

# Chapter 4

## An Empirical Study of Green Finance Research Through Bibliometrics

**Feng Hu**

*Guangdong University of Technology, China*

**Haibo Wei**

*Guangdong Water and Power Survey and Design Institute, China*

### **ABSTRACT**

*Green finance issues have triggered the increasing research enthusiasm of researchers. With the rapid growing of publications related to green finance, it is difficult for readers to deeply understand the intellectual structure, research hotspots, and trends. In addition, the dynamic nature of a research front poses challenges for the scientists, research policymakers, and many others to keep up with the rapid advances of the state of the art in science. Therefore, the authors conducted a bibliometric analysis from the Web of Science over the period of 1998–2017. Co-word analysis and co-citation analysis are employed to explore institution distribution, journal co-citation analysis, author co-citation analysis, document co-citation analysis, and keyword co-word analysis, particularly in high frequency items, intellectual turning points, burst points, and emerging trends. The results can be useful for institutions and researchers worldwide to understand the panorama of green finance research, find the potential research gaps, and focus on the future research trends.*

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## **1. INTRODUCTION**

With rapid population growth and substantial increases in energy consumption, the ecological health of the world is being seriously challenged, and green growth has become a development trend in the world economy. The transformation from a resource-consuming economy to a resource-conserving and environmentally friendly economy has become the main objective and practical route of economic reform in major economies. Against the background of low carbon green growth, green finance, as a new financial pattern to integrate environmental protection with economic profits, emphasizing “green” and “finance” (Yao Wang and Qiang Zhi, 2016), has come into being and is becoming a key point for the development of many countries. Its goal is sustainable development.

Green finance refers to taking environmental protection as a basic policy, integrating environmental assessments into processes, considering potential environmental impacts in daily investment and financing decisions, and blending the potential returns, risks and costs related to environmental conditions into the daily business of banks. It focuses on the interests of the environment and guides economic subjects to pay attention to the balance of natural ecology through their own activities. It emphasizes the coordinated development of financial activities, environmental protection and ecological balance, and hopes to realize the sustainable development of economies and society. Therefore, green finance issues have attracted increasing research attention. Recent work includes studies on standardizing sustainable development of development banks (AU Gallagher and KP Yuan F, 2017), low carbon finance (Sudmant, A., Colenbrander, S., Gouldson, A., and Chilundika, N, 2017), green credit (Guan, R., Zheng, HT, Hu, J., Fang, Q., and Ren, RE, 2017), green investments (Maggioni, D., Santangelo, GD, 2017), etc. However, green finance is a complex issue and involves multi-disciplinary knowledge. It is difficult for a new researcher to understand the current research situation and identify the research gaps.

In this paper, the authors performed an empirical study of green finance through bibliometrics. Bibliometrics uses qualitative and statistical analysis to describe patterns in publications in a given field (Meen Chul Kim, Yoo Kyung Jeong, and Min Song, 2014). It can reveal some interesting features of academic and social communities, uncover cohesive collaboration among researchers and invisible communities, and represent the intellectual structure and hotspots of a knowledge domain (Newman, M. E. J., 2001). It is convenient for new or would-be green finance researchers to discover the current discipline distribution, research hotspots, influential institutions, scientists, journals, and to describe the co-occurrence relationships. This study performed a visual bibliometric analysis of green finance, and provides guidance

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