.

2.1. Sinicization of Marxism in retrospect. As stated above, a societal consensus had been formed and deepened ever since Mao Zedong proposed Sinicization of Marxism on political agenda. Two major aspects of the Sinicizing process have gradually formed. One side emphasizes on the use of Marxist theories to guide Chinese practice. (Ai Siqu, 1940). Meanwhile, on the other hand, with the development of Chinese practice, more views tend to enrich and develop Marxism by summarizing Chinese practice. (Zhu De, 1942).

The concept of Sinicization of Marxism has seen sustained usage after Reform and Opening Up, despite certain setbacks as the Cultural Revolution and a deteriorated Sino-Soviet relationship affected the development course of Marxism Sinicization.

So far, the process of Sinicization of Marxism has attracted more attention from all sectors of society. The fruitful works emerged as the theoretical framework of Socialism with Chinese characteristics, a scientific theoretical framework incorporating strategic thoughts of Mao Zedong Thought, Deng Xiaoping Theory, the Theory of Three Represents, the Scientific Outlook on Development, the Thought on Socialism with Chinese Characteristics for the New Era *etc.*

2.2. The research approach to Sinicization of Marxism. Sinicization of Marxism has achieved plenty of fruitful works at a practical level, while the academia keeps an equally close focus on this topic. In the early days of Reform and Opening Up, scholars tended to view Marxism as an imported theory from a historical perspective, discussing how it could be continuously localized to guide Chinese practice towards success (Yang, 1991). Since the dawn of the twenty-first century, development in Chinese practice and theory led to a growing number of academics contemplating on such topics as the connotative meanings, motivational conditions and development strategy of Sinicization of Marxism.

Specifically, the first topic concerns the connotation and principles of norms. Succinctly, this is about the question of what. For example, in the opinion of Shi(2006), the connotation of Sinicization of Marxism is threefold, including its dissemination, application and innovation. The second concerns summarizing its historical process, reasons for its realization and theoretical achievements. This is about the question of why. For instance, from the perspective of Zhang(2002), the Marxist theory thrived on European soil as a scientific theory, and its indoctrination into Chinese society required an acceptance of its theoretical essence. In addition, some scholars mentioned a cultural-psychological reason for the Chinese acceptance

of Marxism(Zhang, 2011), and some revolutionary thoughts from Marxism may have even affected the Taiping Revolution of modern China(Boer, 2016). In conjunction, another academic circle concerned itself with the study on the future of Marxism Sinicization. This is about the question of how. For instance, Liao(2011) attached importance to innovations in research approach, application of the investigative method, and incorporation of ideas from social science researches. Cheng(2010) also called for establishing “China’s voice” in the global theoretical Marxist research.

In terms of the Sinicizing form, academia has dedicated attention to debate the popularization, modernization and localization of Marxism (Lin, 2018; Qiu, 2008). Scholars have also summarized the study subjects, research framework and methodologies (Zheng, 2016) of Marxism Sinicization, regarding it as a scientific system. The new historical circumstances have given rise to renewed urgency and importance to build the philosophical and social scientific discourse system guided by Marxism (Deng, 2014).

A glance over current literature quickly reveals two dimensions (Wang, 2009) in the study of Marxism Sinicization, namely the political-practical level and the academic-research level. The political-practical level aims to form correct theories, paths, guidelines and policies with political relevance, while the academic-research level is more concerned with its disciplinary framework, including academic concepts, academic category, relevant structure and content, *etc.* In an age of growing abundance of the achievements of Sinicization of Marxism, how does the academic community face this inner tension? How would forms of concern and research focuses evolve from within academia itself? This paper takes the disciplinary study of Marxism Sinicization as its subject of study, attempting to systematically investigate its content construction in academic discourse, knowledge networks and changes of hot spots from the perspectives of bibliometrics and sociology of knowledge. This paper intends to contribute to further improvement in the understanding and discussion of Sinicization of Marxism development progress in academic circles.

It is worth noting that bibliometrics analysis on Marxism Sinicization and retrospective study on China is limited. Few western scholars among such typical academic communities as the *American school of China studies* have reflected on the images of contemporary China (Wank, 1998), and especially the use of *Chinese Marxism discourse* (Dirlik, 2016). Moreover, some domestic studies have examined Marxism discipline through document statistics. Based on CNKI data, Wang *et al.*(2016) analyzed how the establishment of Marxist discipline improved the whole study of Marxist theory using descriptive statistics. Su(2016) investigated 13 Chinese journals on Marxist theory and found that “Books are the most used document type in the discipline; journals serve as the second; newspapers run the third”. Guo(2009) utilized the CSSCI journal database and found that “it is true that the Marxist theory discipline is moving towards maturity in China, but is still limited in terms of publication quantity and tracking ability of academic frontier issues, *etc.*”. The document analysis of Zhou(2016) categorized changing text trends in Chinese Marxist economics literature into research topics including the labour theory of value, *Das Kapital*, western economics, political economy and financial crisis.

In comparison, there are fewer researches specifically dedicated to Sinicization of Marxism, and only descriptive document statistical analysis is available. Hu(2009) searched the title term “Sinicization of Marxism” in the CNKI search engine and found a lack of comparative methods and reflective case studies at the micro level.

In short, previous studies incline towards a comprehensive and objective description of Marxism literature using statistical analysis, while systematic investigations of Marxism Sinicization characteristics that incorporate sociology of knowledge and temporal stage change are rare. This could include features, co-word network centrality and variations at various stages of keywords. It is even harder to find existing studies that estimate the change in academic hot spots using bibliometric models. Methodologically speaking, this study can be regarded as a new research attempt.

