

OPPORTUNITIES FOR LINKING GLOBAL VALUE CHAINS RESEARCH TO
POLICY-MAKING IN TÜRKİYE: A BIBLIOMETRIC ANALYSIS

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

ESRA GÜLER

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
THE DEPARTMENT OF SCIENCE AND TECHNOLOGY POLICY STUDIES

DECEMBER 2022

Approval of the thesis:

**OPPORTUNITIES FOR LINKING GLOBAL VALUE CHAINS RESEARCH
TO POLICY-MAKING IN TÜRKİYE: A BIBLIOMETRIC ANALYSIS**

submitted by **ESRA GÜLER** in partial fulfillment of the requirements for the degree
of **Master of Science in Science and Technology Policy Studies**, the **Graduate
School of Social Sciences of Middle East Technical University** by,

Prof. Dr. Yaşar KONDAKÇI
Dean
Graduate School of Social Sciences

Prof. Dr. Mehmet Teoman PAMUKÇU
Head of Department
Science and Technology Policy Studies

Assist. Prof. Dr. Arsev Umur AYDINOĞLU
Supervisor
Science and Technology Policy Studies

Examining Committee Members:

Prof. Dr. İbrahim Semih AKÇOMAK (Head of the Examining
Committee)
Middle East Technical University
Science and Technology Policy Studies

Assist. Prof. Dr. Arsev Umur AYDINOĞLU (Supervisor)
Middle East Technical University
Science and Technology Policy Studies

Assist. Prof. Dr. Güleda DOĞAN
Hacettepe University
Department of Information Management

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last Name: Esra GÜLER

Signature:

ABSTRACT

OPPORTUNITIES FOR LINKING GLOBAL VALUE CHAINS RESEARCH TO POLICY-MAKING IN TÜRKİYE: A BIBLIOMETRIC ANALYSIS

GÜLER, Esra

M.S., The Department of Science and Technology Policy Studies

Supervisor: Assist. Prof. Dr. Arsev Umur AYDINOĞLU

December 2022, 124 pages

With the rise of liberal trade and investment policies and technological advances since the 1990s, the concept of global value chains (GVCs) has gained increasing interest not only from academicians but also from practitioners and policy-makers. The GVC framework helps understand the organization of industries worldwide, and firm and government strategies to create and capture value-added, with specific emphasis on policy to identify upgrading paths for economic and social development. In the last decade, the GVCs have been challenged by changing global dynamics, especially by the 2008 financial crisis and, more recently, the Covid-19 pandemic. Against this background, this study investigates the evolution of GVC studies and maps key concepts and shifting trends with an aim to develop policy suggestions accordingly. Using bibliometric analysis, the thesis aims to answer whether the scale and scope of GVC studies changed over time, and how their focus evolved especially after Covid-19. Considering the increasing GVC participation of developing countries, including Türkiye, the thesis explores whether there is an associated link with more research

interest in those countries compared to developed economies and if so, in which direction. The results of the descriptive analysis reveal that compared to other developing countries', research and evidence-based policy-making in Türkiye do not engage in GVC framework even though the country has been participating in GVCs. However, considering Türkiye's ambitious vision to upgrade in global value chains, there is a potential to put forth a coordinated and comprehensive effort to boost GVC research and link it with policy-making.

Keywords: Global Value Chains, bibliometric analysis, development policy, sustainability

ÖZ

TÜRKİYE’DE KÜRESEL DEĞER ZİNCİRLERİNDE ARAŞTIRMA VE POLİTİKA YAPIMINI BAĞLANTILANDIRMA FIRSATLARI: BİBLİYOMETRİK BİR ANALİZ

GÜLER, ESRA

Yüksek Lisans, Bilim ve Teknoloji Politikası Çalışmaları Bölümü

Tez Yöneticisi: Assist. Prof. Dr. Arsev Umur AYDINOĞLU

Kasım 2022, 124 sayfa

1990'lardan bu yana serbest ticaret ve yatırım politikalarının öne çıkması ve teknolojik gelişmelerle birlikte, küresel değer zincirleri (KDZ'ler) kavramı sadece akademisyenlerden değil, uygulayıcılar ve politika yapımcılar tarafından da artan bir ilgi görmeye başlamıştır. KDZ çerçevesi, küresel endüstrilerin nasıl örgütlendiğini ve katma değer elde etmeye yönelik firma ve ülke stratejilerini anlamaya ve politika yapımına yönelik pratik yaklaşımıyla ekonomik ve sosyal kalkınma için değer zincirinde yükselme yollarını bulmaya yardımcı olur. Son on yılda, KDZ'ler, özellikle 2008 finansal krizinin ardından yakın zamanda Kovid-19 salgını olmak üzere değişen küresel dinamiklerle karşı karşıya kalmıştır. Bu çerçevede, bu tez bibliyometrik analiz yöntemini kullanarak, KDZ'lere ilişkin çalışmaların mevcut durumunu, ölçeğinin ve kapsamının zaman içinde değişip değişmediğini ve özellikle Kovid-19'dan sonra

arařtırmaların odađının nasıl geliřtiđini; aynı zamanda, Trkiye dahil olmak zere geliřmekte olan lkelerin KDZ'lere artan katılımını dikkate alarak, bu lkelerde geliřmiř lkelere kıyasla arařtırmaların ne oranda arttıđını ve hangi konulara yneldiđini yanıtlamayı amalamaktadır. Betimleyici analiz sonuları, diđer geliřmekte olan lkelerle karřılařtırıldıđında, Trkiye'nin KDZ'lere katılımına rađmen KDZ erevesinde arařtırma ve kanıtla dayalı politika retiminin yetersiz kaldıđını ortaya koymaktadır. Bununla birlikte, Trkiye'nin iddialı bir biimde KDZ'lerdeki konumunu ykseltme vizyonu dikkate alındıđında, sz konusu alanda arařtırmaları arttırmak ve bunları politika oluřturma ile iliřkilendirmek iin koordineli ve kapsamlı bir aba ortaya koyma potansiyeli bulunmaktadır.

Anahtar Kelimeler: Kresel Deđer Zincirleri, bibliyometrik analiz, kalkınma politikası, srdrlebilirlik

To My Dear Family

ACKNOWLEDGMENTS

I would like to express my appreciation and thankfulness to those who, while writing my thesis, supported and assisted me unconditionally:

First, I would like to start by showing gratitude towards my supervisor, Arsev Umur AYDINOĞLU, whose advice and great patience helped me develop the study goals, and whose insightful guidance and contributions had a major impact on my research. He encouraged me to strengthen my thoughts and elevate my work.

I would like to express my thankfulness to my family, especially to my beloved husband, Haluk, and my dear parents, Aysun and Murat, for their lifetime support and the highest dose of patience and advice during this challenging phase of my academic journey. The emotional support from my son, Mehmet Yiğit, and my daughter, Serra, was certainly fundamental in encouraging me to carry on through my academic study, even in the extremely busy periods of my work and family life. My brother Burak and my sister-in-law Mislina also provided me with positive energy during my studies.

Furthermore, I would like to thank my master's colleagues with whom I had shared moments of anxiety but also big excitement despite the physical distance due to the Covid-19 pandemic, and my professors at Tekpol, namely Arsev Umur Aydınoglu, İ. Semih Akçomak, Erkan Erdil, and M. Teoman Pamukçu, who provided stimulating discussions in their courses as well as great moments that helped me to clear my mind when I needed it the most. I am also deeply grateful to Güleda Doğan, one of the Examining Committee Members, for her great advice, and to Seda at Tekpol for her invaluable support to handle the stress of submitting the thesis.

TABLE OF CONTENTS

PLAGIARISM	iii
ABSTRACT	iv
ÖZ	vi
DEDICATION	viii
ACKNOWLEDGMENTS	ix
TABLE OF CONTENTS	x
LIST OF TABLES	xii
LIST OF FIGURES	xiii
LIST OF ABBREVIATIONS	xiv
CHAPTERS	
1.INTRODUCTION	1
2.BACKGROUND ON GLOBAL VALUE CHAINS	6
2.1 Conceptual Definition of Global Value Chains	6
2.2 Rise of Global Value Chains in World Economy	8
2.3 Participation of Developing Countries in Global Value Chains	14
2.4 Türkiye's Integration in Global Value Chains	16
3.ORIGINS AND REVIEW OF GVC RESEARCH.....	24
3.1 Emergence of GVC Concept in Scholarly Research.....	24
3.2 Literature Review of Bibliometric Studies on GVCs.....	27
4.METHODOLOGY.....	34
4.1 Bibliometric Analysis	34
4.2 Research Methodology Design	36
4.2.1 Collection and Selection of Database for Data Analysis	37
5.FINDINGS	42
5.1 Data Analysis	42
5.1.1 Annual Publications and Citations of GVC Research	42

5.1.2	Disciplinary Evolution of GVC Research.....	44
5.1.3	Research Performance of Developed versus Developing Countries.....	47
5.1.4	Affiliations and Funding Agencies of GVC Research.....	52
5.1.5	Collaboration Networks Among Developed and Developing Countries ..	56
5.1.6	Conceptual Structure of GVC Research.....	60
5.1.7	Thematic Evolution in GVC Research.....	63
5.1.8	Shifts in Research Trends for Developed and Developing Countries.....	68
5.1.9	Shifts in Research Trends after Covid-19 Pandemic	72
5.1.10	Conceptual Gaps between Global Research Clusters and Studies in Türkiye	73
6.	DISCUSSION AND POLICY SUGGESTIONS	78
6.1	Limitations of the Study.....	85
6.2	Conclusion to Thesis	86
	REFERENCES.....	89
	APPENDICES	
A.	KEY CONCEPTS OF GVC RESEARCH.....	97
B.	REVIEW OF NATIONAL DEVELOPMENT PLANS FROM THE LENS OF GVCS	101
C.	TURKISH SUMMARY / TÜRKÇE ÖZET	110
D.	THESIS PERMISSION FORM / TEZ İZİN FORMU.....	124

LIST OF TABLES

Table 1: Selected Indicators of the Turkish Economy	17
Table 2: Type of Publications in Selected GVC Database	39
Table 3: Data Collection and Selection.....	40
Table 4: Evolution of the Number of Publications by Research Area.....	47
Table 5: Selected Countries' Publications (1994-2022).....	50
Table 6: Average Citations of Articles by Countries.....	52
Table 7: Top Funding Organizations for Publications on GVCs.....	55
Table 8: Funded Publications by Selected Recipient Countries (1994-2022).....	56
Table 9: Suggested Policy Set for Addressing Research and Policy Gaps	80

LIST OF FIGURES

Figure 1: Global Value Chain Participation of Türkiye, 1995-2018.....	19
Figure 2: Research Methodology Design.....	37
Figure 3: Annual Number of Publications and Citations	43
Figure 4: Annual Number of Publications of Developed and Developing Countries	48
Figure 5: Top 25 Organizations with the Highest Number of Publications	53
Figure 6: Co-authorship of Countries (with more than 5 documents)	57
Figure 7: Co-authorship of GVC documents	58
Figure 8: Co-citation of authors (minimum 100 citations of an author)	60
Figure 9: Keyword Co-Occurrence Map.....	61
Figure 10: Keyword Clusters Over Time.....	64
Figure 11: Thematic Evolution of GVC Research (1994-2022).....	67
Figure 12: Thematic Evolution of GVC Research in Developing Countries.....	69
Figure 13: Thematic Evolution of GVC Research in Developed Countries	71
Figure 14: Most Critical Themes of GVC.....	72

LIST OF ABBREVIATIONS

3-D	Three-Dimensional
EU	European Union
GVC	Office of Sponsored Projects
GCC	Global Commodity Chains
OBD	Original Brand Manufacturing
OECD	Organization for Economic Co-operation and Development
R&D	Research and Development
SDG	Sustainable Development Goals
TEKPOL	Science and Technology Policy Studies
UKRI	United Kingdom Research and Innovation
UN	United Nations
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
UNCTAD	United Nations Conference on Trade and Development
UK	United Kingdom
US	United States of America
USAID	The United States Agency for International Development
WB	World Bank

CHAPTER 1

INTRODUCTION

In the last thirty decades, with the changing economic and social dynamics worldwide, the concept of global value chains (GVCs) has received growing interest from researchers, practitioners, and policy-makers as a defining feature of globalization. More recently, impacted by the Covid-19 pandemic, leading to supply disruptions and shortages, the phenomenon of GVCs has attracted even more attention and it has become an emerging topic in research and policy circles.

The term “global value chain” basically refers to a full range of activities from design, production, marketing, and distribution to customer support and after-sales services divided among multiple firms and countries to bring a particular product or service from its conception to its end use and beyond (Gereffi & Fernandez-Stark, 2011). The importance of the GVC phenomenon is that it goes beyond the perspective of a single firm and aims to explain how firms, industries and countries are organized worldwide, how value is created and captured along a specific chain, and how firm and non-firm interactions shape the development trajectories.

In this regard, GVCs catch the attention of not only researchers but also policy-makers, especially from developing countries to understand the changing features of the global economy and trade, as well as to identify strategies and upgrading paths for economic and social development at local, national, and global levels. Going beyond purely academic motivations, GVC studies have provided a ground for development policy to harness the potential gains and avoid possible hazards of global fragmentation of production along the chains in which countries participate or hope to participate. Considering the policy relevance of GVC studies, in recent years, international

organizations, including the World Bank, OECD, World Trade Organization, International Labor Organization, UNDP, UNIDO, and UNCTAD, as well as national and supranational development agencies such as the USAID and the European Commission have also adopted the GVC framework to inform policies on industrial strategies and inclusive and sustainable development (Gereffi, 2019) With various collaborative work among GVC researchers and international development organizations, government institutions, and foundations, the scale and scope of GVC-related studies have expanded to a great extent (Mayer & Gereffi, 2019).

In parallel to developments in GVCs, Türkiye has also shown some interest in the field; however, there seems to have been a limited response considering only a few high-level policy documents and a modest record of research output referring to global value chains. As a developing country with ambitious aims to become “a stronger and more prosperous Türkiye that produces more value and shares more fairly” (The 11th National Development Plan (2019-2023), 2019), the level of local research interest in the field of GVCs appears to be lagging behind the level of global enthusiasm on GVCs. This lack of apparent interest makes it even more appealing to lay out and compare the evolution of the GVC research at local and global levels.

