

# Examining China's Research on Population Development Dynamics from "Population and Economics"

## -- Theme Context, Knowledge Evolution and Frontier Hotspots

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### Abstract

As one of the important academic journals in the field of demography in China, the studies on population included in "Population and Economics" are of great significance for China to effectively solve the population problems and adjust the population structure. Therefore, based on Citespace bibliometric software, 2739 valid data from 2000-2021 of the journal "Population and Economics" were studied to visualize and analyze the thematic lineage, knowledge evolution and frontier hotspots of population development dynamics in China. It is found that: population and employment, quality of life, health, aging and new generation, human capital and population distribution are the six major themes of "Population and Economics"; the evolution of knowledge can be summarized as an extension of the definition of population issues to a deepening of the themes, a shift of the research methodology toward empirical analysis, and a spatial and temporal distribution of the research roughly along the lines of "developed cities - central and western regions - urban clusters. The literature included in the journal is highly relevant to the hotspots and policy situations of domestic academics, among which the three-child policy and youth employment are important hotspots that can be explored in depth in the future. The findings of this study can provide new perspectives for editors, authors and readers of population-related studies in China.

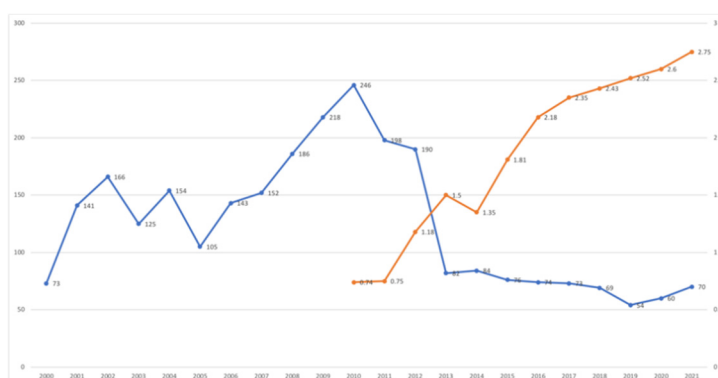
### Keywords

"Population and Economy"; Population Dynamics Development; Bibliometrics; Citespace.

## 1. Introduction

Population problem is always an important basis for the economic and social development of our country, and it is also a strategic and overall problem for the long-term dynamic development of human society. The Journal of Population and Economy was founded in 1980. It closely follows current affairs and policies, focuses on innovative research results in the field of demography, and reflects the frontier trends of domestic demography and social economic research. Through standardized and rigorous peer review, the literature published in the journal plays a positive role in the absorption of social policies related to domestic population dynamic development. Since the release of the Decision of the Central Committee of the Communist Party of China and The State Council on Optimizing Birth Policy and Promoting Long-term and Balanced Population Development and The State Council on Issuing the National Population Development Plan 2016-2030, it indicates that the research on population dynamic development in our country has entered a critical transition period. "Population and economy" is one of the earliest founded demographic journals in China, with its rich content, much attention has been paid to rigorous, keeping hot and therefore it is necessary for its theme

context, knowledge evolution and frontier hot visual analysis, it is advantageous to the exploration of our country population dynamic development provides new ideas and new ways. Through CNKI, the publication situation of "Population and Economy" was summarized. From 2000 to 2014, the impact factor fluctuated, with an overall slow rise. Since 2014, when the journal became one of the first batch of academic journals recognized by the former State Administration of Press, Publication, Radio, Film and Television, the impact factor has continued to rise under the background of a sharp decline in publication volume since 2010. Therefore, through the analysis of the literature publishing characteristics since 2000, it is beneficial to objectively analyze the evolution characteristics and objective laws of the dynamic development of population in our country.



**Figure 1.** Literature frequency and impact factor statistics

**Note:** The abscissa is the year, and the ordinate represents the number of papers (left) and the impact factor (right).