3. Research Design, Perspectives, Data and Operational Methods

3.1. Sociology of knowledge, bibliometrics and topic models. The relationship between knowledge and society is the core concern of knowledge sociology. On one hand, objective determinists like Marx hold that, as parts of the social consciousness, knowledge of human being derives from social being (Marx-Engels, 1995). Comte(1896) argued the connection between “Theological-Metaphysical-Positivist Three Stages Knowledge” and the development of human society, while Durkheim (1982) also emphasized the decisive effect of the “social fact” on human cognition. On the other hand, knowledge constructionist claim that knowledge is constructed by researchers or their communities. For example, Foucault (2002) pointed out the constructive effect of typical discourse, and Kuhn (2003) believed that as a social process, knowledge production is guided by the typical academic community. The research paradigm or the disciplinary matrix will influence the ultimate knowledge product significantly

Synthesizing the two viewpoints above, this study adopts the belief of knowledge sociologists represented by Mannheim, who stated that “knowledge sociology, as a theory, has two forms: one is to make descriptive structural analysis of all kinds of situations in which ideology is affected by social being, that is, the empirical study; the other is the upper level of epistemology study based on empirical study to reveal the relation of knowledge and social being and the effectiveness of knowledge (Liu, 2006)”.

Given the fact that, as an academic discourse, Sinicization of Marxism tends to be influenced by political discourse and political field, this study takes into consideration the political system with Chinese characteristics. Relevant literature is segmented and organized according to the terms of the four General Secretaries of CPC since Reform and Opening Up.

Methodologically speaking, bibliometrics is a relatively realistic and feasible method to study this issue. This method was put forward by Pritchard(1962) as an evolution from statistical bibliography. Currently, some scholars define bibliometrics as “a discipline that applies the methods of mathematics and statistics to study books and other communication media (Deng, 1993)”. The development of open-source literature database and citation database have also

driven the field and related methodologies in recent years. This paper analyses relevant literature on Sinicization of Marxism based on this methodology.

What is more, to describe overall changes in literature topics, this study utilized software R^(C) to conduct text mining and analysis, sketch word cloud based on text keywords and compute their topic models. The frequency of keywords is reflected by the size of word cloud. The topic models with unsupervised learning are similar to a kind of dimensionality reduction method (Deerwester *et al.*, 1990; Hofmann, 1999). The process learns co-word networks of keywords and, through topic clustering, categorizes appropriate topics of literature by scoring the topic of each paper (Blei, Lafferty, 2007; Wang, 2014). For a certain paper, a higher score for a certain topic suggests a greater correlation between the literature and the said topic. The heat of particular topics in a year can thus be calculated by averaging the topic scores of literature from that year.

3.2. Sample selection, variable operation and research hypotheses. This study organizes the literature since Reform and Opening Up (1979-2017) into four stages. The sample is drawn by searching keyword “Sinicization of Marxism” in CNKI database. 793 articles in total have been selected for this study. Considering representativeness and feasibility, approximately 200 articles are selected for each stage. Due to the availability of literature, there are only 193 articles in the first stage. Besides, this study uses citation to measure representativeness. The articles are sorted by their number of citations from high to low. For each year, around 20 papers are selected to represent the top 20 most cited articles. The number of selection might be adjusted accordingly with the literature amount in a specific year.

To be more specific, the first stage (1979-1988) includes 193 articles. 200 articles are selected for the second stage (1989-2001), with 10 articles per year between 1989 and 1994 due to lack of literature, and 20 per year for the remaining period between 1995 and 2001. For the same reason, in the third stage (2002-2012), 10 papers per year are selected for 2002 and 2003, and 20 papers per year from 2004 to 2012. The last stage (2013-2017) saw an increasing amount of literature in such a brief time, with 40 articles per year.

In variable operation, to depict the changing trend of literature, this study first analyses descriptive statistics with general information on literature, including publication date, publication quantity, *etc.*, collected by searching the keyword “Sinicization of Marxism”. Second, Citespace software and CNKI bibliometrics visualization program were used to calculate keywords frequency and sketch the co-word networks of the keywords (attached).

The keyword co-word network depicts the relations between keywords co-occurred with Sinicization of Marxism in the same article. To highlight key features of the sketch, this study sets a frequency filter indicator with a threshold value, and frequencies lower than this value will be hidden from the sketch but included in our regression models. Keywords are processed with Citespace software to compare their word frequency, which is the occurrence frequency of the keyword, and the centrality of the keyword in the co-word networks, defined as how close the keyword is to the centre of the co-word network, as in Equation (??). The software

accordingly lists top 10 keywords for each sorting to reflect the centralization of the research hot spot. Inclusion coefficient method by Callon *et al.* (1991) is commonly used in calculating centrality of keywords in co-word networks. C_{ij} represents the co-occurrence frequency of keyword i and keyword j , and C_i and C_j represent total times of the co-occurrence of keyword i and keyword j , respectively. Hence, the value of E_{ij} is always between 0 and 1 (Callon *et al.*, 1991; Wang, 2009).

$$(3.1) \quad E_{ij} = \frac{C_{ij}^2}{C_i \times C_j}.$$

In addition, out of consideration for testing two paths of Sinicization of Marxism, including the path to analyses Chinese specific reality by applying Marxism and the path to enrich and develop Marxism by studying Chinese specific reality, this study takes keyword frequency and centrality as dependent variables and categorizes keywords into three types according to their contents. One type is *classical Marxist-Leninist theory tendency*, which is closer to or emphasizes more on the classical theories of Marx and Lenin, including keywords like *Marxism*, *political economy*, *ideology* and so on. The second type includes keywords like *Sinicization*, *the Four-pronged Comprehensive Strategy*, *Chinese characteristics*, *etc.* and pays more attention to the theoretical achievements of Chinese characteristics and China's national conditions and reality. The keyword category can be labelled as *Chinese characteristic practice orientation*. The last type is categorized as the other. In the OLS model (refer to (??)), Y_i is the dependent variable or centrality, and X_1 and X_2 are the dummy variables for the classical theories of *Marx-Lenin orientation* and *Sinicization* and *Chinese characteristics orientation*, respectively. β_0 is a constant term and u is the error in the model.

$$(3.2) \quad Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + u.$$

Apart from OLS regression, the dependent variable is characteristic of non-negative numbers' definite boundary, *i.e.* a large number of word frequencies take the value of 1. Thus, this study adopts Tobit regression model (as in (??)) for estimation and comparison to increase modelling robustness. "It has attracted academics wide attention since Tobin studied the issues on dependent variable's upper limit, lower limit or extreme values. In memory of Tobin's contribution, this type of model is called Tobin Model in which the value of the dependent variable has a limit and there exists a selection behaviour. Two kinds of equations are contained in this type of model, one is the discrete data model which reflects selection problems; the other is restricted continuous variable model which people are more interested in (Zhou, Li, 2012)".