Moreover, it is critical that the dynamics of the global economy have recently been evolving from liberal trade and investment policies led by Bretton Woods institutions towards more protectionist and restrictive policies of governments and regional organizations. This trend, as either a backlash against globalization or a reshaping of the global economy, seems to be reflected in research and policy in the field of GVCs, especially in the light of the Covid-19 pandemic, during which global trade collapsed and supply chains have been distorted. In a post-Covid period, GVCs are being reshaped and recent research in this field can provide evidence and guidance to design policies for upcoming transitions and remain competitive in an increasingly complex and changing global environment. This is also another motivating factor to revisit the GVC research field, lay out its historical evolution and explore recent research trends at a global level in order to guide future research and policy from the perspective of Türkiye.

Against this background, considering that GVCs offer not only a purely academic framework but also links scholarly research with policy-making for the exploration of policies and programs to achieve both economic and social development; it is worth understanding the evolution of GVC studies and investigating key areas to strengthen the link between research and policy even more. In this regard, the thesis aimed to provide researchers and policy-makers with an analytical framework to explore how the scale and scope of the scholarly work in GVCs evolved with changing dynamics and shifting trends of the global economy, especially in the Covid-19 period and to identify changes and upcoming transitions in main research clusters for guiding policy from a developing country perspective. By exploring and examining these, policies to support the link between GVC-oriented research and policy-making in Türkiye with the ultimate aim of improving evidence-based policy-making will be discussed.

Accordingly, the following research questions are examined in the thesis:

1. What is the historical evolution of the scale and scope of global value chains research with developments in the world economy? More specifically, is there any early sign of change in the scale and scope of studies with the Covid-19 pandemic?
2. Whether or not developing countries, including Türkiye, have increased their performance in terms of research output considering their increased participation in GVCs?
3. What are the main research clusters for GVCs and is there a significant shift with the Covid-19 pandemic for developed and developing countries?
4. What are the recent research trends and whether or not they are linked to the recent policy agenda in Türkiye?

The exploration of the first three questions and partially the fourth question above is conducted through a bibliometric methodology that allows a detailed and comprehensive map of all available records for scholarly work related to GVCs. For the third and fourth questions, thematic evolution was explored to understand the changes in research trends. Answering these research questions may serve as a guide

in order to develop a policy set that can be adopted regarding this particular field's use in the policy-making process.

To the best of our knowledge, the coverage of data and period on GVC-related scholarly publications have not been previously studied in the relevant literature, particularly after the Covid-19 pandemic. Moreover, the novelty of this study comes from the comparative work on developing countries and developed economies by exploring the link between the key areas of their GVC research and their policy agenda. It explores whether research output as well as research trends differ depending on the development level. The bibliometric analysis of the existing body of GVC-related research is expected to provide a systematical and quantitative method to uncover the evolution of research in both developed and developing economies, to identify the key concepts, their relationships, and shifting trends. The conclusion of the analysis aimed to enhance the existing knowledge stock on GVCs and suggest pointers for future research and policy agenda for Türkiye.

The thesis discusses the GVC concept with a bibliometric view in six chapters. In the first chapter, a brief introduction to the topic and the main research questions are given. Chapter 2 outlines the background of GVCs and discusses the rise of the concept in the global economy. Considering the different development outcomes across countries, GVC participation's importance is shortly discussed from the lens of developing countries. The GVC participation of Türkiye is also included in the discussion.

Chapter 3 reviews the origins of the GVC research as well as the previous bibliometric studies conducted so far highlighting the novelties of this study. The emergence of the GVC phenomenon in scholarly research and literature review of similar studies are provided. Chapter 4 introduces the methodology, including the bibliometric study and its research design.

Chapter 5 discusses the findings of data analysis to capture the shifting trends in GVC research with the use of the WoS database. Furthermore, co-occurrence analysis for keywords, co-citation analysis, core keyword clusters, and the temporal shifts in

knowledge frontiers as well as thematic trends are mapped to get a better understanding and visualization of the GVC literature. The chapter also notes that the results are rather quantitative and descriptive; therefore, they do not substitute for full-textual reviews of GVC research and need to be supported by more in-depth analysis.

Chapter 6 finalizes the discussion by suggesting policies for Türkiye to better integrate its policy-making process with an analysis of GVC research by benefiting from the results of an analysis on shifting trends. Also, in the annex, the study includes a brief review of the concepts of governance and upgrading in GVC studies and it then explores Türkiye's development agenda based on the National Development Plans from the lens of GVCs with an analysis of commonalities and differences with the recent policy documents of China and South Korea.

CHAPTER 2

BACKGROUND ON GLOBAL VALUE CHAINS

In this chapter, the conceptual definition of global value chains is given first and its relevance to the world economy and developing countries is provided briefly to answer the question of ‘why is the GVC an important topic of study?’. An overview of the rising importance of value chains in the global organization of production since the 1980s as a new paradigm, its uneven reflections on economic and social development in developing countries as well as the current and emerging trade-offs and challenges faced by the global economy and GVCs are discussed with a special emphasis on Türkiye’s integration with GVCs.

2.1 Conceptual Definition of Global Value Chains

A global value chain refers to a full range of value-adding activities from design, production, marketing, and distribution to customer support and after-sales services divided among multiple firms and countries to bring a product or service from its conception to its end-use and beyond (Gereffi & Fernandez-Stark, 2011). It is basically a multi-layered network of firms creating value through functionally interconnected but globally fragmented activities (Fernandez-Stark & Gereffi, 2019). A cotton shirt, for instance, may be designed in Italy, its cotton fabric sourced from Türkiye, cut and assembled in Tunisia using buttons from China, and sold in the UK market.

Global value chains are alternatively used as global supply chains, global commodity chains or global production networks; however, motivations behind those concepts may differ. Firstly, rather than a simple set of supply chain activities even if it is organized globally to manufacture, sell and distribute a product, the GVC concept is focused on the way such activities are linked to each other in order to add more value in the chain (Golini et al., 2016). In other words, the GVC approach has gone beyond the supply chain concept which mainly focuses on the operational and logistical organization between suppliers in an industry/sector; instead, the GVC approach lays out value-added in each activity or task in the chain of a product/service by looking at how the chain is governed and what roles each economic actor play in value creation accounting for power asymmetries among them. In GVCs, how a chain is organized and governed can be a determining factor in moving into higher levels according to the GVC framework. Secondly, the concept of global commodity chains, which is used alternatively, may limit the understanding of the phenomenon by highlighting the commodity-type of products which are usually undifferentiated and low value-added while GVCs refer to all types of products and services from basic to complex. Lastly, similar to GVCs, the concept of ‘global production networks’ also provides a particularly useful explanatory framework for understanding engagement of firms, territories, and countries in the global market (Neilson et al., 2014); however, its central tendency to concepts of value, power, and embeddedness and its inspiration from economic geography differ from the expanded motivation of GVC approach focusing on mapping of value-added tasks, governance and upgrading for development (De Marchi et al., 2020). GVC approach is mainly interested in external linkages while also considering the importance of local ties among domestic firms.

Pioneered by Professor Gary Gereffi of Duke University, the global value chains (GVCs) framework provides a holistic approach as both a mapping and an analytical tool for analyzing how the global market for a specific industry or product/service is organized and how a firm or a country fits into the global economy. According to this perspective, global value chains are driven and controlled by lead firms and lead firms have significant power over the rent-rich activities within the globally organized chain. A necessary step for participating in a global value chain is first to develop the

necessary capabilities; however, benefiting from GVCs is determined by how to interact with other actors to generate and capture value along the chain. While strategic link-up with lead firms in the global network is the key factor in this perspective, it also recognizes the role of institutional and regulatory structure at local and global levels for shaping upgrading prospects. Therefore, there is a critical public policy role in designing policies and programs related to GVCs.

2.2 Rise of Global Value Chains in the World Economy

Each era in the world's economic history leaves a trace with a distinctive system of production and consumption, and a new era evolves afterward. In this respect, the Fordism era emerging after World War II was characterized by huge economies of scale in vertically integrated organizations, mass production, and mass consumption, standardized products, repetitive, simple, and small tasks in assembly lines, low unit costs, mechanization of production, the rise of blue-collar and industrial workers as well as the dominant power of nation-states. The era of producing such standardized goods at low costs and paying workers decent enough wages to afford those products was dominant across the world until the early 1970s (Webster, 2006).

However, triggered by the oil crisis and stagflation in the 1970s, the Fordist kind of accumulation regime started to take a backseat and productivity gains from the Fordist regime began to fall due to social and technical factors (Praveen & Amit, 2014). From the 1980s onwards, the world economy and its society entered into a transition period from Fordism to post-Fordism, in other words, the postmodern times.

Becoming the dominant system of economic production and consumption in the contemporary world, the post-Fordist accumulation regime, in contrast with its predecessor, has been characterized by "flexible" manufacturing systems with the heightened role of information networks, unprecedentedly large transnational corporations, economies of scale and scope, production in small batches, specialized and customized products, the rise of the services industry, individualization of

consumption, and the rise of white-collar work as well as feminization of workforce (Webster, 2006).

The post-Fordist era's one of main underlying phenomena has been GVCs, in other words, the dispersion of value-added activities such as design, production, marketing, and distribution across different firms in different countries. Indeed, information codification has played a significant role in the fragmentation of production by enabling complex knowledge to be efficiently transmitted along the chain between firms at different locations at minimized cost (Gereffi, 2011). Developments in ICTs, including broadband technologies, electronic data interchange, computer-aided design, and radio-frequency identification have all made businesses easier to immediately connect to and conduct business in distant locations. Additionally, improvements in shipping technologies have contributed to the global fragmentation of production and today global trade has been mainly carried on board ships and handled by seaports (80 percent in volume and 70 percent in value terms by 2018) (ESCAP, 2018).

The fall in economic and trade barriers has also fueled the global market economy from the 1980s onwards (Amador & Cabral, 2016) and helped world trade reach unprecedented levels at the beginning of the 21st century. As a measure of the increasingly globalized economy, the trade openness index, which is the sum of world exports and imports as a share of world GDP, increased from about 10 percent in 1945 and 40 percent in 1980 to the level of 60 percent in the early 2000s (Global Change Data Lab, 2020). The significant rise in the index was almost uninterrupted after the 1980s except for the period of global financial crises that occurred in 2008-2009. In the global merchandise trade, trade within GVCs accounts for almost 50 percent (World Bank, 2020).

Outsourcing of production initially started in the 1980s with simple assembly activities being offshored from the US and West Europe to Mexico and other Latin American countries and Eastern European countries, respectively. Then, the advantage of flexible production and available technologies made full-package production be

offshored to East Asian countries like South Korea and Taiwan in the 1990s (Gereffi, 2005).

Following that period, China's accession to the World Trade Organization (WTO) in 2001 reshuffled the map of global production, and the bulk of manufacturing activities and jobs were offshored to China (Amador & Cabral, 2016). China has gradually become "the world's factory" and jumped from the 9th largest exporter of the world in 2000 to the top rank by 2018. The country is also the top exporter of high-tech goods in the last decade (World Trade Organization, 2019).

On the other hand, from the perspective of China and other developing country exporters, a rising question in recent decades is "who captures the most value in global value chains?". The classic example of the iPhone sheds further light on the discussion. It is estimated that for an iPhone manufactured in and exported from China to the US, the factory cost is about \$240 as of 2018. On trade statistics, the unit value of \$240 is recorded as a high-tech export from China to the US. However, a closer look reveals that trade statistics, especially in GVCs, are not always what they seem. China, in reality, exports to the US merely around \$8.5 (cost of battery supplied by a Chinese firm plus cost of assembly labor) for each iPhone7. The bulk is composed of components from the US, which takes the lion's share with about \$70, as well as from Japan, Taiwan, and Korea. As a result, gross profits of \$283 from the sales price are directly raised by the US-based Apple company (Dedrick, Linden, & Kraemer, 2018).

This pattern of value capture also suggests that high-value tasks such as R&D and design that usually involve more tacit knowledge remain mostly in lead firms of developed economies. It is indeed a "smiling curve", a concept developed in the 1990s by Stan Shih, the Taiwanese Acer Inc.'s founder. The argument is that in GVCs, the value generated from production tasks that are located at the center of the value chain has been declining compared to the rising value generated from design and marketing

tasks, which are at two ends of the chain, and the resulting pattern resembles a “smiling curve” (Shin, Kraemer, & Dedrick, 2012).

On the other hand, it can be said that China has become a unique example of gradually changing this trend, at least for some industries. Its rigorous and proactive policies are often seen as the main contributor to China’s gradual shift from low value-added to high value-added levels in GVCs. One of those influential strategies recently designed and put into implementation by the Chinese government was Made in China 2025 Strategy. The strategy being put in action in 2015 aimed to transform the country into an ‘indigenous’ innovation and high-technology base by developing ten major high-tech industries such as robotics and AI and increasing their domestic content of core materials to 40 percent by 2020 and to 70 percent by 2025 (U.S. Chamber of Commerce, 2017).

With the rise of China as a global player in GVCs beginning in the 21st century, the rest of the world has become more skeptical about the benefits of free trade and the free flow of capital. Slow recovery from the long-lasting impacts of the global financial crisis of 2008/2009 has also been an important factor for increased skepticism about globalization. With increased protectionism, the pace of GVC expansion and trade growth slowed down (Ignatenko et al., 2019). Despite the flexibility and productivity gains from low-cost labor in offshoring countries, leading economies have begun to re-examine the deepened integration and merits of globalization. Negotiations for further integration and liberalization under the WTO have almost stalled by 2011, and trade tensions have escalated internationally.

According to the Global Trade Alert research database initiated by the Center for Economic Policy (CEPR), protectionist policies put in place globally since November 2008 have negatively affected 30 percent of global trade on average. Also, between 2017 and 2019, 2,723 new trade distortions were introduced by governments worldwide, with a cumulative effect on 40 percent of global trade by November 2019 (Evenett & Fritz, 2019). The most influential trade dispute, namely the “trade war”, occurred between the United States under Trump’s administration and China, and both countries have imposed new tariffs and increased existing ones, especially on

technological products' starting from July 2018. Motivated by economic or national security concerns, the two governments' interventions during the trade war were examples of protectionist policies to disengage domestic firms from GVCs and disconnect GVC linkages (Gereffi et al., 2021). Also, with increasing concerns about sovereignty, immigration, and slowdown in economy and trade, the UK decided in 2016 to leave the EU and the so-called Brexit occurred officially in 2020.