Bibliometric methods help scholars construct scientific research flows in intricate knowledge domains, thus promoting the development of a wide range of fields such as knowledge management, applied insights, and emerging technologies, systematizing emerging flows and gaps in a certain field, and pointing out future directions [1]. Bibliometric analysis is not only used for thematic research [2-3], but also extensively explores the visual analysis of a single journal. For example, Laengle used bibliometric indicators to summarize The life cycle of The European Journal of Operational Research [4]. Ariel uses The visual similarity software to conduct bibliographic coupling and coordination analysis of The Information Systems Journal [5]. Zou reviews the articles published in the Journal of Cleaner Production in the first 23 years, focusing on trends, themes, cooperation networks, carbon transformation and the future [6].

Therefore, by means of bibliometrics analysis, the standard search "population and economy, no.1 in 2000 to 2021, 6 data, effective papers published data to journals in recent 20 years as the research object, the systematic characteristic, the theme of the published literature hot inquiry and development trend, for our country to explore population dynamics problem of theory research and practice to provide the reference.

## 2. Study Design

### 2.1. Research Hypothesis

"Population and Economy" has undergone rigorous peer review, and the research results published in it are representative and trend. With the continuous emergence of scientific research results, traditional analysis methods are no longer suitable for large-scale bibliometrics. Scientific measurement tools based on JAVA architecture have emerged to facilitate the study of a wider and more diverse topic, which makes it possible to process a large

number of literature data in a short time. It is beneficial to use Population and Science as the carrier to explore the hidden law of population dynamic development in the process of social development, so as to provide scientific basis for decision-making.

## 2.2. Research Methods

Bibliometric analysis is an effective literature index tool, which uses quantitative methods of mathematics and statistics to conduct visual research on literature in a specific field [7]. Citespace was developed by Professor Chen Chaomei of the School of Information Science and Technology of Drexel University in the United States, which has a wide range of applications in bibliometrics in the fields of natural science and social science [8]. In this paper, Citespace, V.5.8.R3 (64-bit) software was used to perform keywords such as Timezone, Cluster and Burst detection on the literature data of Population and Economy from 2000 to 2021 (see [Table 1](#) for specific parameter Settings). To reveal the thematic context, knowledge evolution and frontier hotspots of the research on population development dynamics in China.

## 2.3. Data Sources

In order to comprehensively obtain high-quality literature data of the Journal of Population and Economics, "JN= population and science" was used as the search expression, and the time period was selected from January 1, 2000 to December 31, 2021. A total of 3113 literatures were retrieved, and errors and irrelevant literatures (conference notice, news, etc.) were deleted, and 2739 valid data were finally obtained. The final data results were exported to Refworks format documents for publication number and impact factor analysis (see [Figure 1](#)). The data included title, author, institution, publication time, fund, key words and abstract of each paper, which could effectively reflect the research content and development trend of Population and Economy in a certain time span.

**Table 1.** Parameter settings

Parameter	Settings
Time Slicing	2000-2021 (Year Per Slice=5)
Node Types	Keyword
Selection Criteria	Top50
	Pathfinder
Pruning	Pruning sliced networks
	Pruning the merged network
	Cluster view
Visualization	Timezone
	Burst detection

## 3. Analysis of Results

### 3.1. Thematic Context

Citespace, V.5.8.R3 (64-bit) software was used to cluster keywords in 2739 literatures. Time slice was set to 5, Keyword was selected for node type, Pathfinder was selected for Pruning sliced networks, and Pathfinder was selected for pruning sliced networks. Pruning the merged network, the LLR algorithm extracts the noun terms from the keywords, and individual nodes in the network can be aggregated into groups or clusters according to their interconnection. Each cluster represents a different domain, and 52 knowledge domains can be accurately judged by data processing calculation. The higher the ranking, the larger the cluster size. In order to better highlight the dynamic situation of population development and deepen the

theme co-occurrence relationship, six knowledge domains were reasonably summarized (see [Figure 2](#)).

The first knowledge domain that emerged on a large scale was "population and employment", which covered migrant workers (62 articles), employment (37 articles), human resources (20 articles), township enterprises (6 articles), remigration (4 articles), social support (4 articles), and intergenerational differences (4 articles). Since 2000, there have been 11 highly cited papers (more than 100 times) on the topic of migrant workers published in *Population and Economy*, mainly involving the research points of migrant workers' social integration, migration, employment and the tendency to stay in the city. Among them, the most critical research is: Wang Ting and Li Yang used conditional configuration fuzzy set qualitative comparative analysis method to study how employment policies affect the employment situation of migrant workers in 31 provincial administrative regions, emphasizing the need for multiple policy paths and the organic combination of migrant workers' interests [9]. Feng Xilang et al. considered the impact of Internet use on the gender wage income gap of migrant workers based on the 2014 and 2016 data of China Labor Force Dynamic Survey (CLDS) and found that Internet use had a significant premium effect on the wage income of migrant workers [10].