(1) The probability representation

$$\begin{aligned}
 Prob(y = 0) &= Prob(y^* \leq 0) \\
 (3.3) \quad &= Prob\left(\frac{u}{\sigma} \leq -\frac{\beta_0 + \beta_1 x_1 + \beta_2 x_2}{\sigma} | x\right) \\
 &= 1 - \Phi\left(\frac{\beta_0 + \beta_1 x_1 + \beta_2 x_2}{\sigma}\right).
 \end{aligned}$$

(2) The likelihood equation

$$(3.4) \quad L = \prod_{i=1}^2 [1 - \Phi\left(\frac{\beta_0 + \beta_1 x_1 + \beta_2 x_2}{\sigma}\right)]^{1(y_i=0)} \times \left[\frac{1}{\sigma} \cdot \Phi\left(\frac{y_i - \beta_0 - \beta_1 x_1 - \beta_2 x_2}{\sigma}\right)\right]^{1(y_i>0)}.$$

(3) The maximum likelihood estimation: For $y_i > 0$, we have: $y_i > 0$

$$(3.5) \quad f(y_i|x) = \frac{1}{\sqrt{2\pi}\sigma} \cdot \exp\left[-\frac{(y_i - \beta_0 - \beta_1 x_1 - \beta_2 x_2)^2}{2\sigma^2}\right] = \frac{1}{\sigma} \cdot \Phi\left(\frac{y_i - \beta_0 - \beta_1 x_1 - \beta_2 x_2}{\sigma}\right)$$

Finally, this research proposes following hypotheses of evolutionary patterns of the keywords in the literature on Sinicization of Marxism since Reform and Opening Up:

Hypothesis 1: In general, while the quantity of the studies on Sinicization of Marxism has been increasing, the research theme has transformed from historical discourse orientation in the early stage to contemporary discipline diagram discourse of Sinicization of Marxism itself.

Hypothesis 2: In terms of word frequency and centrality of keywords, the literature on Sinicization of Marxism cannot be separated from the discussion of traditional Marx-Lenin classics. Therefore, at any time, words of classical Marxist-Leninist theory orientation category are more likely to become high-frequency keywords. Limited by development stage and other objective circumstances, words of Chinese characteristics practice orientation category do not have a significant effect on word frequency until later (third and fourth) stages.

3.3. Data and results: the evolutionary trend and features of Sinicization of Marxism study. First, the overall trend of literature based on CNKI searching using “Sinicization of Marxism” as the keyword is shown in Figure ???. The following preliminary findings can be drawn from Fig.1:

In addition, according to results from word cloud and topic models, the hot words of Sinicization of Marxism include Marxism, China, history, *etc.* (Figure ??), which reflects the division between historical discourse and discipline discourse. The results of topic models prove the existence of the two topics (Refer to Table ??), and also indicates that as time goes by, fewer and fewer studies consider Sinicization of Marxism from historical research perspective while more are inclined to establish their own discourse and paradigm of discipline and research field (Figure ??). This verifies **Hypothesis 1**.

TABLE 1. *The topic model learning result of the complete sample of Sinicization of Marxism literature*

Topics	Keywords belong to this topic (Top 15 selected according to the weight from large to small)
A: Historical research-oriented discourse	historiography, China, Marxism, history, aesthetics, theory, research, thought, philosophy, ancient times, education, society, the western world, modern history, social history
B: Contemporary discipline discourse	Marxism, China, culture, theory, socialist, Sinicization, thought, tradition, characteristics, development, contemporary, construction, social, revolution, philosophy

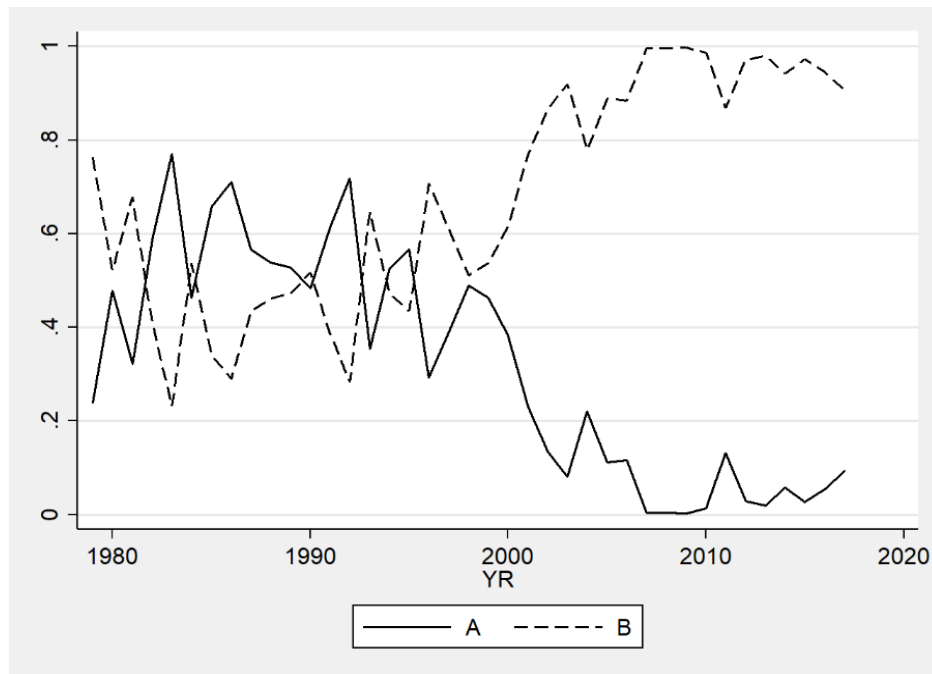


FIGURE 3. *The annual change in topic scores of the complete sample of Sinicization of Marxism literature*

Then, what are the unique features of these studies in each stage? The following sections will illustrate these features with a sample of 200 most cited articles at each stage using word frequency statistics and co-word network analysis of the keywords.

Stage One (1979-1988): A Period of Preparation Dominated by Historical Research

Due to a limited number of articles collected in CNKI in the first stage, 193 most cited papers each year were selected for the analysis.