During the same turbulent period, sustainability concerns including climate change have received accelerated attention. With the rise of GVCs and increased international trade, while developed economies have shifted production and lowered emissions, the burden of pollution has shifted towards developing countries through emissions embedded in trade flows and responsibilities for emission are masked by GVCs (Tunç et al., 2022). Energy consumption and CO₂ emissions in transportation and manufacturing activities in line with growing trade within GVCs have set a new agenda for both developed and developing countries to adapt. At the international level, the Paris Agreement, which aims to reduce emissions and achieve net-zero emissions by 2050, build resilience and decrease vulnerability to the adverse effects of climate change, entered into force in late 2016. Although the US withdrew from the agreement in 2017 under the Trump administration, the country officially rejoined the accord in 2021 with the Biden administration, and various developed and developing countries including China and India have signed and joined the agreement. Apart from the Paris Agreement, especially since 2018, various green deal initiatives had arisen at national and regional levels, particularly in developed nations such as the US, the EU, and South Korea. While the Green New Deal resolution in the US was not able to pass into legislation as of 2019, the European Green Deal Plan, which proposed a carbon border tax, was put in force by the EU in 2020 and became a critical factor to consider in near future for its supplier countries including Türkiye.

More recently, the Covid-19 pandemic started in 2020 has intensified the protectionist policies against further global integration and the widely speculated idea that the global market economy and the GVCs in the post-Fordist era are going through a crisis (Oldekop et al., 2020). With worldwide lockdowns and supply chain distortions,

global trade collapsed in the first quarter of 2020. The pandemic year of 2020 witnessed the largest annual reduction in global trade and output volumes since World War II and the first half of the year resembled the sharp decline in industrial production and merchandise trade of 2008/2009's global financial crisis. Over the entire period of 2020, global trade contracted by 7.9 percent. However, with normalization measures in the second half of 2021, a momentum of re-growth in the world economy and trade proven by foreign direct investment (FDI) and trade statistics showed that the Covid-induced GVC disruption would not remain over the long term (OECD, 2022). Global trade has recovered at a very fast pace from the slump during 2020 with a 10.1 percent trade growth in 2021 compensating for some of the losses in the first year of the pandemic (IMF, 2022).

Also, it is observed that the chip crisis and other supply bottlenecks during the pandemic have not led to production in China to be moved back to the US despite the increasing discussions on reshoring. Current data and research indicate that there has been no significant evidence of a China pivot and a total 'reshoring' or a fundamental shift in investors' current activities. Indeed, China's share in world exports rose from 13.2 percent in 2019 to 14.7 percent in 2020. On the other hand, there is some evidence that the trade war already resulted in shifting some production to other low-wage nations such as Vietnam and Bangladesh (Gereffi et al., 2021) as proved by their increasing shares in global trade. Also, it is observed that lead buyers have shifted suppliers from East Asia to closer geographies which refers to nearshoring for safety and security purposes.

Although not recovered totally after the Covid-19 pandemic and lockdowns in China are occasionally put in place under its zero-Covid strategy, the global economy has faced new challenges and uncertainties that emerged in 2022. The Russian-Ukraine war has led the acceleration of historically high global commodity prices, especially in energy and food commodities, which have already increased with the pandemic and disruptions in supply chains. High levels of inflation, tighter financial conditions, and

economic slowdown have recently become the most important problems at the global level affecting both developed and developing economies.

During the first quarter of 2022, according to the World Trade Organization (WTO), the global trade volume exceeded the pre-pandemic levels and increased by 18 percent compared to the same period of the previous year. Global exports increased by 16.33 percent, and world imports increased by 19.65 percent in the first quarter of 2022. However, for the rest of the year, it is expected that uncertainties regarding the future of global trade continue. IMF lowered its expectations estimating that global trade growth in 2022 and 2023 will likely slow to 4.3 and 2.5, respectively (IMF, 2022). The ongoing Russian-Ukraine war, global commodity crisis, distortions in supply chains, China's zero-Covid strategy, and the economic slowdown in China together with financial tightening and the appreciation of the US dollar are likely to slow global trade growth and increase pressure on GVCs in the coming periods.

2.3 Participation of Developing Countries in Global Value Chains

It is now conventional wisdom that globalization of production carries both immense opportunities as well as potential challenges for the development efforts of emerging and developing economies. On the one hand, global production systems can facilitate the participation of developing country firms, particularly small and medium-sized enterprises (SMEs), in world markets as they can now get involved only in a single part of the chain without being concerned about a product's entire value chain, which often requires high capital or skill intensity (Humphrey, 2004). Such integration into global production systems is often perceived as an essential source of economic growth in developing countries for greater opportunities in production, exports, and firm-level learning. Indeed, over the past three decades, the share of developing countries in world exports and manufacturing value added has risen substantially along with their increasing participation in international production networks. Moreover, it is widely acknowledged that East Asian economies' export-oriented manufacturing for global buyers has led to greater economic growth, increased

employment, rising manufacturing wages, and reduced poverty (Humphrey, 2004). According to the World Bank's 2020 World Development Report (2020), a 1 percent increase in GVC participation is estimated to boost per capita income levels by more than 1 percent, which is about twice as much as conventional trade.

On the other hand, there is growing discussion that when participating in GVCs, over time developing country firms tend to be locked into low value-added production stages, in which they manufacture to the specifications of global buyers. It is believed that internationally dispersed production activities and the increased trend of outsourcing and offshoring are mainly driven by the desire of transnational companies for new markets, cheaper resources, and greater efficiency, and this desire does not match with developing countries' aim to upgrade. As an increasing number of new developing country producers enter into global networks, the intense competition among them is believed to provoke a 'race to the bottom', particularly for SMEs competing mainly on price and in basic product categories. Similar to the case of 'immiserizing growth' proposed by Jagdish Bhagwati in the late 1950s for diminishing terms of trade of primary good exporters, the export growth through insertion into the global economy is believed to bring diminishing margins and wages, disregarding labor and environmental standards, and thus to rising poverty in developing countries.

Furthermore, a closer look at the structure of the recent rise in the share of developing countries in world production and trade, it can be claimed that the opportunities brought by globalization are mostly being tapped by a relatively small number of countries. Such concentration of globalized production is particularly observed in China, where the country has attracted a bulk share of world demand as well as investment and become 'the world's factory' with its abundant and extremely cheap labor, large economies of scale, and great product diversification. In addition to the concentration of GVCs in a few countries, it is also only a few sectors in which the share of developing countries in world production and exports have grown. These sectors have mostly included textiles and apparel, natural resource products, and heavily import-dependent transport equipment and electronics, particularly semiconductors, in which developing countries are mostly specialized in low value-

added segments with low skills and technology that may limit the improvement of domestic capabilities and in turn hinder sustainable development.

Given the opportunities and challenges of participation in GVCs, the key policy question in the contemporary world is not whether to enter into them, but how to participate in global value chains in order to ensure sustainable development and take the “high road” to development in which producers increase the value of their activities, compete on innovation and improve their position in global production networks rather than the “low road” associated with intense competition based on low-value goods and cost reduction.

2.4 Türkiye’s Integration in Global Value Chains

In a world of GVCs, as in many other developing countries, Türkiye has engaged in the global network of production with substantial international trade with backward (using imported goods in export production) and forward linkages (exporting intermediate goods to be used in exports of a third country). With its share in world total exports of goods and services currently around one percent, a substantial part of the country’s trade with the world is carried out in the context of global value chains.

Participation of Türkiye in GVCs is closely linked with the government policies on industrialization, trade liberalization, and integration. Looking at the industrialization policies implemented in Türkiye over the last four decades, there have been significant differences. Before the 1980s, Türkiye followed an import substitution policy that was characterized by the prevalence of state-owned enterprises, as well as price and capital controls. Trade protection mechanisms helped the rise of private firms in sectors like automobiles and home appliances; however, the weak performance in terms of competitiveness productivity, and external shocks from the outside world led to a policy shift from the protectionist phase to the outward-oriented phase in 1980. Thereafter, export-oriented industrialization was introduced with the principles and fundamentals of an open market economy. Price and capital controls, together with

trade barriers, were largely eliminated, and from that period onward, the main source of industrial growth has been the dynamism of the private sector and the provision of credit subsidies by the public sector, together with large infrastructure investments. The liberalization and outward-oriented industrialization policy was further strengthened as Türkiye joined the WTO and signed the agreement on Customs Union with the European Union in the mid-1990s. The deepened integration in the global economy came with a considerable reduction in trade barriers and paved the way for greater competition as well as market opportunities for Turkish firms and stronger linkages with European industries, particularly in apparel and automotive. In line with these, the manufacturing industry in Türkiye has been the main engine of economic growth with high productivity (Rodrik, 2007) and has become a major contributor to the economy's rapid growth in terms of production, exports, and employment.

According to the World Development Indicator (WDI) database of the World Bank, between 1980 and 2021, the share of the manufacturing sector in the total gross domestic product (GDP) increased from 17.09 percent to 21.98 percent. Within that, the industrial sector's share grew from 23.49 percent of GDP to 31.07 percent while the share of agriculture decreased from 26.15 percent to 5.65 percent. Based on the same database, the total merchandise trade's share in GDP rose from 15.70 to 60.90 percent from 1980 to 2021 (Table 1).

Table 1: Selected Indicators of the Turkish Economy

	1980	2021
Manufacturing, value added (% of GDP)	17,09	21,98
Industry (including construction), value added (% of GDP)	23,49	31,07
Agriculture, forestry, and fishing, value added (% of GDP)	26,15	5,65
Services, value added (% of GDP)	49,01	52,74
Merchandise trade (% of GDP)	15,70	60,90

Source: WDI Database (2022)

With its strong manufacturing base, the country has achieved a rapid growth path, high foreign direct investment, and productivity growth based on structural reforms. A conducive macroeconomic environment was established by ensuring financial and monetary stability in the period from 2001 to 2017; per capita income doubled in real terms and tripled in terms of current dollars. In this way, while Turkey was in the lower-middle income group in 2000, it approached the high-income group in 2014.

Parallel to these developments at the aggregate level of the economy, Türkiye has shown significant performance in GVCs since the early 2000s. From 2002 through 2017, not only did exports grow, but the GVC integration ratio in exports increased up to 50 percent, which enabled the export value-added to grow rapidly. The main two sectors which are known globally for their high level of fragmented production in GVCs, textiles and clothing and automotive have been the locomotive of exports growth during this period. According to the OECD TIVA database, the total GVC participation of Türkiye was 33.6 percent in 2009 and increased to 39.8 in 2018 while the country's backward participation was 19.4 percent in 2009 and rose to 20.9 percent in 2018.

The impacts of Türkiye's participation in GVCs in the 2000s are recently analyzed by the World Bank in its Country Economic Memorandum (2022). The study conducted both at the micro and macro level revealed that expansion in Türkiye's backward and forward linkages has corresponded with rapid growth in value-added exports. Backward and forward participation account for a third of the country's total exports of goods and services while established GVC sectors including automotive, metals, clothing, machinery, and electrical equipment account for around 60 percent of exports in goods.

With rising backward participation and continued strong manufacturing orientation of exports over the past decade, Türkiye has advanced from being classified as a "basic

manufacturing” to an “advanced manufacturing and services” country according to the World Bank’s taxonomy of GVC integration (World Bank, 2022).

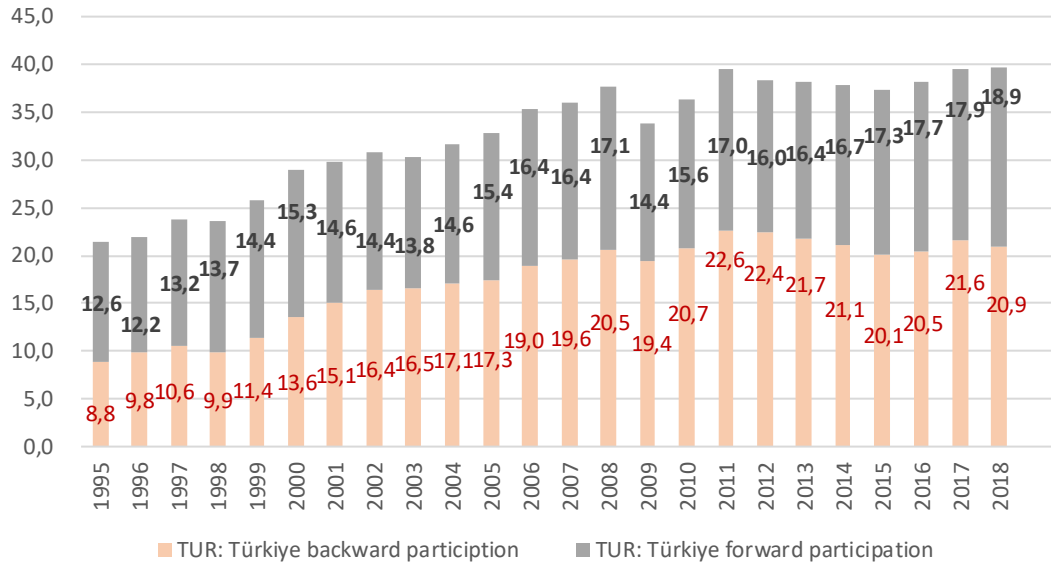


Figure 1: Global Value Chain Participation of Türkiye, 1995-2018

Source: OECD TIVA Database (2022)

At the micro level, the study found that most GVC firms operate in the manufacturing sector with a concentration in the textiles, apparel, chemicals, rubber and plastics, machinery, and fabricated metal sub-sectors, making up more than 50 percent of the total value-added of GVC firms. In addition to these sectors, motor vehicles, chemicals, non-metallic minerals, electrical equipment, and pharmaceuticals are found relatively important sectors for GVC participation of Türkiye with each of these sectors making up 5 percent or more of total GVC exporter value-added. According to the study based on the company-level-micro dataset based on the Ministry of Industry and Technology’s Company Database, there are relatively few GVC exporters -classified in the study as firms importing at least 10 percent of intermediates and exporting at least 10 percent of its output along GVCs-, with under 1 percent of

all firms in Türkiye and only a fraction of all exporting companies. The study reckoned that for every GVC exporter, there are about 3.6 domestic firms; thus, GVC firms including their direct suppliers make up around 4 percent of all firms and around 6 percent of total employment in the country (World Bank, 2022).

On the other hand, despite the relatively small share of GVC exporters in Türkiye's total firm and employment figures, the analysis summarized the following findings to point out potential gains of participation in GVCs; firms with a high level of integration to GVCs have a significantly higher total factor productivity and the average wage level in GVC-integrated firms is as 45 percent higher, consistent with high productivity (World Bank, 2022).

The rise in Turkish firms' GVC activities over the last decades has been known to be supported by trade policies, domestic capabilities, and a conducive global environment. However, increasing competition from other developing countries with rapidly growing manufacturing activities and lower production costs, the global financial crisis of 2008/2009, and the rise in trade protectionism have adversely affected the performance of Turkish firms similar to its rivals. In the post-2018 period, with the underperforming global trade, Türkiye's exports have shown only modest increases.