The second domain of knowledge that emerged on a large scale was "quality of life", covering factors (62 articles), older people (40 articles), pension insurance (30 articles), inequality (21 articles), population (16 articles), gender differences (13 articles), personal accounts (12 articles), and environment (8 articles). From 2000 to 2021, there were 18 highly cited papers (more than 100 times) on the theme of influencing factors published in *Population and Economy*. The research points mainly involved the influencing factors of the development of pension institutions, the impact of social support on the physical and mental health of the elderly, and the influencing factors of the income gap between urban and rural residents. Among the more important studies, Zeng Qiyan et al. analyzed the influencing factors of the contradiction between the elderly's home care service demand willingness and behavior through the Logit-ISM model, and deeply explored the logical relationship between the influencing factors [11]. Sheng Yinan and Yang Xuyu used the methods of center of gravity model, social network analysis and spatial lag model to explore the influencing mechanism of housing price, environmental conditions and public service level on the agglomeration of floating population in urban agglomeration [12].

The third knowledge domain that emerged on a large scale was "health", covering health (32 articles), labor force (23 articles), social capital (9 articles), social supply (9 articles), poverty (6 articles), mediating effects (5 articles), population health (5 articles), etc. From 2000 to 2021, there were 7 highly cited papers (more than 100 times) on the topic of influencing factors published in *Population and Economy*, mainly involving the research points of physical and mental health of the elderly, the health of migrant workers, and health influencing factors. Some of the classic studies include: Based on data from the China Family Tracking Survey from 2010 to 2018, Li Rui and Xiong Xiaohan first used an empirical model to analyze the spillover effect of spouse's retirement on cognitive ability in dual-income couple families. They concluded that retirement not only caused a decline in individual cognitive ability, but also had a negative direct spillover effect on spouse's cognitive ability. It will also produce negative indirect spillover effect through the social interaction of husband and wife [13]. Bai Chunling and Chen Dong, based on the perspective of opportunity inequality, traced back the "environment" and "effort" factors in the root causes of health inequality among middle-aged and elderly groups and measured their contribution to health [14].

The fourth area of knowledge that has emerged on a large scale is "aging and the new generation", which covers the comprehensive research on economic growth (43 articles), individual utility (21 articles), urbanization (17 articles), population migration (14 articles),

aging (13 articles), delayed retirement (12 articles), and fertility intention (11 articles). There were 8 highly cited articles (more than 100 articles) on this topic in the Journal of Population and Economics, mainly involving the necessity of delayed retirement, age and pension insurance fund, scheme simulation, etc. The most important one is that Duan Xinyan et al. used the S-shaped utility function to determine the retirement age for maximizing personal utility from the aspects of gender, wage income level, interest rate, insurance age, etc., and concluded that the curve of personal utility function showed a "sharp rise first and then a slow decline" form [15]. Wang Zhaoping and Wang Dian systematically explained the influencing factors of the elderly withdrawing through the simultaneous equation model, and proposed that it is of great significance to carefully formulate and implement the delayed retirement policy for the current situation of population aging in our country [16].

The fifth and the sixth large-scale knowledge domain is "human capital" and "population distribution problem, which about" human capital "covers human capital (66), demographic (24), population movements (11), education (8), intergenerational support (6), and demographic dividend (5), and other major issues. "Population distribution", covering population distribution (11 papers), population density (7 papers), Shanghai (7 papers), GDP (6 papers), the new generation (4 papers), population regulation (4 papers) and other aspects of research. From 2000 to 2021, there were 12 highly cited articles (more than 100 times) on "human capital" and "population distribution" in the Journal of Population and Economics. The main research points involved are the relationship between human capital and economic growth, population structure change, human capital and employment quality, population flow distribution and population aging and so on. It is worth noting that the distribution of population mobility and the quality of human capital and employment are the few but highly cited research topics in the literature [17-19].