TABLE 2. *Keywords sorting in Stage One*

Sorting keywords by word frequency from greatest to least				Sorting keywords by centrality from greatest to least			
Word frequency	Centrality	Year	Subject words	Word frequency	Centrality	Year	Subject words
74	0.14	1979	Marxist historiography	33	0.65	1979	Marxist theory
33	0.65	1979	Marxist theory	27	0.22	1981	Chinese historiography
27	0.22	1981	Chinese historiography	20	0.17	1979	Historians
20	0.02	1979	Historical thoughts	7	0.17	1979	Marxist theory
20	0.17	1979	Historians	7	0.16	1981	The Chinese revolutionary practice
17	0	1980	Marxist aesthetics	74	0.14	1979	Chinese historiography
17	0.01	1983	History and Theory	7	0.12	1979	The people
15	0.03	1982	Historical studies field	9	0.1	1983	Chinese characteristics
14	0.03	1983	Historical method	6	0.1	1979	The modern history of China
12	0.04	1979	Historical outline discussion	11	0.09	1979	The historical study of China

In terms of keywords frequency and centrality (Refer to Table 2), the research keywords in this stage are *Marxism historiography* and others according to word frequency sorting results. Based on the result of centrality, the keyword is *Marxism theory*. The common conclusion of the two methods is that literature on Sinicization of Marxism in this period is closely related to historical research. The concluded discrepancy is that according to the word frequency result,

historical theory has higher heat, which is different from the centrality sorting finding, where keywords with *Chinese characteristics* that use *China* as unit of analysis are cutting a striking figure and *Marxism theory* is a hotter word in the co-word network, with which an average of 65 per cent keywords are co-occurrent.

Stage Two (1989-2001): The Formation of Early Thoughts and Transitional Period

According to the statistics of word frequency and centrality, the word frequency result suggests that, in this period, relevant historical studies of Sinicization of Marxism still contribute to the *academic hot words*, a large number of which holds the top ten in centrality ranking. It could be said that this category of research has reached a certain peak. On the other hand, hot words of the achievements of Chinese characteristics theory, such as *Deng Xiaoping Theory*, *free our minds*, *etc.*, also spring up, suggesting a research trend for the achievements of Sinicization of Marxism.

TABLE 3. *Keywords sorting of Stage Two*

Sorting keywords by word frequency from greatest to least				Sorting keywords by centrality from greatest to least			
Word frequency	Centrality	Year	Subject words	Word frequency	Centrality	Year	Subject words
56	0.08	1989	Marxist historiography	9	0.32	1992	The historical study of China
35	0.12	1990	Chinese historiography	14	0.3	1990	Chinese traditional culture
16	0.02	1990	Historical theory	9	0.28	1990	Chinese characteristics
15	0.03	1989	Historical thoughts	7	0.25	1997	Deng Xiaoping Theory
14	0.3	1990	Chinese traditional culture	7	0.19	1999	Free our minds
12	0.08	1994	Methodology of historical studies	8	0.15	1989	Historical process
12	0.05	1997	Marxism	3	0.13	1991	Chinese modern society
11	0.04	1995	Marxist theory	35	0.12	1990	Chinese historiography
10	0.02	1996	Marxist culture	8	0.12	1989	Historical studies field
10	0.01	1996	Jian Bozan	7	0.11	1999	Historic leap

Stage Three (2002-2012): The Period of Content Enrichment and System Construction

As illustrated in the general trend, the third stage witnessed a great increase of Sinicization of Marxism literature, an indication to the prosperity of discipline and relevant fields. While research on the historiography of Marxism has significantly dwindled, the stage also saw the emergence of a large number of vocabularies, such as *Deng Xiaoping Theory*, *The People*, *Chinese characteristics*, etc. that contemporary readers are familiar with. The above features have been reflected in the Table ???. For two types of sorting, both Marxism and Sinicization are taking the leading position. The overall content is also catching up with time, and almost no words related to the historiography of Marxism showed up.

TABLE 4. *The keywords sorting of the Third Stage*

Sorting keywords by word frequency from greatest to least				Sorting keywords by centrality from greatest to least			
Word frequency	Centrality	Year	Subject words	Word frequency	Centrality	Year	Subject words
44	0.4	2002	Marxism	44	0.4	2002	Marxism
32	0.2	2002	Sinicization of Marxism	26	0.23	2002	Sinicization
26	0.23	2002	Sinicization	32	0.2	2002	Sinicization of Marxism
22	0.03	2004	Popularization of Marxism in	7	0.19	2002	Historical process
10	0.01	2007	Contemporary China	9	0.14	2005	the Communist Party of China
9	0	2008	the Popularization of Marxism	7	0.14	2006	Contemporary China
9	0.14	2005	the Communist Party of China	7	0.13	2007	the Outlook of Scientific Development
8	0.05	2004	Ideological and political education	5	0.1	2009	The people
7	0.07	2009	Modernization	7	0.08	2008	Chinese characteristics
7	0.13	2007	the Outlook of Scientific Development	7	0.07	2009	Modernization

Stage Four (2013-2017): Chinese Characteristics Practice Orientation Period

In the fourth stage, only most cited articles from 2013 to 2017 were selected. The content reveals more of the achievements of Sinicization of Marxism and much more practice-oriented vocabulary has emerged, such as the Chinese Dream, deepen the reform in an all-around way,

to operate the CPC under strict discipline and so on. This reveals that the literature in this period is closely connected with practical discourse in the political area, featured by strong Chinese characteristics and practice.