However, during the Covid-19 crisis that started in 2020, Türkiye's GVC performance has been rather strong. After the first quarter of 2020, goods and services exports of Türkiye increased with the rising external demand and abating pandemic restrictions. In 2021, supported by the lower-valued currency and increase in global demand, Türkiye's merchandise exports reached 225.2 billion dollars with a yearly increase of 32.8 percent, thus reaching the highest annual export figure of all time. With exports becoming the main driver of growth in 2021, the contribution of net exports of goods and services to economic growth was 4.9 percentage points. The main reasons behind this strong rebound in exports are observed as the strong recovery in foreign demand, especially in the EU market, the lowered value of the currency as well as Türkiye's increasing role due to disruptions in Asian-oriented value chains. Due to the pandemic, the search for alternative suppliers (switching) and the trend of regionalization in

GVCs have created new opportunities for Turkish exports, especially in the EU and the US markets. According to a World Bank study, on average, a ten percentage point decrease in shipping reliability increased Türkiye's exports by around 5 percent during the pandemic. As the Covid-19 pandemic showed that relying on a single supplier poses huge risks for GVCs, Türkiye has been positioned well with its geographical proximity to advanced economies, mainly the EU, and its flexibility in production, which leads to a pivotal position among major regional global value chains.

On the other hand, Türkiye's rising GVC participation has not yet led to a significant shift to innovative activities as observed in the relatively low performance in export sophistication, low domestic value-added in exports as well as the unit value of exports in key sectors compared to peer countries exporting to same markets. An analysis of 40 countries exporting to the EU market showed that in the case of electrical machinery, the unit value of exports originating from Turkey is significantly lower than the median and the unit values of most countries (World Bank, 2022). Moreover, the increase in exports has also not gone hand in hand with the product sophistication of the country's exports. In the 2000s, the share of high-tech products in total exports generally decreased. While the share of high technology products in total exports was 7.8 percent in 2000, the same value decreased to 6 percent in 2005, 3.8 percent in 2015, and 3.0 percent in 2021. Despite the large potential for Turkish firms to move up the value chain with the nation's young and educated population, and logistics opportunities associated with geographical location, Türkiye's participation in GVCs still lacks the desired sophistication in exports, which poses a potential risk for reaping further benefits of GVCs. In terms of technical sophistication, Turkish firms are still concentrated at the medium-low technology level in exports and, independent from the technology classification of exports, Turkish firms' engagement in GVCs is often not in high value-added activities such as R&D and design. However, it should be noted that high-technology exports do not automatically mean high value-added activities, it is more important for Turkish firms to engage in higher-value-added activities even in low-technology classified sectors such as agriculture or textiles and clothing. On the other hand, as a country exporting mainly to the EU market that is shifting towards decarbonization in the economy, Türkiye's key exporting sectors are

still in relatively high carbon intensity categories such as chemicals and metals. The country's manufacturing sectors such as textiles, automotive, chemicals, and metal sectors have larger carbon prints compared to their European peers, presenting environmental and economic risks in GVC participation considering the country's limited financial and technological capacity to adopt green technologies and produce sustainable products (World Bank, 2022).

Indeed, at the policy-making level, Türkiye has high ambitions to move up the GVCs and reap its benefits for economic development, as articulated in the highest level of policy documents, the 10th Development Plan (2013-2018) and the 11th Development Plan (2019-2023). The details of policy statements are provided in the Annex. While these political ambitions targeting an increasing role of Türkiye in GVCs during current structural changes in the global economy are still on the agenda, there seems a need for specific and comprehensive research or evidence-based policy on addressing the challenges and making projections for the future of value chains and studying the potential role of Turkish firms in the future of GVCs.

To conclude, this chapter aimed to highlight the important fact that as a manifestation of globalization, GVCs offer both opportunities and threats to economies requiring substantial attention. With organizational, technological, logistical, institutional, and social changes, GVCs have become an important phenomenon for both developed and developing countries. There is evidence that prospects of development with increased interdependencies between economies through GVCs over the last four decades have different outcomes, with the outlier of China. While the participation of developing country firms, particularly small and medium-sized enterprises (SMEs), in GVCs is often perceived as an essential source of economic growth in developing countries for greater opportunities in production, exports, and firm-level learning, there are also growing concerns over them being locked into low value-added activities in the long-run. Türkiye has not been isolated from the trend and its integration with GVCs has been continuously developed in the last two decades leading to increased performance of exports and employment; however, despite conducive policies and high ambitions to upgrade in GVCs, there has been no significant advancement in innovative

activities, technical sophistication and unit value of exports in addition to high carbon-intensity of exports.

With the rising importance of GVCs and the current GVC dynamics that may lead to a paradigm shift in the global economy, especially after Covid-19, the challenging but vitally important task for developing country policy-makers including Türkiye is to explore the conditions under which insertion into the global economy can be a vehicle for genuine industrial upgrading by analyzing global trends. The critical importance of GVCs seems to continue in the increasingly interdependent but fragile global economy, and for sustainable economic, social and environmental development, there is a substantial need to have a better understanding of all its implications by systematically reviewing GVC topics from past to present in order. It is a vital task for researchers to support the policy-making process with evidence-based comparative studies in GVCs in order to help design proactive and unique policies for the economy and society to remain competitive and move into more lucrative activities.

Although addressing this critical need for analysis is beyond the scope of this thesis, the study aimed to explore the evolution of GVC research, particularly in the period of Covid-19 during which GVCs have gone under fundamental changes, the current research themes of developed and developing countries, and highlight the gaps in research from the perspective of Türkiye.

CHAPTER 3

ORIGINS AND REVIEW OF GVC RESEARCH

Building on the previous chapter that helps recognize the importance of GVCs, this chapter aims to answer the question of ‘why the investigation of GVC studies is important?’. In order to answer this question, a brief overview of the origins of GVC research and the background of how the concept emerged is provided to build a ground for further exploration of the topic. The high level of policy engagement by GVC research community in national and international organizations is summarized. The current literature on the systematic evolution of the GVC research is also reviewed to identify any gaps in previous studies and show the novelties of this thesis.

3.1 Emergence of GVC Concept in Scholarly Research

As a defining feature of globalization, GVCs have received substantial research interest which also has had considerable policy impact in the last three decades. Since one of the main targets of writing this thesis is to analyze the historical evolution of scholarly production on GVCs through quantitative methods, rather than a systematic literature review, this section aimed to provide a broad discussion on the origins of GVC research and how it expanded.

Since Gereffi and Korzeniewicz (1994), both of whom are professors of sociology, collected their findings on the phenomenon of internationally dispersed organization of production, this field of research had increasingly been studied in various academic disciplines including economic sociology, international business and trade, political

economy, development studies, economic geography, operations management, supply chain management, etc. (Kano et al., 2020).

With empirical studies and detailed insights into the analysis of contemporary industries and upgrading or downgrading trajectories of countries and firms, the ‘global commodity chains’ approach, which originally emerged out of the world-systems theory, laid the foundation of GVC research in the late 1990s. Initial research was focused on trade within commodity chains and how they were governed in labor-intensive industries such as textiles and apparel as well as high technology industries like semiconductors (Gereffi&Korzeniewicz, 1994; Gereffi, 1999; Ponte, 2002; Bair, 2005; Giuliani et al., 2005). A straightforward taxonomy of commodity chains was presented in early literature as buyer- and producer-driven chains; separating chains by identifying whether buyers (e.g. retailers) or producers (original equipment manufacturers) have the most power along the chain depending on the industry characteristics (e.g. apparel industry is characterized as buyer-driven whereas automotive industry is producer-driven).

During this early period, another research community that supported the foundation of GVCs was scholars focusing on industrial clusters and studying local dynamics of SMEs in both developed and developing countries to improve export competitiveness. Early commodity chain researchers benefited from the bottom-up approach of clustering scholars and added the necessary emphasis on external links into their framework with an international perspective. Indeed, the two research communities gathered at the University of Sussex’s Institute of Development Studies in the UK in 1999 to address the challenges of globalization and preceded the GVC paradigm (Ponte et al., 2019).

The rapid growth of GVC research since 2000 was originally driven by an initiative of the Rockefeller Foundation in the US offering support to an international network of scholars in order to create a new paradigm that can link local, national, and global levels of analysis to address gaps in scientific knowledge and policy-making about the effects of globalization. Through a five-year Global Value Chains Initiative from 2000 to 2005, researchers, practitioners, business people, and policy-makers across the

world, mostly from the EU and the US were able to gather in annual conferences and agree on the basic framework and common terminology of the GVC research agenda and receive support for their studies. It was under this initiative that the research community decided to move away from the use of the term ‘commodity’ in order not to associate it with undifferentiated primary goods leaving out manufactured products and services. A by-product of this initiative was also the formation of Duke University’s research center on GVCs (Ponte et al., 2019).

Since then, the GVC paradigm has become the primary focus of most academic studies on globalization. During the same period, another strand of literature studying industry case studies across countries flourished as global supply chain research which is surprisingly recent literature developed in the last decades (Gereffi, 2021). In comparison to GVC research’s focus on a product or service, the global supply chains focus has been on the full structure of an industry (Gereffi, 2021) and mostly excludes the power asymmetries determining how to add more value in an industry’s chain (Golini et al., 2016).

Due to the comprehensive approach of the GVC concept with developmental outcomes, the GVC research has attracted the analytical attention of many practice and policy communities for international and regional development organizations lately after the 2010s (Kano et al., 2020). In various international organizations, GVCs have become recognized as the long-term structural feature of the global economy (Kano et al., 2020) and employed the GVC approach for various reports on investment, trade, and employment.

Conventionally, many GVC studies have relied on industry case studies with GVC mapping methods and comparative country analysis using trade data and data gathered locally. With the increasing interest of international organizations on the subject and the growing need to explore and model value-added trade across sectors and countries, which had not been observed merely from traditional trade statistics, the Organization for Economic Cooperation and Development (OECD) in partnership with the World Trade Organization introduced a Trade in Value Added database in 2013 for a detailed trade mapping of GVC participation of countries with backward and forward linkages

and for calculating value-added of exports based on input-output tables. Moreover, the UNCTAD-Eora GVC database was initiated as a time series from 1990 to 2018 for measuring the key indicators of GVCs which are foreign value added, domestic value-added, and indirect value-added based on multi-region input-output tables.

The initial framework of GVCs is still in a dynamic process with increasing qualitative and quantitative initiatives in mapping, measuring, and modeling as well as defining the dynamic role of actors including micro, meso and macro levels for upgrading or downgrading prospects with high levels of interaction with other strands of disciplines. Aside from aggregate databases, empirical research with a focus on the role of policies has also been increasing. All of these are promising developments to empirically identify which tasks in GVCs should be the target of industrial policies and test the wealth of new policy options suggested by the GVC literature (Pietrobelli et al., 2021).

Yet, surprisingly, there has been, to the best of our knowledge, only a limited number of studies and even no studies fully reviewing the historical evolution of GVC research, from the initial years to the post-Covid period, analyzing its interaction with other disciplines, main research clusters, research and policy gaps as well as future direction. Furthermore, the such limited number of reviews of GVC studies do not have a special or customized focus on developed and developing countries separately despite the increasingly polarized views on GVCs among those two groups of economies. As indicated in the first research question of this thesis, it aimed to fill this important gap.

3.2 Literature Review of Bibliometric Studies on GVCs

Studies on the evolution of GVC research revealing the key dynamics of upgrading are fairly recent. The current set of studies on GVCs with bibliometric analysis includes but not limited to the following: First, to explore the historical development of GVC research, Liu and Mei (2016)'s paper employed a bibliometric analysis based on a co-occurrence network. Specifically, it investigated the temporal evolution of

disciplines and keywords co-occurrences, as well as the reference co-citation analysis between 1995 and 2014, in order to uncover the evolution of disciplines and research fronts, and identify the intellectual base of GVC research. The main findings were as follows: The disciplinary co-occurrence networks presented the evolution of various disciplines engaged in GVC research. During the early period, the disciplines were restricted rather narrow; however, with the rapid advancement of research between 2005 and 2009, more and more diverse disciplines were involved, and links among them became stronger. From the keywords co-occurrence networks that although there were only limited topics, the period between 1995 and 2004 was fundamental for global value chains research in which the concept of global commodity chains emerged; then, the concept was replaced by global value chains or global production networks alternatively. Based on the analysis, while numerous research fronts sprang up during the past ten years, some topics such as ‘globalization’, ‘foreign direct investment’, ‘global value chains’, ‘global production networks’, ‘China’, ‘innovation’, and ‘supply management’ persisted; there has also been more focus on ‘corporate social responsibility’ lately. The reference co-citation analysis showed that the leading contributors to GVC research were Gereffi (2005), Henderson et al. (2002), Gereffi (1999), Coe et al. (2004), Humphrey and Schmitz (2002), Coe et al. (2004), Korzeniewicz (1994), and Gereffi and Korzeniewicz (1994). The study was purely descriptive and results were focused on future research themes and not linked to any policy suggestions.

In another bibliometric analysis, Jurowetzki et al. (2018) studied the interactions between the disciplines of GVC research and innovation systems (IS) through bibliometric analysis. Employing bibliometric data from the Web of Science (WOS) database, a string-based search query, a search for ‘Innovation System’ and ‘Development’ and ‘Global Value Chains’ were included. Despite being emerged in academic institutions, both knowledge fields were able to influence the policy community as the two different approaches to economic development; however, it was found in the study that these two fields of research, innovation systems and GVCs have evolved in parallel but with very limited interaction so far as reflected in the very limited number of publications that explicitly link to both fields. Therefore, by

focusing on citation overlaps, Jurowetzka et al. (2018) identified some strands of literature that serve as common ground. Their analysis was based on a corpus of 5.000 publication records retrieved from the WoS database that are bibliometrically related to the article “Global Value Chains Meet Innovation Systems: Are There Learning Opportunities for Developing Countries?” by Pietrobelli and Rabellotti (2021). It was a valuable finding that most GVC studies offer an optimistic approach ignoring that institutions or know-how cannot develop on their own, and GVC research does not precisely identify conditions under which countries and firms can upgrade. Although most international organizations prescribe participation in GVCs for economic development, it is easier said than done as GVC research fails to explain the industrial strategies needed for upgrading. The findings suggest that the link between national innovation systems and GVCs needs to be improved in order to provide a holistic research approach to economic development. The perspective of this study was highly constructive and relevant in terms of exploring potential synergies between main research clusters of GVCs and IS to benefit from the GVCs’ critical role in accessing international knowledge and enhancing innovation exchange and collaboration, especially in developing countries. The lagging features of both the GVC and IS frameworks, especially in linking domestic resources to external actors for fostering innovation and the determining role of various forms of GVC governance referring to power relations between local, foreign, and international actors were highlighted effectively in this study. Its conclusion with a holistic approach linking research and policy for benefiting from both streams of literature was also helpful; however, the methodology of selecting one single article that focuses on limited themes and exploring only this article’s citations to provide a dataset for bibliometric analysis may be a biased or at least an incomplete approach that may miss other potential themes and collaborations in the wider environment of both research topics.