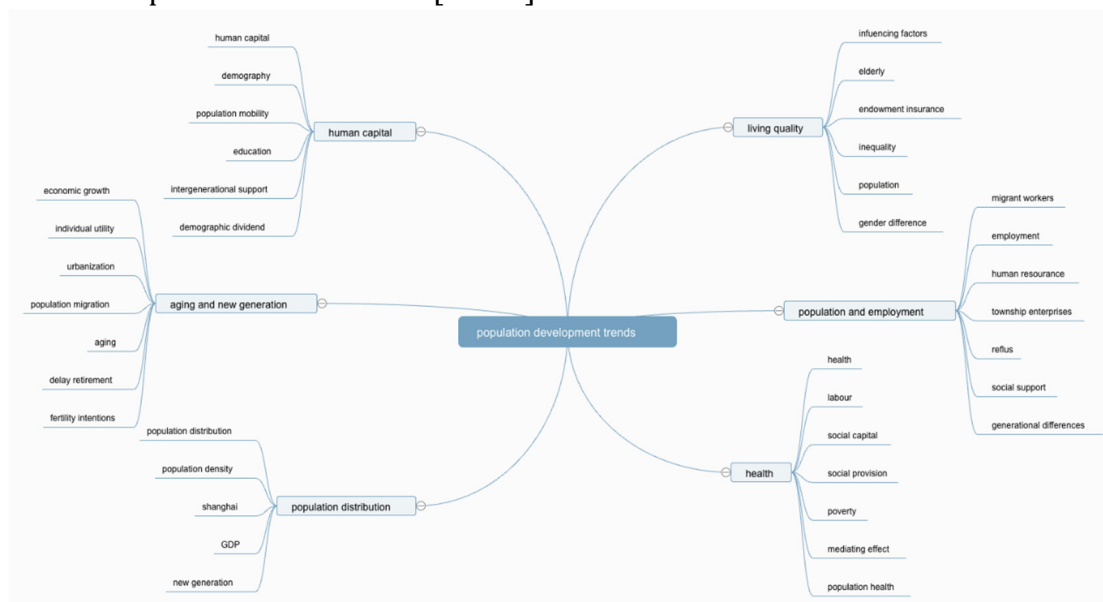


Figure 2. Demographic and socio-economic thematic context: 2000-2021

### 3.2. Knowledge Evolution

Keyword co-occurrence can highlight the same keywords cited multiple times in multiple literatures [20]. Through the combination and deletion of synonymous keywords, keywords that appear 3 times or more are selected. In the co-occurrence knowledge network graph, larger nodes represent more citations of keywords from 2000 to 2021, and thicker lines between nodes represent stronger connections between keywords.

Research topics from 2000 to 2004: family planning, floating population, the elderly, Beijing, employment, pension insurance, health, rural, labor, human capital, impact factors, social

security, urbanization, migrant workers and economic growth; From 2005 to 2009, scholars focused on exploring population distribution, intrinsic salary, fertility intention, pension, college students, path, population change, labor supply and subsidiaries. From 2010 to 2014, the research topics changed to performance appraisal, fair value, migrant population, education, aging, social capital, the new generation, delayed retirement and Beijing-Tianjin-Hebei Province; From 2015 to 2019, the research topics began to focus on endogeneity, employment quality, and female employment. From 2020 to 2021, the research themes were updated to urban agglomeration, fertility level, and boy preference.

Compared with the depth of research topics, the research methods and perspectives have also changed since 2000. For example, from 2000 to 2004, scholars mostly used externality assessment and numerical simulation to study labor flow [21], population behavior [22], and population transformation [23]. From 2005 to 2009, scholars began to use factor analysis and empirical research to discuss regional human development [24], fixed asset investment institutions [25], and the division of population functional areas [26]. From 2010 to 2014, panel model and comparative research were focused to demonstrate the age structure and industrial upgrading [27], population structure and investment [28] urbanization level comparison [29]; The methods used from 2015 to 2021 are more inclined to research on heterogeneity [30], spatial distribution [31] and mediating effect [32].