TABLE 5. *Keywords sorting in Stage Four*

Sorting keywords by word frequency from greatest to least				Sorting keywords by centrality from greatest to least			
Word frequency	Centrality	Year	Subject words	Word frequency	Centrality	Year	Subject words
28	0.45	2013	Marxism	28	0.45	2013	Marxism
26	0.26	2013	Xi Jinping	21	0.32	2013	The Chinese dream
21	0.32	2013	The Chinese dream	26	0.26	2013	Xi Jinping
21	0.25	2013	Socialism with Chinese characteristics	21	0.25	2013	Socialism with Chinese characteristics
21	0.25	2013	Sinicization of Marxism	21	0.25	2013	Sinicization of Marxism
9	0.04	2013	The Communist Party of China	6	0.18	2013	Chinese characteristics
8	0	2013	College students	5	0.16	2013	The Chinese path
7	0.02	2015	“The Four-pronged Comprehensive Strategy”	5	0.1	2013	Sinicization
7	0.06	2013	Chinese traditional culture	7	0.09	2014	Deepen the reform in an all-round way
7	0.03	2016	Marxist political economy	3	0.07	2016	Discourse system

In the statistics of the word frequency and centrality (Table ??) at this stage, the vocabulary of *Sinicization of Marxism* still constitutes the major part. Several characteristics have been demonstrated in the content: First, *Party Leader* and *State* become academic hot words for the first time. Second, the appearance of *Marxist political economy* is highly relevant to *Sinicization of Marxism*. Third, more discourses with Chinese characteristics and of strong practice show up in the high-frequency table. Fourth, *college students* are found for the first time among academic hot words in this field. The above information indicates that, on one hand, Sinicization of Marxism has pushed forward the Sinicization of many core parts of Marxism theory, such as political economy, and on the other, it also connects with current

affairs and politics in practice. Besides, China's autonomy is gradually strengthened, which is the demonstration of national theoretical confidence and road confidence in a specific sense.

Based on the statistic description of the literature, we can form some preliminary understanding of the hot spot trajectory of *Sinicization of Marxism* discussed by the academia. Then, according to the two connotations of the concept of *Sinicization of Marxism*, namely *to guide Chinese practice based on the classic Marxist theory* and *to enrich Marxist theory with Chinese practice*, is there an orientational preference between *classic theory* and *Sinicization* in each stage? Keeping this question in mind, the next section employs OLS regression and Tobit regression for verification.

The Regression of Keywords Word Frequency. From the analysis of word frequency regression (Refer to Table ??), the results of the OLS model and the Tobit model are similar: From Stage One to Stage Four, the effect of *classical Marxist theory orientation* vocabulary is significantly positive, which means the closer the keyword is to the classic Marx-Lenin theories, the higher word frequency it gets. It shows that adherence to the classic Marx-Lenin theories always plays a guiding role in *Sinicization of Marxism*, which is also reflected in the keywords of academic literature.

Apart from this, the effect of *Chinese characteristics practices orientation* vocabulary is not significant in the initial Stage One and Stage Two. Until the third and the fourth stages, the effect is gradually highlighted. It can be concluded that in terms of the corpus, more abundant and complete achievement of Sinicization of Marxism is a manifestation of Chinese practice enriching and developing Marxism. Therefore, **Hypothesis 1** is verified.

Regression of Centrality of Keywords. The regression analysis of the centrality of keywords presents a certain degree of difference (Refer to Table ??). **Hypothesis 2** is partly verified. In general, the effect of classical Marxist-Leninist theory orientation is significant, but the increasing regression coefficient of *Chinese characteristics practice orientation* suggests its growing influence.

In Stage One, both *classical Marxist-Leninist theory orientation* and *Chinese characteristics practice orientation* have significant and positive effects on the centrality of keywords, which means that issues on Sinicization of Marxism developed towards both trends during the said time period. Taking into the consideration co-word network of keywords, discussion of Marxism historiography and Sinicization of Marxism from historical perspectives prepares for the contemporary trend of Sinicization of Marxism.

No significant relevance is found between the centrality of keywords in Stage Two and *classical Marxist-Leninist theory orientation* vocabulary, but a relatively weak positive relevance between centrality and *Chinese characteristics practice orientation* vocabulary does exist. The results of co-word network and word frequency regression can further corroborate the transitional features of Stage Two. Even though a great many keywords emphasizing classical Marxist theory lead in the high-frequency ranking, they have relevantly limited co-occurrence with other keywords. In fact, it is the minority vocabulary underlining Sinicization

TABLE 6. *Table 6 Regression of keywords' word frequency of Sinicization of Marxism literature*

	Stage One (1979-1988)		Stage Two (1989-2001)		Stage Three (2002-2012)		Stage Four (2013-now)	
	OLS Model	Tobit Model	OLS Model	Tobit Model	OLS Model	Tobit Model	OLS Model	Tobit Model
Classical Marxist-Leninist theory orientation	2.689** (0.895)	5.689*** (1.692)	1.375* (0.551)	2.578* (1.205)	1.864*** (0.496)	6.616*** (1.882)	3.540*** (0.954)	7.550*** (2.237)
Chinese characteristics practice orientation	-0.074 (0.702)	0.606 (1.410)	-0.064 (0.433)	-0.041 (0.992)	1.130*** (0.368)	5.985** (1.504)	1.549** (0.579)	3.930** (1.498)
intercept	2.543*** (0.379)	-2.959*** (0.869)	2.071*** (0.224)	-2.469*** (0.598)	1.218*** (0.204)	-10.966*** (1.498)	1.326*** (0.431)	-5.539*** (1.362)
Adjusted R2 (Tobit Model is Pseudo R2)	0.024	0.009	0.011	0.004	0.046	0.033	0.073	0.024
F value (Tobit Mode is LR chi2 (2)))	4.840	11.390	3.320	4.710	10.620	25.300	8.220	13.570
N	321	321	427	427	402	402	185	185

* indicates p<0.05, ** indicates p<0.01, *** indicates p<0.001

that is more co-occurrent with other keywords, which reflects the academia's inclination and efforts towards *Sinicization*.

Comparing to former stages, both groups of variables have significant positive effects on the centrality of keywords in Stage Three. The significance of *Sinicization* and *Chinese characteristics orientation* vocabulary is even higher than that of *classical Marxist-Leninist theory orientation*. Considering co-word network of keywords, it can be seen that this period of time has witnessed a good summary and development of a large amount of achievement of Sinicization of Marxism, including *Deng Xiaoping Theory*, *Three Represents*, *the Outlook of Scientific Development* and so on, which attracted wide attention from Chinese academia.

In Stage Four, the effects of classical *Marxist-Leninist theory orientation* and *Chinese characteristics content orientation* vocabulary are both significantly positive, which suggests some kind of new development and return. The word frequency regression also shows this trend, indicating the discussion of academia on Sinicization of Marxism still abides by the guidance of classical theory and puts emphasis on the enrichment and development of Chinese characteristics practice to theory.