Lately, De Marchi et al. (2020) offered a comprehensive and systematic review of the literature on GVCs. They emphasized that the GVC framework has received growing attention in the last decade, providing theoretical concepts and analytical tools to understand and assess patterns of value creation in view of the new international division of labor. They suggested that a broad overlap of research interest exists with

the international business (IB) literature, yet, few interactions between the two fields of study have been recorded so far. De Marchi et al. (2020) performed a quantitative content analysis on all academic publications on GVCs in the period of 1994–2018, searched a detailed analysis of 1.200 academic articles, and described the evolution of GVC studies, emphasizing points of contact and potential synergies with the IB literature. They also identified research opportunities along the four key dimensions of the GVC framework: geographical and industrial scope, governance, upgrading, and institutional context. The main focus of the study was limited to exploring the potential collaboration of GVC literature with IB scholars in order to enrich the current frameworks in both areas of study.

In another bibliometric study, Kano et al. (2020) conducted a multi-disciplinary literature review of journal articles and book chapters that covered GVC research published in the past twenty years –the period characterized by rapid growth and increased sophistication of GVC research. The search covered international business, management, supply chain management, operations management, and other social sciences such as economic geography, regional and developmental studies, international political economy, as well as economic sociology. They used four search terms: ‘global value chain’, ‘global commodity chain’, ‘global production network’, and ‘global factory’. Due to the very large number of publications in the field, some screening criteria were applied to narrow down the considerable volume of literature. First, they included nine theoretical papers, and in addition to that, for empirical studies, they gathered more recent papers published after 2005. Second, they focused on papers that were closest to the research interests of IB scholars. Third, they ensured that the selection covered a reasonable mix of authors from different disciplines, institutions, and geographical locations and that selected studies included both GVC and GPN approaches with a variety of research methods, industry coverage, and empirical locations in both developed and developing countries.

Overall, based on the criteria mentioned above, a total of 21 journals, 22 theory papers, and 65 empirical articles were included in the study by Kano and others (2020). Their research indicated that GVC is an important research topic attracting the attention of

researchers working in different disciplines. The analysis showed that future research topics are the foundations of GVC governance at the micro level, GVC mapping, learning, lead firm ownership's and strategies' impact, dynamics of GVC arrangements, value creation, and value distribution along the chain. Also, financialization, digitization, the impact of the new wave of protectionism, the impact of GVCs on the macro level, and performance management at the chain level were found to be key topics for future research. Kano et al. (2020) concluded by suggesting that each discipline (sociology scholars, economic geographers, organizational behavior researchers, and IB scholars) can contribute unique and useful angles, both theoretically and methodologically, to the GVC research. Authors advocate that scholars from different disciplines should communicate, collaborate, and gain from the cross-pollination of ideas and have an integrative GVC research to fill the knowledge gaps at the micro-, GVC-, and macro-level, especially the latter considering rising critics of globalization. The study was an important contribution to scholarly efforts for enriching and synthesizing different frameworks and research areas in GVC-related disciplines in order to adequately address the recent dynamics of the global economy.

More recently, Wang and Gu (2022) conducted a study using Scopus's academic publication database to analyze the value chain from a bibliometric and visualization perspective by reviewing articles for the keyword of 'value chain' between the years of 2012 and 2021 considering that value chains in the research field accelerated during that period. They searched the term 'value chain' in English language articles and used tools such as R-Studio and VOSviewer for further analysis of results. In total, 2,002 documents were studied from Scopus to generate figures like the trend, co-occurrence, and proportion of keywords related to the value chain. The paper revealed the impact of the value chain in different journals and documents and analyzed the research themes, countries, and keywords in the value chain literature. After identifying the most popular themes and keywords in the past decade, the authors predicted the trend and direction of future value chain research. The results showed that the future of the value chain would mainly focus on the following subheadings; economic, industry, and global supply chain. In the field of economic development, future research is

expected to mainly focus on the application of the value chain in sustainable development and environmental upgrading. In the industrial field, future research is predicted to mainly focus on the application of the value chain in the process of industrial governance and upgrading. In the field of the global supply chain, future research mainly focuses on how to improve the efficiency of the value chain. The results not only explained the main trends under the time series but also showed the evolution of the theme of the value chain. Compared with other bibliometric studies on GVC research, the focus of Wang and Gu's study (2022) is similar to the research aim of this thesis and the selected period for bibliometric analysis is fairly recent; however, the methodology they used differently in the sense that the study excluded the early literature before 2012 which indeed laid the foundation of GVC phenomenon. Also, only the articles were selected under the subject field of economics, econometrics, and finance. Since it is known that the GVC concept was initiated by an international network of scholars from various disciplines, especially economic sociology, economic geography, international business, and international political economy, and expanded into various other disciplines such as engineering and environmental studies, the methodology of this bibliometric study and the selected database may not have covered an adequate set of related studies.

Based on the brief overview of how GVCs' scholarly research originated and which bibliometric studies have been conducted on GVC literature, it can be concluded in this chapter that the evolution of the research topic has been highly relevant not only to a specific academic circle but also to scholars of different disciplines, various practitioners as well as policy-makers at both local, regional and global level. Changing dynamics of the world economy made it necessary in the late 1990s to coin the term GVC and to develop a framework in order to build research and policy on it. Considering the relatively very few number of studies on the systematic evolution of literature pointing to the direction in which GVCs evolve, it can be concluded that the historical evolution of this research topic and shifts in its main themes need a revisit

for further exploration, especially after the disruptive effects of the Covid-19 on GVCs.

The novelty of this thesis is that it intended to contribute to current review studies with a more comprehensive approach linking research themes to the current political agenda of developing countries, especially from the perspective of Türkiye as a developing country at the center of changing routes and focus of GVCs. It also aimed to broaden the discussion of GVC research's evolution from the early beginning in the 1990s to the most recent period of October 2022, which is the most comprehensive period covering various economic and social developments shaping the GVC research and which accounts for the huge impact of the Covid-19 pandemic on GVCs. It is worth noting here that as a rule of thumb, a bibliometric analysis generally excludes incomplete years; however, as of the end of October 2022, with early access articles being an indicator of upcoming literature, this analysis is believed to reflect the evolution of research by the end of 2022.

CHAPTER 4

METHODOLOGY

As introduced in the first chapter, this thesis aims to design policy suggestions from the lens of Türkiye in linking its research with policy along with its participation in GVCs. In order to devise reasonable policy suggestions and to offer a sensible policy set, a strong understanding of current conditions, trends, and future projections are required. For the purpose of this thesis, the main areas of interest are the factors determining GVC upgrading/downgrading prospects for economic and social development. In order to identify these factors, descriptive research, which deals with the question of ‘what’ in describing the current status of a subject either in the form of ‘qualitative’ or ‘quantitative’ analysis, is used in this study. In this regard, this chapter reviews the methodology and methods used in the thesis.

4.1 Bibliometric Analysis

Bibliometrics is a quantitative evaluation method to analyze the scholarly communication process by measuring various aspects of academic publications (Pritchard, 1969). Although bibliometrics was initially used by librarians as a tool to develop journal collection, over the last decades it has become a standard method of research for academics, governments, and other funding organizations.

The publication activity of authors, institutions, and countries and the impact on the scientific community as well as the cognitive structure of the research front and its scientific progress can be examined through bibliometrics (Garfield, 1972; Garfield, 1983; Moed, 2005). Thus, the applied approach helps scholars and practitioners to

understand and discuss common research topics and the current state as well as the future direction of the field, to be sensitive to gaps and focal points, structure discourses, and allocate limited resources.

This is not to say that this massively applied method can fully substitute for the traditional expert judgment of the scholarly work and its impact on the scientific community; however, as a complementary tool, bibliometrics has large-scale applicability; multiple disciplines and subject areas can be analyzed using bibliometric methods. It is quite useful and the only scientific method to objectively assess and compare global research output on the meso (institutions, journals, research fields, and subfields, etc.) and macro (countries) levels (Haustein & Larivière, 2015).

According to Han et al. (2021) with an analysis of all related scientific publications in a particular field of study, bibliometric network analysis can offer a comprehensive understanding and trends for future research and it can even address the emergence of a new research field. Beyond the quite limited scope and biased approach of conventional literature reviews with a limited number of publications and their subjective interpretation by the reviewer, bibliometric analysis deals with huge amounts of data to summarize the most representative publications and can illustrate almost the entire structure of a certain research field. Bibliometric tools also have the ability to detect the multidisciplinary and/or interdisciplinarity of the field by mapping the relationships between research clusters.

Indeed, as an emerging field, the increasing use of bibliometric analysis on a wide range of research topics can be seen in the results of the Proquest database, which has around 36 theses and dissertations in English from the period 1996-2022 (July) including bibliometric analysis as a methodology. Also, the Turkish database for national thesis and dissertations (Council of Higher Education's Thesis Center) has 123 results from 1992 to 2021, which employ a bibliometric methodology. While the earlier theses and dissertations' results were written by students of information and record management and education and training departments, the most recent ones are submitted by students of various other fields of research such as business

administration, architecture, biology, tourism, economics, environmental engineering, public health, geography, energy, defense technologies and so on.

With regard to GVCs, although there is an increasingly large number of scientific publications in multiple sectors, countries, and themes, there are only a few bibliometric analyzes, as given in the previous section in more detail. Therefore, it aimed to fill the gap by systematically analyzing the evolution of GVC research until current times and suggesting pointers for future research and policy-making from the perspective of Türkiye through the increasingly used method of bibliometric analysis.

4.2 Research Methodology Design

To apply a descriptive analysis to the research subject in this thesis the main source of information was the set of GVC-related publications which was believed to be in substantial amount considering the wide use of the term and its framework. While the focus of this thesis aimed to provide policy suggestions for Türkiye, an analysis of the development of GVCs around the globe was necessary as Türkiye cannot be isolated from the global environment. Thus, the design of the research served well the purpose of exploring trends and estimating the gap between Türkiye and its international peers.

Based on the focus and aim of this study which is exploratory in nature, the following research methodology was designed accordingly to identify the field itself and its conditions, in which countries participate and upgrade in GVCs.

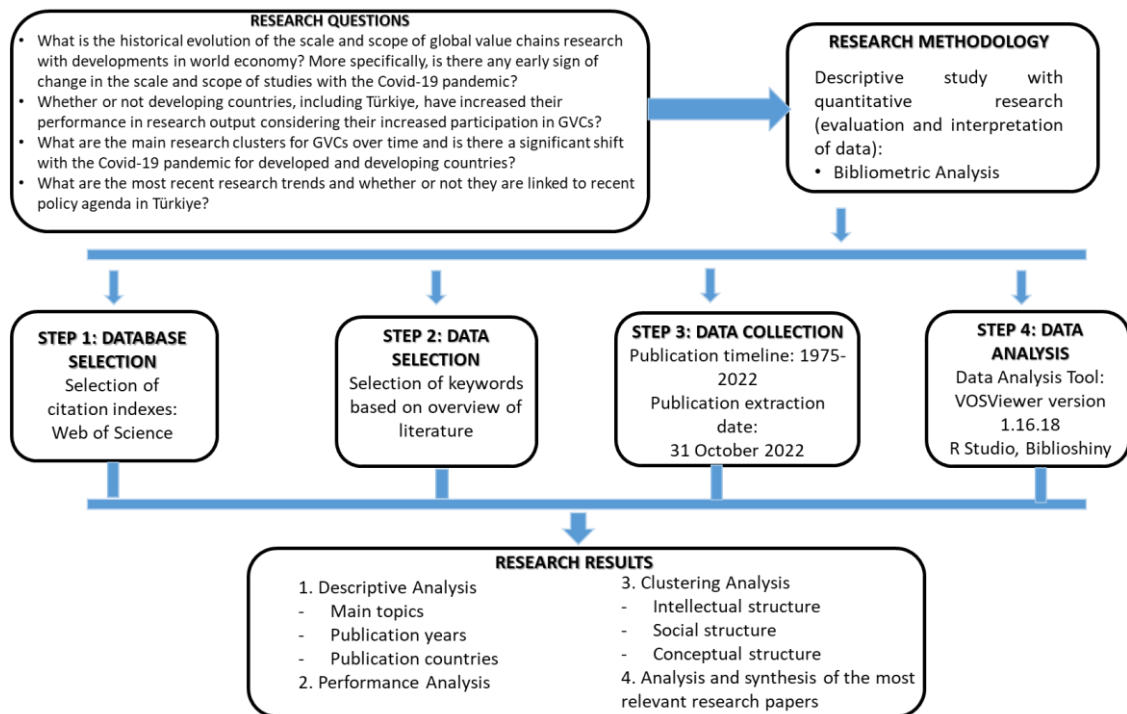


Figure 2: Research Methodology Design

Source: Author's own work

4.2.1 Collection and Selection of Database for Data Analysis

In this study, the Web of Science (WoS) Core Collection is used to collect a bibliometric dataset. As one of the oldest and most rooted databases, WoS Core Collection includes a very large dataset of academic sources in the field of science, technology as well as social sciences, arts, and humanities and is therefore frequently used in bibliometrics. It covers about 1.9 billion cited references from more than 171 million records and over 9,000 research institutions, and millions of researchers across disciplines and times.¹

¹ <https://clarivate.com/webofsciencegroup/solutions/web-of-science/>

Scopus is another database that is also widely used in bibliometrics due to its large scope in the field of science, technology, social sciences, arts and humanities, as well as medicine. It is a close substitute to employ in this study as it covers more than 80 million records with 1.7 billion citations as well as 80,000 research institutions and about 17 million researchers.² However, the number of WoS database' results provided for the GVC study's research topic exceeded that of Scopus; thus, WoS was quite a preferable alternative database to employ. It is worth mentioning that Google Scholar, a popular academic search engine, is also used in recent bibliometric studies; however, due to its less reliable data that may inflate citation counts and fewer tools to download and analyze publication data, its results are often under question.