It is worth noting that there were also differences in the study areas from 2000 to 2021. From 2000 to 2005, it was "China" and "Beijing, Shanghai and Guangzhou"; from 2006 to 2010, it was "Lhasa of Tibet", "Ethnic minorities" and "Shanxi Province"; and from 2011 to 2021, it was "Beijing-Tianjin-Hebei", "Yangtze River Delta", "Megacity" and "Xinjiang". This development and change trend is highly related to the evolution of national strategies, from economically developed areas such as Beijing and Shanghai, to the rising central and western regions such as Shanxi Province and Lhasa, Tibet, and then to urban clusters. This reflects that the literature published by the Journal of Population and Economy is closely related to the national strategy and policy situation.

The comparative analysis results show that the research on domestic population development dynamics from 2000 to 2021 can be summarized as the extension of the definition of population dynamic development to the deepening of the theme, refinement, and so on, as well as the collaborative governance of different knowledge and practice fields. The research methods and perspectives have shifted from externality research, factor analysis, and numerical simulation to panel model and heterogeneity test. In the study area of population development dynamics, scholars' focus is roughly in the direction of "developed cities - central and western regions - urban clusters".

### **3.3. Frontier Hotspots**

#### **3.3.1. Frontier Hotspots Included in "Population and Economy"**

Keyword burst provides strong evidence to clarify the frequency of occurrence in a time interval. Keyword burst shows the frequency of occurrence of a subject that is abnormal from the benchmark value in a specific time period, and can also be regarded as a milestone in the development of a certain knowledge [33]. Therefore, the detection of abruptness can be effectively directed to the active field, so as to explore the theme trends and current affairs hotspots [34]. In order to analyze the publication hotspots of the Journal of Population and Economics, this paper conducted the burst detection of keywords from 2000 to 2021, and the results are shown in [Table 2](#).

**Table 2.** Recent keywords in "Population and Economy"

Key words burst	Strength	Time
The floating population	7.82	2014—2021
Gender differences	4.61	2014—2021
Beijing-Tianjin-Hebei	2.05	2014—2021
Female employment	2.42	2017—2021
health	3.00	2018—2021
Urban agglomeration	3.28	2020—2021
fertility	2.62	2020—2021
Environmental regulation	1.33	2020—2021
Number of children	1.33	2020—2021
The mediation effect	1.33	2020—2021

The results of keyword burst detection showed that "floating population", "gender difference" and "Beijing-Tianjin-Hebei" continued to break out from 2014 to 2021, and the first two had the highest outbreak intensity, indicating that they had the highest frequency in this time region. "Female employment" has continued to explode since 2017; The outbreak of "health" has been continuous and strong since 2018. "Urban agglomeration", "fertility level", "residence intention", "environmental regulation", "number of children", and "mediating effect" continued to break out since 2020, and the outbreak intensity of "urban agglomeration" was the highest.

**Table 3.** Hot literature in "Population and Economy" from 2019 to 2021

2019	2020	2021
Residence intention of floating population in cities and towns and its determinants (40) 4863	The impact of population aging on China's macroeconomy (13) 1324	China's low fertility rate and the three-child policy (3) 886
International comparison and reference of 0-3 years old infant care service under typical welfare type (37) 3161	Research on the Impact of Childbirth on female employment (12) 2413	Study on the New Trends of Population Mobility and Urbanization in China (1) 3199
The effect of age on the efficiency of household financial asset allocation under the background of aging (33) 2001	The economic growth effect of human capital gradient upgrading (11) 733	The characteristics, influence and coping strategies of the new pattern of the aging society in China 1918
Household registration System, Urbanization and the Great Migration of Chinese Population (27) 2803	Trajectory of healthy life span and its influencing factors among the elderly (11) 1369	Study on youth employment policy under the influence of COVID-19 epidemic
Theory and Practice of Overlabor: Foreign experience, China's current situation and Research Prospects (26) 2833	The impact of child care patterns on the employment of married migrant women (10) 1253	The impact of children's intergenerational support on the health of the elderly (1) 1395
The changing characteristics of the distribution of the inflow places of the floating population in China (25) 2385	Gender differences in marketization reform and labor market participation (8) 1196	Follow-up evaluation and future trend analysis of two-child policy effect (2) 1212
Characteristics and influencing factors of	Study on the Spatial Distribution of population in	Research on the impact of three major composition changes of capital on the proportion of