4. Conclusion and Discussion: Transitional Logics and Prospect of Hot Spots

4.1. Transitional logics of academic focus of Sinicization of Marxism. In summary, throughout the studies on Sinicization of Marxism since Reform and Opening Up, we can find that the academic focuses and emphases are in constant changing which demonstrate relatively distinct features in each political stage. In a sense, we can refer to a new perspective of stage division, as in Table ??:

Therefore, two aspects of transitional logics can be drawn from the above (Figure ??).

The first is the transition from *historical research* orientation to specific *disciplinary orientation*. For example, the focus and keywords of academic articles have changed from *historiography and theory* to words like *China and contemporary*. Besides, what they focus on has changed from a singular perspective to diversity, from theoretical retrospect to close connection with current practice. This transitional logic reflects the establishment and development course of Marxist study as a research discipline. In the early stage of Reform and Opening Up, the development of an academic community of humanities and social sciences was still immature. Much research was conducted from historiographical perspective and paradigm. Similarly, the practice of Sinicization of Marxism was also just unfolding. Hence, the development of relevant discipline and research field were still in infancy. Since the twenty-first century, on one hand, with the deepening of Sinicization of Marxism practice, the demand for theoretical interpretation and personnel training has been increasing, and on the other hand, study on Sinicization of Marxism has formed its own specific style of discourse, thanks to the development of academic community and the establishment of discipline system. For example, the Academic Degree Commission under the State Council and the Department of Education announced the establishment of Marxist theory discipline according to the Central

TABLE 7. *Table 7 Regression of centrality of keywords of Sinicization of Marxism literature*

	Stage One (1979-1988)		Stage Two (1989-2001)		Stage Three (2002-2012)		Stage Four (2013-now)	
	OLS Model	Tobit Model	OLS Model	Tobit Model	OLS Model	Tobit Model	OLS Model	Tobit Model
Classical Marxist-Leninist theory orientation	0.022** (0.007)	0.054** (0.022)	0.003 (0.005)	0.022 (0.020)	0.010* (0.005)	0.053* (0.025)	0.043** (0.014)	0.147** (0.046)
Chinese characteristics practice orientation	0.012* (0.006)	0.053** (0.017)	0.010* (0.004)	0.027 (0.016)	0.010** (0.003)	0.063** (0.019)	0.021* (0.008)	0.086** (0.033)
intercept	0.006 (0.003)	-0.096*** (0.014)	0.008*** (0.002)	-0.093*** (0.013)	0.003 (0.002)	-0.156*** (0.022)	0.001 (0.006)	-0.180*** (0.035)
Adjusted R2 (Tobit Model is Pseudo R2))	0.026	0.228	0.009	0.038	0.025	0.120	0.055	0.179
F value (Tobit Mode is LR chi2 (2))	5.330	12.590	2.900	3.580	6.040	13.840	6.330	13.030
N	321	321	427	427	402	402	185	185

* indicates p<0.05, ** indicates p<0.01, *** indicates p<0.001

TABLE 8. *Summary of stage features of “Sinicization of Marxism” relevant literature*

Topic model	Stage	Stage features	Keywords characteristics	Regression model
Historical research Discourse orientation	Stage One 1979-1988	A period of preparation dominated by historical research	Co-word network of keywords centred on Marxist theory and historiography of Marxism	The classical Marxist theory has a significant effect on the word frequency and centrality of keywords; Sinicization and Chinese characteristics content have an effect on the centrality
	Stage Two 1989-2001	The formation of early thoughts and transition period	“Polarization” first appears, the transformation from historiography to Chinese characteristics theory achievements	Classical Marxism-Lenin theory has a significant effect on keywords word frequency; Sinicization and Chinese characteristics content have an effect on the centrality
Discipline contemporary discourse orientation	Stage Three 2002-2012	Period of content enrichment and system construction	Mainly Sinicization of Marxism achievement vocabulary, almost no historiographical vocabulary	The classical Marxist theory has a significant effect on the word frequency and centrality of keywords; Sinicization and Chinese characteristics content have an effect on word frequency and centrality
	Stage Four 2013-2017	Chinese characteristics practice orientation period	Relatively uniformly distributed, more vocabulary with Chinese characteristics and of strong practice, academic and theoretical study is more closely connected with the practice	The classical Marxist theory has significant effect on the word frequency and centrality of keywords; Sinicization and Chinese characteristics content have an effect on the word frequency and centrality

Committee's decision to carry out Marxist theory research and development project in 2005 (Mei, Li, 2008).

The other aspect of transitional logic is the change from *classical Marxist-Leninist theory orientation* to *Chinese characteristics practice orientation*. For instance, considering word frequency and centrality of keywords, the former is under the influence of *classical Marxist-Leninist theory orientation* all the time, which indicates the relatively important status of classical Marxist theory through academic keywords. As for the indicator of word frequency or centrality, the positive effect of *Sinicization and Chinese characteristics content* related vocabulary is increasing, which suggests issues on Sinicization has become an academic focus for Sinicization of Marxism. What this transitional logic reflects more is the progress of Sinicization of Marxism within the discipline and the academic community. As the Marxist discipline grows, the research field of Sinicization of Marxism has become an increasingly critical area. Besides, Chinese practice has provided empirical evidence for Sinicization research and the demand for theory. Therefore, while the domestic academic community shows respect to the classical Marxist-Leninist theory, it pays a growing attention to the current practice of socialism with Chinese characteristics.