In this thesis, "global value chains" was used as the exact search string to represent the literature as an established term. In early literature, the same phenomenon was termed "global commodity chains"; therefore, it was included in the search string. As De Marchi et al. (2020) discussed, the term 'commodity chain' was widely used in the initial phase of the GVC literature, specifically before 2005 and it gradually evolved to GVC in later phases. Therefore, the publications on GCCs were included in the search only for the period before 2005.

Since these two concepts could also be studied in certain industries or products such as 'global automotive value chain' or 'global mobile phone chain', in the search string, it was allowed to include up to two words between 'global' and 'value chain' as well as between 'global' and 'commodity chain'. With the following search string, a topic search was conducted in the title, abstract, and keywords of documents in the WoS database. In order not to exclude any initial publication in the early phase of GVC literature, it was assumed that the first papers are not known in advance. Therefore, no specific year was selected as the beginning period of the data search; the beginning year of the WoS Core Collection's publication database, the year 1975, was automatically taken. Hence, the search was conducted from 1975 to October 31st, 2022. In bibliometric analysis, incomplete years are often excluded from search;

² <https://www.elsevier.com/tr-tr/solutions/scopus>

however, with the aim to unveil whether the Covid-19 pandemic has had any impact on GVC research, the year 2022 was also included in this study. Moreover, the early access papers mostly due December 2022 may represent the remaining months' output of the year. In addition to that, for the purpose of this study, only for GCC literature, publications after the year 2005 were excluded to see the main trend of GVC research.

The search string was used as follows:

Search String: (((TS=("GLOBAL VALUE CHAIN") AND PY=(1975-2022)) OR (TS=("GLOBAL COMMODITY CHAIN") AND PY=(1975-2005)) OR (TS=("GLOBAL COMMODITY CHAINS") AND PY=(1975-2005)) OR (TS=("GLOBAL VALUE CHAINS") AND PY=(1975-2022)) OR (TS=(GLOBAL NEAR/2 "COMMODITY CHAIN") AND PY=(1975-2005)) OR (TS=(GLOBAL NEAR/2 "VALUE CHAIN") AND PY=(1975-2022))))

The search resulted in 3.955 documents published from 1975 to October 2022 (the earliest year of GCC/GCC publication was obtained in 1994). The following Table 2 summarizes the document types listed in WoS Core Collection.

Table 2: Type of Publications in Selected GVC Database

Document Types	Record Count
Article	3.263
Proceeding Paper	419
Book Chapters	279
Early Access	132
Editorial Material	109
Review Article	108
Book Review	54
Book	24
Correction	12
Meeting Abstract	4
Retracted Publication	1

Source: Author's own work

It is worth to noting that the total number of publication types would not be equal to 3.955 due to double countings such as an early access article being temporarily recorded both as an article and an early access document. In other words, a publication may have two records in terms of document types; e.g. book chapter and editorial material. From the first set of results obtained, the number of citable documents (journal articles, proceeding papers, books, and reviews) was found 3.812 (Table 3).

Table 3: Data Collection and Selection

Database/Collection	Web of Science (WoS)/Core Collection
Geographical range	Global scholarly production
Search Criteria	Topic
Inclusion Criteria	Article, Proceeding Paper, Book, Book Chapters, Early Access, Review Article, Book Review, Review Article
Time Frame	All years to 2022 (by October 31, 2022)
Search Date	31 October 2022
Keywords	Global Value Chain, Global Commodity Chain, Global XX Value Chain, Global XX Commodity Chain
Initial Documents	3.955
Refinement	Duplicated documents, Not topic related
Final Documents	3.812

Source: Author's own work

The dataset of 3.812 articles was analyzed with bibliometric visualization software called VOSviewer and Biblioshiny, which is an application of the Bibliometrix package of the R statistics program. In addition to some descriptive analyses, network analysis techniques were used.

For a healthy analysis, data retrieved from the WoS was carefully reviewed and cleaned as necessary. WoS is expected to provide a unified and combined dataset for authors, keywords, and affiliations. Yet the search results indicated that there might be alternative written forms that requires cleaning. For instance, an academician's alternative written forms of family names and different combinations of name and

name initials were combined. Also, words in singular and plural forms such as ‘global value chain’ and ‘global value chains’ as well as synonyms like ‘apparel’ and ‘clothing’ and the same terms with and without hyphens such as ‘value added’ and ‘value-added’ were combined. Similarly, affiliations written in alternative forms, as in the case of UK Research and Innovation and its sub-unit Economic Social Research Council both of which represent UKRI were combined.

CHAPTER 5

FINDINGS

This chapter provides the overall findings of bibliometric analysis using descriptive and evaluative results determining the research productivity of the GVC field and its intellectual structure with thematic organization and conceptual structure of research clusters and patterns.

5.1 Data Analysis

This section aims to answer the first two research questions ‘what is the historical evolution of the scale and scope of GVC research with developments in the world economy, including the Covid-19 pandemic’ and ‘whether or not developing countries, including Türkiye, have increased their performance in terms of research output considering their increased participation in GVCs?’.

5.1.1 Annual Publications and Citations of GVC Research

The annual number of publications is a significant indicator to measure the development trend of a research topic. Analyzing the GVC literature, the first and only output of GVC research was found in 1994 in WoS Core Collection. There were only a few publications until 2000 and the output of GVC literature remained moderate until 2004. Publications started to accelerate modestly from 2004 to 2009, with an average annual publication performance of 40 records and average annual publications on GVCs reached 105 during 2009-2015, probably with the triggering effect of new initiatives in the US and in Europe supporting international scholars to study the concept of GVCs. The GVC literature saw exponential from 2015 onwards with annual growth of 411 average annual output until 2021. Currently, the number of GVC

publications in 2022 reached 431 by October, exceeding the average annual output of the last five years (Figure 3).

Annual citations, which indicate whether the research topic attracts attention, also followed the same growth path. Annual citations of GVC publications increased exponentially, especially after 2017 demonstrating the rise of the impact of GVC studies. By 2021, publications on global value chains were cited 11,008 times annually. In only the first ten months of 2022, 10,246 citations were received. The record level in 2021 might reflect the increased attention to the topic due to the global Covid-19 pandemic and its impact on global value chains. Figure 3 shows the annual distribution of the publications of the data set and how often the publications were cited in each year (1994-2022 (Jan-Oct)).

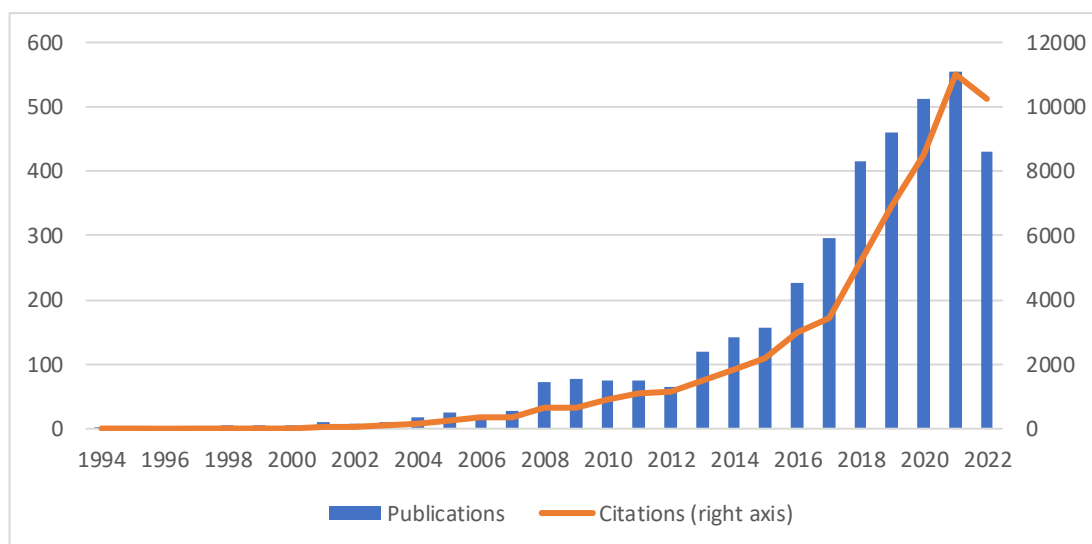


Figure 3: Annual Number of Publications and Citations

Source: WOS Core Collection

The increasing number of publications and citations demonstrating the growing interest in the topic, especially after the early 2000s and the milestone years of 2008 and 2018 with an overperforming annual publication activity can be explained by the

agenda of the macro environment during those periods. Global economy and trade started to face significant stresses and GVCs have been a significant part of the globalization experience during these time intervals. For instance, in 2008 and 2009, the global financial crisis impacted both developed and developing economies and the rise of GVCs was threatened by the negative effects of the macroeconomic environment. After years of recovery in economic growth and trade, in 2018, the emergence of protectionist and restrictive moves in trade and policies has given rise to discussions about global integration and the future of GVCs. Beginning in 2020, the Covid-19 pandemic's shock to the global economy and associated distortions in global supply chains have also been critical in the increasing number of studies on GVCs in 2021 and 2022. From 2021 to October 2022, the total number of publications (985 records) exceeded those of the first twenty years of the GVC literature from 1994 to 2015.

The GVC literature's currently increasing performance is most likely related to rising concerns and increased attention on globalization and GVCs. On the other hand, the increasing growth of annual publications also indicates that the GVC framework has not reached a steady state and further studies are expected to add to the theoretical framework, especially after Covid-19. Since GVCs have become an emerging topic in research and policy circles with the pandemic, as mentioned earlier, the year 2022 was also included in the analysis to extend the observation although the period is incomplete. If the currently observed growing trend in research continues, the coming years' publication and citation numbers are expected to reach record-high levels. Accordingly, this research topic is expected to develop further in the coming years.

5.1.2 Disciplinary Evolution of GVC Research

This section aims to contribute to the investigation of the historical evolution of GVC research not only in scale but also in its disciplinary scope. Further analysis of the WoS Core Collection dataset of GVC-related publications shows that GVC is becoming a highly multidisciplinary topic with researchers currently from 82 different research categories studying this multifaceted topic from different perspectives.

While almost two-thirds percent of the total 3.812 publications were found under the category of business and economics, various other research categories were also listed with significant records of output. Following business and economics, 467 documents were published in the category of environmental sciences, and another 434 documents were published in the field of geography while international relations and development studies had 337 and 322 records respectively. Science and technology and engineering were also listed as notable categories of GVC research.

The increasing multidisciplinary aspect of GVC research is also shown with a comprehensive list of areas according to the WoS database (Table 4). From 1994 to 2000, there were only 14 disciplines related to GVC research, in which business and economics produced one-third of GVC publications. The research areas grew to 21 in the period 2001-2005; while development studies and sociology increased their research output, engineering, computer science, and operations management entered into GVC research. During 2006-2010, the number of disciplines amounted to 32 with two persistent main areas including business and economics and operations research and management science as well as new entrants such as telecommunications, transportation, food science, and materials science. It may be inferred that growing interest in GVC research resulted in more case studies to contribute more to practical and evidence-based research in different sectors.

There was a significant increase in research areas in the period of 2011-2015 with 49 different disciplines. Operations research and management science dropped out of the top ten categories while geography and environmental sciences and development studies emerged as the top disciplines. Indeed, this was seen as a fundamental shift from business and economics to environmental science with the rising concerns about GVC's impact on the environment and sustainability.

During 2016-2020, the disciplines reached 68 and the top discipline was by far business and economics followed by environmental sciences and international relations with relatively more publications replacing those of geography and development studies. It was notable that in GVC studies developmental concerns such as distributional and other social impacts as well as environmental damage caused by

increased production within GVCs were addressed more during this period. Also, the reason behind the growing interest of international relations researchers in GVCs might be linked to the failure of the World Trade Organization Doha negotiations in 2011, which was the latest phase of multilateral trade negotiations and increasing threats to multilateralism, in other words to globalization, by rising bilateralization and protectionism, particularly trade wars since 2018.

It is important to note that during the Covid-19 period, the number of disciplines producing GVC research amounted to 57; business and economics and environmental sciences preserved their ranks as the top two research categories while surprisingly science and technology ranked third in recent GVC research, moving up in the list. Although the time span was less than two years which was a limitation to fully understanding the evolutionary change in the multidisciplinary of GVC research during the Covid-19 pandemic, it may be inferred that the pandemic led to the rise of science and technology-oriented GVC research such as vaccine and other medical supplies value chains.

Overall, GVC has been a widely studied area by business and management researchers; associated with logistical and technical requirements of its embedded supply chains, operations research and engineering researchers also showed interest in GVCs. As regional agglomeration became an important topic with the need for GVCs to link up with domestic clusters, the field of geography also produced output in GVC research. Looking at the change of disciplines' production performance from 1994 to 2022, the rise of environmental sciences and development studies as well as other relevant research categories suggest that GVC proved itself as not only an economic phenomenon, but it is a multifaceted development concept with various economic, social and environmental dimensions. Hence, in parallel to the increasing multidisciplinary of GVC research and the multiple dimensions of the concept, GVC-oriented research and policies also need to take into account this complexity in designing research and policy tools. In contemporary GVC research, economic, social/distributional, environmental as well as science and technology dimensions need to supplement each other.

Table 4: Evolution of the Number of Publications by Research Area

FIELD OF STUDY	1994-2000	2001-2005	2006-2010	2011-2015	2016-2020	2021-2022	1994-2022
Business Economics	10	36	173	334	1.203	580	2.336
Environmental Sciences Ecology	2	5	15	61	218	166	467
Geography	6	21	37	109	198	63	434
International Relations	3	1	16	34	208	75	337
Development Studies	1	19	20	45	156	81	322
Science Technology Other Topics	-	1	4	17	115	95	232
Government Law	3	1	5	40	131	48	228
Public Administration	1	4	26	41	93	30	195
Engineering	-	6	27	31	81	48	193
Social Sciences Other Topics	1	1	11	39	84	20	156
Area Studies	2	6	7	13	85	19	132
Sociology	4	10	10	29	37	21	111
Operations Research Management Science	-	4	44	24	22	7	101
Computer Science	-	5	32	8	33	13	91
Agriculture	-	1	10	17	43	16	87
Urban Studies	1	1	12	12	29	4	59
Anthropology	-	2	-	12	15	16	45
Energy Fuels	-	1	-	3	21	16	41
Food Science Technology	-	-	3	6	14	5	28
Mathematics	-	-	2	1	8	14	25
Communication	-	-	-	2	16	4	22
Telecommunications	-	1	4	3	6	7	21
Fisheries	-	-	-	3	13	4	20
Materials Science	-	1	3	2	11	3	20
Physical Geography	-	-	3	5	8	4	20
Physics	-	-	-	1	13	6	20
Education Educational Research	-	-	-	2	17	-	19
Information Science Library Science	-	-	3	3	6	6	18
Geology	-	-	-	3	8	5	16
Public Environmental Occupational Health	-	-	1	-	5	10	16
Transportation	-	-	4	2	7	3	16
Mathematical Methods In Social Sciences	-	-	4	2	5	3	14
Marine Freshwater Biology	-	-	-	1	8	3	12
Social Issues	-	-	-	2	4	6	12
History Philosophy Of Science	-	-	2	2	3	4	11
Total no. of Research Areas	14	21	32	49	68	57	82

Source: Author's own work. Research areas with less than a total of 10 records in Wos for the period of 1994-2022 were excluded.