INTERprovincial labor TRANSFER in China (23) 1957	China from the perspective of urban agglomeration (7) 1064	labor compensation in the digital Economy Era 1203
The intergenerational transmission effect of filial piety concept in China (21) 1204	Qualitative comparative analysis of the Influence of population structure on the growth of medical expenses (7) 1200	The Effect of family factors on gender wage differentials (2) 1060
The effect of land right confirmation on rural labor transfer and employment (20) 1482	A hierarchical model study on the migration intention of floating population (6) 817	Study on Population migration Tendency of major urban agglomerations in China 993
Labor Market gender differences and Female empowerment (19) 2462	The internal connection between environmental regulation, technological innovation and employment growth	How does the employment policy of migrant workers promote employment? 965
The Impact of birth policy adjustment on female employment quality (19) 3203	The influence of number, gender and order of children on pension capital and the difference between urban and rural areas (6) 1059	Change of social capital and vulnerability of rural household poverty 964
Informal Care and Support policies for the elderly (18) 1199	Indirect estimates of fertility levels in China (6) 1718	Study on the prediction of average life expectancy of Chinese population and its problems 906
Research on institutional pension needs in Beijing (18) 1540	Effects of air pollution on health care expenditures among middle-aged and older adults (6) 405	The marginal opportunity cost of having a second child for Chinese families is (1) 878
The reform of the household registration System and the Settlement of the migrant agricultural population (18) 1417	The cost of Child Care in Chinese families: a measure based on equivalence scale welfare comparison (5) 1115	Interpretation of International frontiers in Demographic research since 2000 (2) 877
Where is China's low fertility rate? 1731 (18)	Employment and hours effects of minimum wages	Think not do? Analysis of the contradiction between the demand willingness and behavior of the elderly home care service 867

**Note:** The number of citations of articles is in parentheses, and the number of downloads is outside the parentheses

### 3.3.2. The Frontier Hotspots of Academic Attention

Based on the data of CNKI, this paper used "citation times" and "downloads" to analyze 45 popular Chinese literatures from 2019 to 2021 (15 articles per year, as shown in [Table 2](#)). In 2021, it was screened according to downloads, and in 2019-2020, it was screened according to the number of citations. The number of citations can indicate the popularity of research on a topic, while the number of downloads can indicate the popularity of a specific article in a short period of time.

Through the analysis of the keywords in the hot literature, it can be concluded that, Highly cited literature theme in 2019, residence of the floating population will, nursery service, financial asset allocation, the household registration system, urbanization, excessive labor, defined the distribution, labor transfer, the concept of filial piety, the land approval, gender differences, women empowerment, birth policy, employment, informal care and institutional pension for the elderly, transfer of agricultural population, fertility rates, etc.; Highly cited literature theme in 2020 with an aging population, female employment, human capital, health life, child care,



women's employment, market-oriented reforms, the Labour market participation, urban agglomeration, spatial distribution, population structure, medical expenses, the floating population, household register transfer will, environmental regulation, technology innovation, job growth, number of children, fertility, air pollution, Medical expenditure for the elderly and minimum wage; In 2021 in a short period of time with more focus on the theme of the main have low fertility, three child policy, population movements (migration), urbanization and aging society, the youth employment, two child policy evaluation, era of digital economy, capital formation change (change) of social capital, and gender wage differentials in urban agglomeration, employment policy, and life expectancy. It is worth noting that the topics of the highly popular literature from 2019 to 2021 are all on the topic of "fertility", which is closely related to the implementation of the "three-child policy" in China, and also indicates that fertility will be a hot topic in domestic population research in the future.

Combined with [Table 2](#) and [Table 3](#), in the journal of population and economy in many emerging themes associated with domestic academic attention hot spot high, such as floating population, sex differences, female employment, health, urban agglomeration, fertility, residence will, environmental regulation and the number of children, which explain the population and economic features of population development and academic research hot spot. At the same time, the hot topics in 2021 in [Table 2](#) also involve "three-child policy" and "youth employment". When searching the citation and download times of these two data keywords on CNKI, it is found that the popularity continues to increase, which indicates that "three-child policy" [35] and "youth employment" [36] are also hot topics that the academic community actively focuses on.