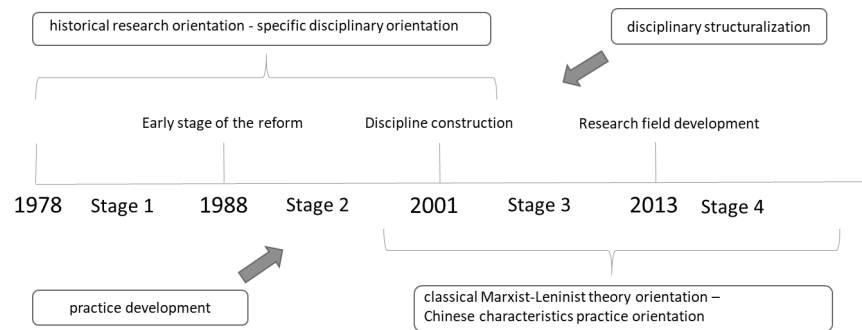


FIGURE 4. *The transitional logics and dynamic mechanism of the academic focus of Sinicization of Marxism*

4.2. The academic dynamics and research prospect for Sinicization of Marxism. In addition to the evolutionary features and transitional logics, the field of Marxism Sinicization study also requires an examination of its internal motivations, *i.e.* the academic motivation of the development of Sinicization of Marxism. As explained above, the disciplinary construction and practice progress can actually be categorized as two mechanisms (Figure ??) of *guided by disciplinary structuralisation* and *driven by practice development*. The specific forms of its functioning can be found by returning to classical theory and the guiding effect motivated by new political-social hot spots.

On one hand, *guided by disciplinary structuralisation* means the establishment and betterment of the structure system of Marxist and other related philosophical and social sciences, which helps guide the normalization of Sinicization of Marxism study paradigm. This is reflected in the emergence of new research hotspots motivated by the return of classical theories. Taking an example, it has extended the theoretical origin and subject extension of Sinicization

of Marxism itself to make more room for literature discussion that the summary of classical Marxist-Leninist discipline has changed from the initial historiography of Marxism to the more specific branches like Marxism law, Marxism aesthetics and political economy, *etc.* later.

On the other, *driven by practice development* serves as a more fundamental motivation mechanism, meaning the practice of socialism with Chinese characteristics supports theoretical development with new experience and raises new demand for theoretical study. This is manifested in a large amount of research brought along by new political-social hot spots. Distinct from much research in natural sciences and engineering sciences, humanities and social sciences studies are more affected by current affairs and hot spots. Changes in research hot spots of Sinicization of Marxism makes this trend more evident. For instance, *Outlook of Scientific Development* was one of the hot words in Stage Three, while vocabulary like the *Chinese Dream* and the *Four-pronged Comprehensive Strategy* took its place in Stage Four. Therefore, new development, especially in the political field, has a crucial influence on relevant academic development.

The two motivation mechanisms have essentially explained the realization of continuous Sinicization of Marxism as an imported theory. The process also demonstrates the efforts of the academic community to push forward the progress of Sinicization of Marxism through paths of *historical discourse, discipline construction, classical theory retrospect, practice orientation* and so on.

Finally, a study on Sinicization of Marxism still needs to end with prospects for further research. According to the change patterns of previous literature, a further understanding of tendency of this topic will be affected by political practices. This should be discussed somewhere else.

Today in China, Marxist discipline construction is continuously improving, and research field of Sinicization of Marxism keeps developing. The domestic academic community has to study specific *real problems* of society, and also build up their ability in methodology and theory, to conduct more interdisciplinary research and to enhance the theoretical depth within disciplines and domains. Marxist theory, as a triad of the system of knowledge, ideology and methodology, should be more able to conduct constructive interdisciplinary dialogues with other relevant disciplines and research. Considering from the inside of this discipline, more potential theoretical perspectives need to be explored, analytical framework extended, and research branches departmentalized. Some researchers have already combined Sinicization of Marxism and Sinicized political economy. In fact, for the next stage, relevant theoretical fields based on Chinese practice will all become hot academic issues, such as the theory of Scientific Socialism, Marxist philosophy and even the philosophical and social sciences system with Chinese characteristics. An improvement to a theoretical system and research framework of Marxist discipline, this also contributes to the development of Sinicization of Marxism and socialism with Chinese characteristics.

Bibliography

- [1] Ai, S. Q. (2014), *On the particularity of China and others* (In Chinese), The Mass Bookstore Press: SDX Joint Publishing Company.
- [2] Blei, D. M., and J. D. Lafferty (2007), "A Correlated Topic Model of Science," *The Annals of Applied Statistics* 1(1), pp. 17-35.
- [3] Boer, R. (2016), "Marxism, Religion and the Taiping Revolution," *Historical Materialism* 24(2), pp. 3-24.
- [4] Callon et al (1991), "Co-Word Analysis for Basic and Technological Research," *Scientometrics* 22(2), pp. 155-205.
- [5] Cao, Y. X., and J. Wu (2007), "Connotation and construction paradigm of 'Sinicization of Marxism'—from Mao Zedong's '38 Proposition' and the follow-up interpretation to the contemporary 'chain-knot'," (In Chinese), *Studies on Mao Zedong and Deng Xiaoping Theories* 3, pp. 8-18.
- [6] Chen, Z. A. (2007), "The scientific connotation of 'Sinicization of Marxism'," (In Chinese), *Journal of Ideological and Theoretical Education* 1, pp. 9-14.
- [7] Cheng, E. F., and L. M. Hu (2010), "60 Years of Research on Marxist Theories in New China" (In Chinese), *Studies on Marxism* 1, pp. 11-22.
- [8] Comte, A. (1896), *Chapter I and II Introduction, in The Positive Philosophy* Vol. 1, London: Bell.
- [9] Deerwester, S. C., S. T. Dumais, T. K. Landauer, G. W. Furnas, and R. A. Harshman (1990), "Indexing by latent semantic analysis," *JASIS* 41(6), pp. 391-407.
- [10] Deng, C.D. (2014), "Building the discourse system of philosophy and social sciences guided by Marxism" (In Chinese), *Studies on Marxism* 6, pp. 9-14.
- [11] Deng X. P. (1993), *Selected Works of Deng Xiaoping* Vol. 3 (In Chinese), Beijing: People's Publishing House.
- [12] Ding X.D. (1993), *Bibliometrics Foundation* (In Chinese), Beijing: Peking University Press.
- [13] Dirlik, A. (2016), "The Discourse of 'Chinese Marxism'," *In Modern Chinese Religion II: 1850 C 2015*, vol. 2, V. Goossaert, J. Kiely, and J. Lagerwey eds., pp. 302-65, Leiden: Brill.
- [14] Durkheim, E. (1982), *What is a Social Fact? The Rules of Sociological Method: And selected texts on sociology and its method*, London: Macmillan Education UK.
- [15] Faure, Guy Olivier (2008), "Chinese Society and its New Emerging Culture," *Journal of Contemporary China* 17(56), pp. 469-91.
- [16] Foucault, Michel (2002), *The Archaeology of Knowledge*, Trans. by A. M. Sheridan Smith, Routledge.
- [17] Guo, H. (2009), "Research overview of Marxist discipline and analysis of fund-sponsored papers and disciplinary works (2005-2006)" (In Chinese), *Journal of Xiangtan University* (Philosophy and Social Sciences) 1(1), pp. 103-7.
- [18] Hofmann, T. (1999), "Probabilistic Latent Semantic Indexing," a conference paper in *Proceedings of the twenty-second annual international ACM SIGIR conference on Research and development in information retrieval*.
- [19] Hu, G. S. (2009), "Statistical analysis of the literature on Sinicization of Marxism—Taking the articles with 'Sinicization of Marxism' in their titles as the research subject" (In Chinese), *Theory and Reform* 5, pp. 155-60.
- [20] Jiang, Z. M. (2006), *Selected Works of Jiang Zemin* 2 (In Chinese), Beijing: People's Publishing House.
- [21] Kuhn, Thomas S. (1996), *The Structure of Scientific Revolutions* 3rd ed., University of Chicago Press.
- [22] Liao, C. W. (2011), "The basic research methods and their prospect of Sinicization of Marxism" (In Chinese), *Studies on Socialism with Chinese Characteristics* 6, pp. 47-50.
- [23] Liberation Daily (1942), To commemorate the 21st anniversary of the party, July 1st: Access <http://www.jinyueya.com/magazine/1435317.htm> (accessed 20th December 2017).