5.1.3 Research Performance of Developed versus Developing Countries

In order to answer whether or not developing countries, including Türkiye, have increased their performance in terms of research output considering their increased participation in GVCs, the study looked at the country origins of the GVC studies.

According to the analysis of the early period of GVC research, it suggests that the literature emerged in developed countries in parallel to the growing interest of their firms

in internationalizing and offshoring production activities to developing economies. From 1994 to 2000, in terms of country origins of research output, there were 19 records from developed countries compared to none from developing countries. From 2001 to 2005, while developed countries remained dominant in terms of publication output, the research performance of developing countries began to flourish (Figure 4). As of October 2022, for the first time, the number of publications from developing countries surpassed that of developed countries.

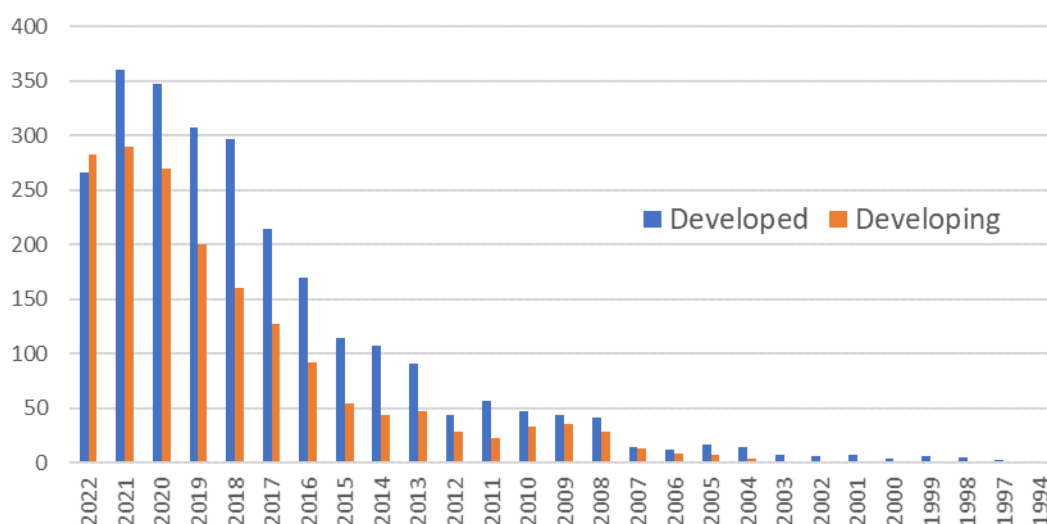


Figure 4: Annual Number of Publications of Developed and Developing Countries

Source: Author’s own work.

Table 5 reveals that developing countries’ publications mostly originated from China, South Africa, Mexico, Brazil, and India. Those were mostly the global commodity chain studies focusing on the U.S. nearshoring activities in Mexican maquiladoras and in Brazil, research on outsourcing activities in South Africa as well as the review of early periods of Asian production networks which had become a popular destination for multinational companies.

GVC publications of developing countries, mostly led by China, showed a rocketed growth in 2006-2010, from 13 to 115 records, which may suggest that those golden

years of global offshoring and the entrance of China in the World Trade Organization in 2001 brought more research interest in developing countries' participation in global value chains. Therefore, it may be inferred that GVC participation and GVC research moved hand-in-hand during this period. Also, among developed economies, the U.S. dominated the literature in 2006-2010 which may also be associated with its tremendous increase in the U.S. economy's offshoring and outsourcing activities. Moreover, Taiwan and Indonesia entered the list of countries in GVC research possibly linked to their participation in the US-led value chains under the production networks of Asia.

The records of documents originating from developing countries kept growing between 2011 and 2015 from 120 to 198; however, developed countries showed a greater performance in terms of publication numbers led by research in the UK and other European economies. During this period, developing countries, notably India had a significant increase in terms of research output. Increasing concerns about globalization which resulted in the failure of multilateral trade negotiations in 2011 may be associated with lower growth of GVC studies in developing economies during that period. However, from 2016 to 2020, the growth of the GVC literature in developing countries reaccelerated, led by the booming research output in China, from 94 to 297 publications. Surprisingly, the number of records in Russia increased notably during the period. The research in Brazil, Russia, India, China, and South Africa, the so-called BRICS countries have led the GVC research in the group of developing countries. Among developed countries, the US and the UK were the top two countries in terms of GVC publications while South Korea and Japan also showed notable increases in their records.

For the last two years with the Covid-19 pandemic, the record of GVC research experienced more annual growth in developing countries, compared to their developed peers. It was China and India led the GVC research while Türkiye also increased its performance while it is still modest. In developed countries, the UK surpassed the US in terms of the number of GVC publications.

Table 5: Selected Countries' Publications (1994-Oct 2022)

Country Categories*	1994-2000	2001/05	2006/10	2011/15	2016/20	2021/22
Advanced	19	52	159	415	1.336	627
<i>USA</i>	8	15	41	91	288	110
<i>UK</i>	5	18	28	97	282	141
<i>Netherlands</i>	1	5	10	33	120	63
<i>Italy</i>	0	2	17	36	136	63
<i>Germany</i>	0	7	11	39	136	57
<i>S. Korea</i>	1	0	3	8	58	30
<i>Japan</i>	0	1	4	15	68	26
<i>Taiwan (of China)</i>	0	0	6	5	16	4
<i>Singapore</i>	1	1	1	11	25	15
Emerging & Developing	0	13	120	198	851	573
<i>China</i>	0	7	89	94	297	235
<i>Russia</i>	0	0	0	4	78	31
<i>India</i>	0	1	1	11	48	48
<i>Brazil</i>	0	1	7	9	49	32
<i>S. Africa</i>	0	3	6	9	54	26
<i>Indonesia</i>	0	0	1	6	29	9
<i>Vietnam</i>	0	0	0	3	17	19
<i>Mexico</i>	0	1	1	8	23	16
<i>Türkiye</i>	0	0	2	4	15	19

Source: Author's own work based on WoS Core Collection. Country classification is based on IMF country categories; South Korea is considered a developed country since 1996, therefore it is included among developed countries in the list.

Overall, the list of countries from which GVC-related research was published suggests that developed economies as a group have dominated the literature both in terms of productivity and impact. Looking at the production trends of individual developed countries over time, the UK and the US are listed as the core group of countries since the early periods of GVC research. Reviewing the period 1994-2022, the UK ranks first with 546 documents and it is followed by the US as the third country with 537 publications. The high performance of these countries in total records of GVC research could be linked to their long presence since the beginning of the literature as well as their leading position in GVCs. Moreover, their research capabilities and networks could be a determining factor in the high production level of GVC research.

On the other hand, developing countries entered the field later than their developed peers. Their research records had increased gradually since 2001 and had moved hand-in-hand with their participation in GVCs. However, contrary to expectations, excluding China, the growth in publication records of developing countries was not substantial. As an outlier, the top country across the world with the highest number of publications by far was China with 718 documents in total from 1994 to 2022. Particularly, after the 2008/2009 crisis, China has become an overperforming country in producing GVC research. As a developing country, China surpassed even the developed countries in publication numbers and contributed most to the field; China's links with other Asian economies also resulted in more research in countries like Taiwan and Vietnam.

Last but not least, comparing the research output of developed and developing countries in the Covid-19 period, especially in 2022, developing countries have almost caught up with developed economies, again led by the outlying performance of China.

Regarding the impact of scholarly work, the analysis of the production performance of countries in terms of average annual citations shows that despite having the highest number of GVC-related publications, total citation records, as well as average citations per article for GVC research from China, had been lagging far behind the US, the UK, and Denmark. The total citation record and average article citations for research originating from Türkiye are also negligible. It can be inferred that developed country researchers and their publications still dominate and greatly influence the literature of GVCs and receive the highest attention in scholarly work with high academic proficiency; however, it should also be noted that the starting year of publications for those countries is not same which may give biased results for developed countries publishing research from the very beginning (Table 6).

Table 6: Citations of Articles by Countries

Selected Country	Total Citations	Average Citations per Year	Publication Starting Year
USA	14,277	42,9	1994-2022
UNITED KINGDOM	10,502	27,4	1998-2022
DENMARK	4,480	36,1	2000-2022
CHINA	3,545	5,5	2004-2022
ITALY	3,228	18,7	2005-2022
NETHERLANDS	2,477	19,4	1999-2022
GERMANY	2,228	13,0	2002-2022
CANADA	1,697	22,3	2003-2022
AUSTRALIA	1,110	11,6	1997-2022
SPAIN	984	9,1	2007-2022
TÜRKIYE	111	2,9	2006-2022

Source: Author's own work based on WoS Core Collection.

Looking at Türkiye as a developing country, the country has 40 publications related to GVCs with its record beginning from the year 2006. The modest number of publications by researchers in Türkiye could be linked to the relatively late integration of the economy into GVCs and the limited performance of its involvement in research networks. Its relatively limited impact is also observed with its average article citations that are below 3. However, it is promising that, during the Covid-19 period, the number of GVC publications by researchers in Türkiye recorded 19 in less than two years while the record for the total of the last fifteen years was only 21.

5.1.4 Affiliations and Funding Agencies of GVC Research

Again, in order to contribute to the investigation of the historical evolution of GVC research and its relevance to developed and developing countries, this sub-section provides a detailed overview of the main institutions for growing records of GVC-related research in the aforementioned countries. Analysis of the most relevant affiliations presented in this section reveals that among the top organizations from

which GVC research was published from 1994 to 2022, developed countries' universities came first as the host of scholarly research in GVCs. The Copenhagen Business School in Denmark (97 publications) and the University of Manchester (97 publications) in the United Kingdom shared the first rank while Duke University (78 publications) in the United States came second, followed by the University of Sussex (60 publications) in the United Kingdom. The University of Padua in Italy and Wageningen University in the Netherlands ranked after them with 45 publications in total. It is remarkable that despite the dominance of Anglo-Saxon origins and content of the field, especially with a European influence, various Chinese universities such as the University of International Business and Economics, Hunan University, and Wuhan University were also listed among the top 25 organizations publishing GVC research. Brazilian and South African universities are also listed, but with a relatively lower number of publications.

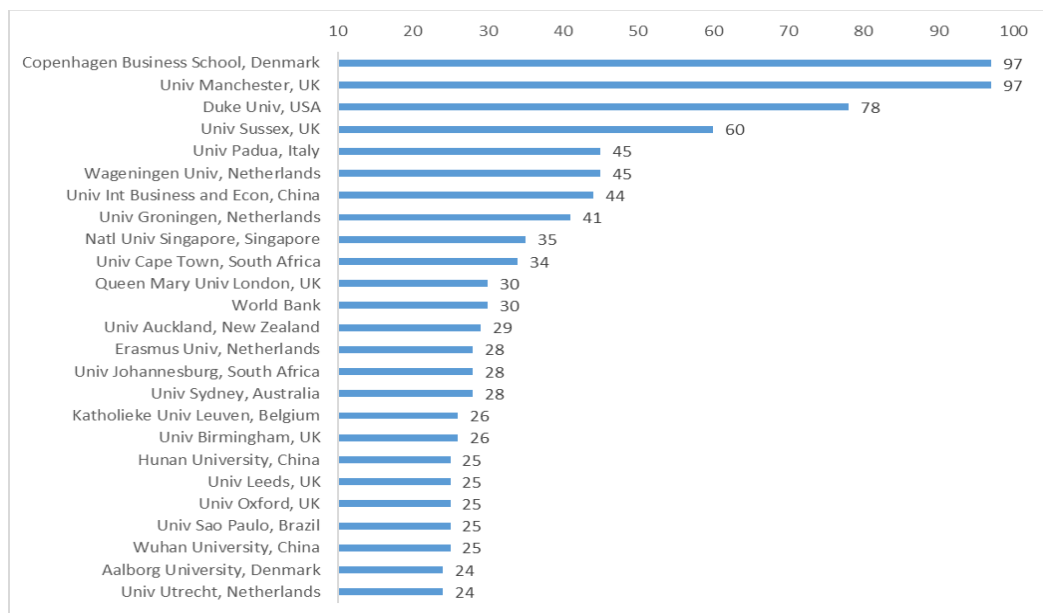


Figure 5: Top 25 Organizations with the Highest Number of Publications

Source: Retrieved from Biblioshiny

Analyzing the affiliations of GVC researchers from 1994 to 2022 further, it is important that it has been not only the academicians at universities but also researchers

at *international organizations, science academies, and government research institutions* that have conducted GVC studies. The World Bank is listed in our bibliometric study among the most relevant affiliations of GVC publications. Indeed, in recent years, the World Bank has led the trend of employing the GVC approach as a leveraging tool in its analytical work on countries' economic and social development. Furthermore, among national agencies, not only the developed countries' institutions such as the USAID but also the Chinese Academy of Sciences ranked in the list of top 50 most relevant affiliations as an important remark that China's government-funded research is interested in the field of GVCs. According to (Mayer and Gereffi (2019), in the initial period of GVC research in the 2000s, the International Labour Organization (ILO) and the United Nations Industrial Development Organization (UNIDO) adopted the approach. Then, following the 2008/2009 global financial crisis and recession, various other international organizations, including the World Trade Organization, the World Bank, the USAID, and the Organization for Economic Cooperation and Development (OECD) embraced the GVC framework in their research for policy. Mayer and Gereffi (2019) asserted that the role of international organizations had diminished with the recent trends that include the increasing role of private agents in development agenda with the exponential growth of global trade and investments as well as the rising protectionism and nationalist policies; therefore, they have taken interest in the topic as a useful tool for development policy.