#### 4. Discussion and Reflection

Combined with the literature included in the Journal of Population and Economics, the visual analysis was applied to construct the thematic context, knowledge evolution and emerging hotspots of population development dynamics. At the top of the framework is the summary of the goals of The State Council on the issuance of the National Population Development Plan 2016-2030. The following combines domestic and foreign scholars' active discussion on the theme of "population development dynamics" to summarize and reflect on the direction that our country needs to go further.

Keywords with high frequency include population aging, economic problems, family nuclear, changes in marriage views, conservative values, violence and abuse, employment problems and gender inequality [37]. From the perspective of subject context, the research scope of population development dynamics in China is relatively wide, but the depth of a certain subject field still needs to be developed. For example, the population problem has received extensive attention from the country and society, but there are few research results on the solutions to the population problem. In the study of international population issues, social welfare focusing on equity and efficiency [38], the importance of promoting gender equality [39], improving the level of medical and health care [40], population health environment [41] and other fields have attracted more attention. In addition, the paper recommended for population flow, education, vocational training, the population development of evaluation methods of dynamic development in the field of interdisciplinary research, such as life cycle assessment (LCA) good population analysis area, heterogeneity, space effect, input and output analysis and other methods, and other disciplines cross-link, in order to propel the development of the population dynamic of deep research.

## 5. Conclusion of the Study

The United Nations World Population Conference held in 1974 adopted the World Population Action Plan through consultation and discussion. From the perspective of world population development, population characteristics in different periods play a key role in economic and social influence, which means that population development has become an important goal of global economic and social development [42]. Through the quantitative analysis of the literature included in the Journal of Population and Economy from 2000 to 2021, the following conclusions can be drawn:

(1) The topics of population and socioeconomic research in China from 2000 to 2021 included population and employment, quality of life, health, aging and the new generation, human capital and population distribution. More than six topics including but not limited to migrant workers, employment, human resources, township enterprises, reflux, social support, generational differences, influence factors, the elderly, endowment insurance, inequality, population, gender differences, the individual account, the environment, health, labor, social capital, the social supply, poverty, mediation effect, population health, economic growth, individual utility and urbanization, Population migration, aging, delayed retirement, fertility intention, Human capital, demography, population mobility, education, intergenerational support, and demographic dividend, population distribution, population density, Shanghai, GDP, new generation and population regulation.

(2) The domestic population and social economy research from 2000 to 2021 can be summarized as the extension of the dynamic definition of population development to the deepening discussion and refinement of the theme, and the collaborative governance of different knowledge and practice fields. The research methods and perspectives have shifted from externality research, factor analysis, and numerical simulation to panel model and heterogeneity test. In terms of population and socioeconomic research areas, scholars' concerns evolve roughly in the direction of "developed cities - central and western regions - urban clusters".

(3) The literature included in the Journal of Population and Economics is highly related to the population and social economy hotspots of domestic academic attention, and closely combined with the government policy situation. Floating population, gender disparity, three-child policy, female employment, health, urban agglomeration, fertility level, residence intention, youth employment, environmental regulation and number of children. Among them, the three-child policy and youth employment are important hotspots that can be discussed in depth in the future.

Using bibliometric methods to systematically mine the literature data of Population and Economy, and standardize the theme context, knowledge evolution and emerging hotspots of population and social economy from 2000 to 2021. The marginal contribution of this article can provide new perspectives and ideas for journal editors, authors and readers, but it also has the following problems: On the one hand, despite the high quality and quantity of literature included in the Journal Population and Economy, which has undergone strict peer review and is authoritative and rigorous, there are problems of insufficient coverage, insufficient data and insufficient support for the topic of "population" from a single journal. On the other hand, population development covers multi-disciplinary and multi-field knowledge and practice, and the research on this topic is a systematic and complex process. In the future, it is still necessary to strengthen the research in this field, which will be the focus of the follow-up research.

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