- [24] Lin, J. H. (2008), "The modernization, localization and Sinicization of Marxism" (In Chinese), *Journal of The Party School of Tianjin Committee of the CPC* 4, pp. 28-31.
- [25] Literature Research Office of the CPC Central Committee (2006), *Selection of important documents since the sixteenth National Congress Part One* (In Chinese), Beijing: Central Party Literature Press.
- [26] Liu, S. J. (2006), *Foreign Sociological Theory* (In Chinese), Beijing: Higher Education Press.
- [27] Liu, S.Q. (1991), *On the Construction of the Party by Liu Shaoqi* (In Chinese), Beijing: Central Party Literature Press.
- [28] Marx, and Engels (1995), *Selected Works of Marx and Engels* Vol. 2 (In Chinese), Beijing: People's Publishing House.
- [29] Mei, R.Z., and H.J. Li (2008), "The historical process and main experience of the discipline construction of Marxist theory since the Reform and Opening Up" (In Chinese), *Leading Journal of Ideological and Theoretical Education* 11, pp. 8-12.
- [30] Pritchard, Alan (1969), "Statistical Bibliography or Bibliometrics?", *Journal of Documentation* 25(4), pp. 348-9.
- [31] Qiu, B. S. (2008), "The path and process of promoting the popularization of Marxism in contemporary China" (In Chinese), *Ideological and Theoretical Education* 5, pp. 8-13.
- [32] Shi, G. L. (2006), "New progress of the teaching reform of ideological and political theory course—Critique on" (In Chinese), *Sinicization of Marxism and Sinicized Marxism. The Party Building and Ideological Education in Schools* 2, pp. 39-40.
- [33] Shi, Z.Q. (2006), "The historical development of Sinicization of Marxism CPC" (In Chinese), *History Studies* 4, pp. 3-12.
- [34] Su, J. Y. (2016), "A study on the characteristics of the use of Marxist theory discipline literature—based on statistical analysis of bibliometrics" (In Chinese), *Journal of Fujian Administration Institute* 4, pp. 103-7.
- [35] The State Archives Administration of the PRC (1991), *Selected Documents of the Chinese Communist Party Central Committee* (eleventh) (In Chinese), Beijing: Party School Press of the Central Committee of CPC.
- [36] Wang, C. J. (2014), "Computational communication: communication as a computational social science" (In Chinese), *Research on Chinese Network Communication*, pp. 193-206.
- [37] Wang, J. H., P. F. Gao, and Y. X. Zhang (2016), "A study on the Literature data for the Tenth Anniversary of Marxist theoretical discipline: Verification and discovery" (In Chinese), *Journal of Ningxia University (Human and Social Sciences)* 7, pp. 46-54.
- [38] Wang, L. H. (2009), "Literature review of the Sinicization of Marxism in recent years" (In Chinese), *Journal of Anhui Normal University (Humanities and Social Sciences)* 1, pp. 7-14.
- [39] Wang, X. G. (2009), "The formation and evolution of scientific knowledge network (I): The proposal of co-word networks method" (In Chinese), *Journal of The China Society for Scientific and Technical Information* 8, pp. 599-605.
- [40] Wang, X. Y. (2007), "Problems in studies on Sinicization of Marxism in recent years" (In Chinese), *Studies on the Socialism with Chinese Characteristics* 4, pp. 22-6.
- [41] Wank, D. L. (1998), "Political sociology and contemporary China: State-society images in American China studies," *Journal of Contemporary China* 7 (18), pp. 205-27.
- [42] Yang, K. S. (1991), "The historical development of Sinicization of Marxism" (In Chinese), *Modern Chinese History Studies* 4, pp. 1-18.
- [43] Zhang, L. (2002), "The analysis of the inevitability of Sinicization of Marxism" (In Chinese), *Theory Journal* 4, pp. 8-11.
- [44] Zhang, Y. Y. (2011), "The Westward Spread of Chinese Philosophy and Marxism" (In Chinese), *Frontiers of Philosophy in China* 6 (1), pp. 114-33.
- [45] Zheng, J. J. (2016), *The scientific system of Marxism in China* (In Chinese), Beijing: Science Press.

- [46] Zhou C. P. (2016), “Research Status and trend of Chinese Marxist economics—based on the literature review on CSSCI (2000-2015) source journals” (In Chinese), *Contemporary Economic Research* 11, pp. 26-35.
- [47] Zhou, H. L., and X. S. Li (2012), “Tobit Model estimation method and its Application” (In Chinese), *Economics Information* 5, pp. 105-19.

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