Funding as an important tool of policy in order to boost research in prioritized areas has been critical in GVC research. In analyzing the scholarly work on GVCs, unfortunately, there was no concrete information on the total amount of funding sources dedicated worldwide; however, using the bibliometric tool of the WoS database, it was possible to get an overview of funding institutions related to the reviewed dataset on GVCs. According to the results of 3.812 publications reviewed through WoS, 874 documents were found to receive support from funding organizations. Among the funding institutions, the top institution with the highest record was China's National Natural Science Foundation. It provided funding to 254

publications starting from the year 2008. The first study funded was the “Research on upgrade path from industrial cluster to innovative cluster”. In 2021, the number of publications that received funds from this foundation of China amounted to 55.

Table 7: Top Funding Organizations for Publications on GVCs

Funding Agencies	No. of Funded Documents	Share in Funded Publications
National Natural Science Foundation of China NSFC	254	29.1%
UK Research Innovation, UKRI	155	17.7%
European Commission	106	12.1%
Japan’s Ministry of Education, Culture, Sports, Sci&Tech, MEXT	28	3.2%
USAID	15	1.7%

Source: Author’s own work based on WoS Core Collection

Ranked second, the European Commission started to fund GVC studies beginning from 2005 by supporting research on “The Impact of Increased Consumer-orientation in Global Agri-food Chains on Smallholders in Developing Countries by researchers in the Netherlands” (Pelupessy & Van Kempen, 2005). The Commission funded around 15 to 20 GVC publications annually and in total it funded 91 records until 2022. The funding records of GVC research in the UK were in total 155 with the UK Research and Innovation agency’s and its associated institution ESRC’s funding from 2010 to 2022. Surprisingly, the United States’ funding was relatively low, mostly given under the USAID programs; the total funding record of the US was only 15, of which USAID had 7 records from 2018 to 2022.

Analyzing the recipient countries of GVC research funds in the entire period, surprisingly, despite the high productivity in GVC research, funding had been less relevant particularly in the US with relatively less financial support compared to its research output in almost the last thirty years. While universities have played an uneven role in GVC research, US foundations have been critical sources of funding

but their assistance has been mostly temporary and highly uncertain (Gereffi, 2021). In contrast, funding is highly relevant to and triggered the proliferation of research in European economies and developing countries, especially in China. The following Table 8 summarizes the ratio of the number of funded research in total records for selected countries.

Table 8: Funded Publications by Selected Recipient Countries (1994-2022)

	Funded (a)	Total (b)	Ratio (a/b)
Selected Developed Countries			
UK	140	546	25,6%
USA	93	537	17,3%
Netherlands	68	227	30,0%
Germany	62	246	25,2%
Spain	43	150	28,7%
Italy	40	251	15,9%
Selected Developing Countries			
China	321	718	44,7%
Brazil	38	91	41,8%
Russia	23	112	20,5%
S. Africa	21	96	21,9%
Vietnam	11	41	26,8%
Türkiye	6	40	15,0%

Source: Author's own work based on WoS Core Collection

5.1.5 Collaboration Networks Among Developed and Developing Countries

In addition to the impact of funding on the proliferation of publications, it is important to have collaboration networks for boosting research activities. In a globalized economic and social structure, there is a growing trend of co-authored publications affiliated with more than one country, and an increasing level of collaboration among developed and developing countries in GVC publications. Using the bibliometric analysis tools of VOSviewer, Figure 6 shows cluster networks of individual countries' collaboration in GVC research. It is observed that clusters centered around China, the UK, the US, Germany, and Italy show a high level of collaboration of their researchers

In the field of study and collaboration of GVC researchers, the review of the trend over time in terms of co-authorship of documents, the following cluster map in Figure 7 reveals recently emerging as well as widening author networks, especially after 2018, as indicated in green and yellow nodes and links. Among the authors, Gary Gereffi of Duke University in the US who pioneered the GVC concept has the highest link strength in terms of co-authorship with 383 publications and 15.173 citations received in total. The map also indicates that over time, mostly US and European researchers' collaboration networks extended to include South Korean and Chinese researchers (e.g. Joonkoo Lee of Hanyang University, Me Ying of China's Nanjin University). In the case of Türkiye, there are no researchers at this level of collaboration in the map of co-authorship clusters. The only researcher is Aydın Barış Yıldırım, but he is affiliated with ETH Zurich publishing on the governance of international trade and GVCs since 2014. With his publication, Yıldırım started to flourish after 2016 among co-authors but with no links to any researcher affiliated with any Turkish institutions.

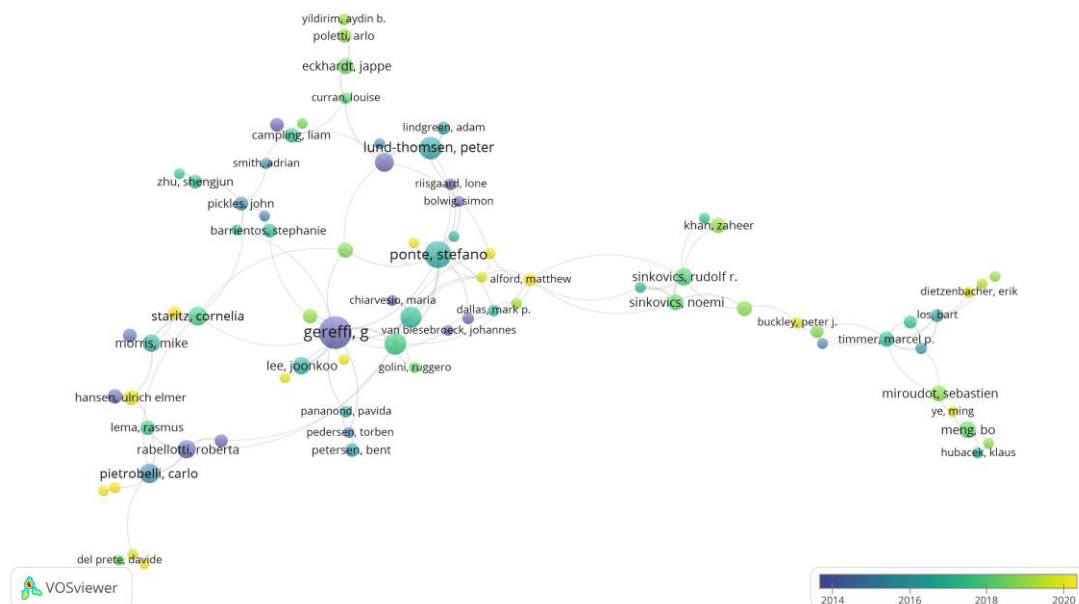


Figure 7: Co-authorship of GVC documents

Source: Author's own work. Accessible via <https://tinyurl.com/29xseghz>

Furthermore, the authors' co-citation performance is an important indicator of understanding research clusters. Figure 8 visualizes the co-citation analysis of authors with a minimum number of 100 documents. As the distance between two authors in the map approximately indicates their relatedness and co-citation links between them represent that both are cited by the same document, the stronger this link between the two authors, the stronger the line. Accordingly, in Figure 8, there are four clusters of authors; the green cluster is mostly academicians focusing on governance and power issues (Gereffi, G., Barrientos, S., Gibbon P., Nadvi, K.); the red cluster's authors are known for their research focuses mainly on business structures, clusters, and competitiveness (e.g. Humphrey S., De Marchi, V., Porter, M.), the blue cluster is mostly engaged with trade and development (Baldwin, R., Krugman, P., Rodrik, D.); and the yellow cluster is dominated by authors working on issues such as innovation, R&D and foreign direct investment (e.g., Pietrobelli C., Sturgeon, T.). At the center of clusters, Gary Gereffi is linked with all four clusters and has the highest link strength in terms of co-citations as the leading author.

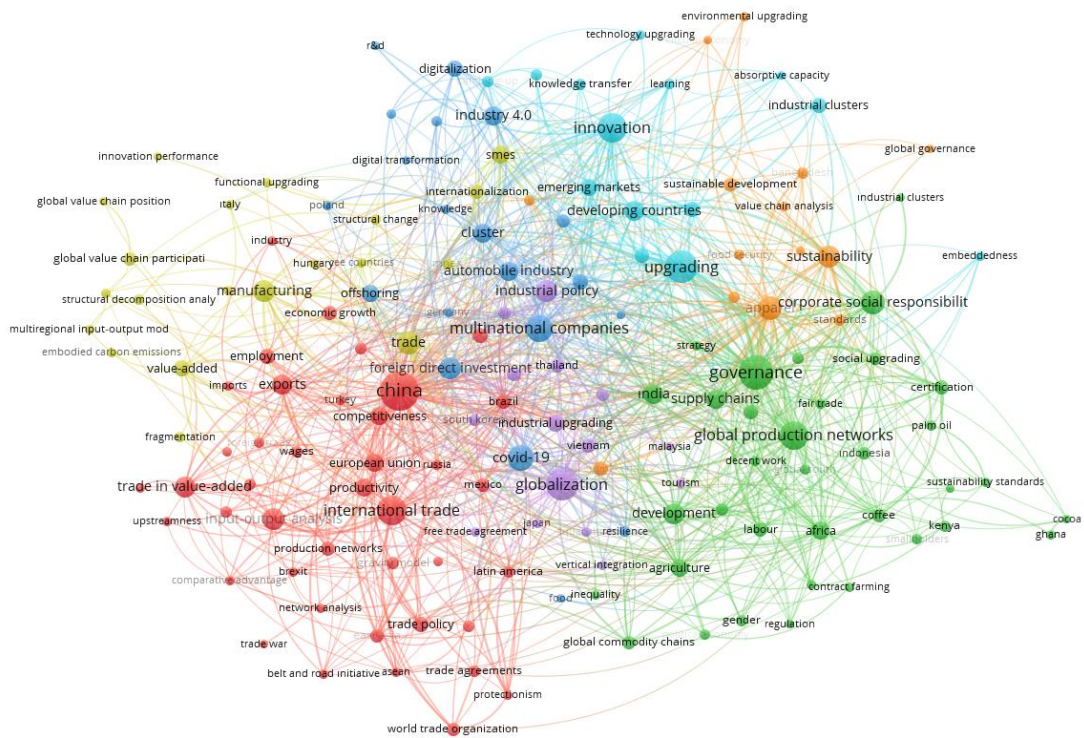


Figure 9: Keyword Co-Occurrence Map

Source: Author's own work. Accessible via <https://tinyurl.com/2fafzl9u>

In Figure 9, the *red cluster* of the visualization of the author's keyword co-occurrences, the largest node is 'China' co-occurred with 'international trade'. As discussed in the background, since the 2000s, China has become a dominating participant of GVCs with a share in world merchandise exports above 15 percent and ranked as the top exporter and the second importer in world merchandise trade by 2021 (Xing, Gentile, & Dollar, 2021). Other cluster items include 'trade in value-added', 'input-output analysis', 'exports', 'trade policy', 'trade agreements', 'competitive advantage', 'East Asia', 'Asean', 'European Union', 'Latin America', 'Russia', 'Turkey', 'Mexico', 'Brexit', 'Belt and Road Initiative', 'regional economic integration', 'World Trade Organization', 'protectionism', and 'trade war', which are all relevant to ongoing policy discussions on rising concerns about free trade in the

global economy, and the increasing role of regional trade networks instead of a global organization of production, as well as environmental risks associated with GVCs.

Similarly, in the *purple cluster*, ‘globalization’ is central to relevant keywords of ‘industrial upgrading’, ‘industrial policy’, ‘Asia’, ‘Japan’, ‘South Korea’, ‘Thailand’, ‘Malaysia’, ‘Vietnam’ and ‘regional development’ are keywords with high link strength. The cluster represents the Asian economies’ regional integration and integrated manufacturing activities for participation and industrial upgrading in the global economy. Nearby, in the *yellow cluster*, ‘trade’, ‘manufacturing’, ‘value-added’, ‘smes’, ‘internationalization’, ‘Italy’, ‘Hungary’, and ‘CEE Countries’ (Central Eastern European countries) as well as ‘co2 emissions’ and ‘embodied carbon emissions’ are important keywords with relatively high link strength.

The *green cluster* is centralized around the concept of ‘governance’. Other keywords clustered around this key theme are related to ‘commodity chains’, ‘development’, ‘social upgrading’, ‘corporate social responsibility’, ‘decent work’, ‘labour standards’, ‘smallholders’, ‘contract farming’, ‘gender’ as well as sectors and products like ‘agriculture’, ‘coffee’, ‘palm oil’ and relevant regulations and standards such as ‘fair trade’, ‘certification’ and ‘sustainability standards’, mainly covering territories of ‘Africa’, ‘South Africa’, ‘Kenya’, ‘Ghana’, ‘India’, ‘Indonesia’, and ‘global South’. Close to such keywords, the *orange cluster* is focused on ‘sustainability’, ‘sustainable development’, ‘apparel’, ‘global governance’, ‘environmental upgrading’, ‘circular economy’, and ‘food security’.

In the *light blue cluster*, ‘upgrading’, which institutes a primary concept in the GVC framework, is closely linked with ‘innovation’. Other main themes in the cluster are ‘developing countries’, ‘emerging markets’, ‘industrial clusters’, ‘technology upgrading’, ‘absorptive capacity’, ‘networks’, ‘institutions’, ‘learning’, and ‘knowledge transfer’. Indeed, it is important to note that upgrading policies in GVC literature are often linked with regional development and clusters to support the global links of companies, territories, and countries. Also, it is worth noting that a critical co-occurrence with upgrading is ‘technology upgrading’, which refers to a firm’s acquisition of new functions and increasing the overall skill and technology content

of its activities. As technology upgrading is often under the pressure of lead firms and it has not been happening too often, except for the availability of conducive governance structures, research on this sub-topic as well as on innovation and knowledge transfer requires significant attention in designing supportive policies.

Lastly, the *dark blue cluster* is centered around the relevant themes of ‘Covid-19’ and ‘multinational companies’ as well as ‘industry 4.0’ linked with keywords including ‘offshoring’, ‘outsourcing’, ‘foreign direct investment’, ‘resilience’, ‘digitalization’, ‘digital transformation’, ‘R&D’, ‘supply chain management’, ‘suppliers’, ‘cluster’, ‘automobile industry’, ‘Germany’ and ‘Poland’.

Overall, these topics in all those seven clusters are highly relevant to ongoing policy discussions; therefore, recent GVC research on such areas can contribute to policy-making by providing a clear, scholarly understanding of changing dynamics of GVCs and offering solutions and alternatives to related policy challenges.

5.1.7 Thematic Evolution in GVC Research

This section explores the most fundamental questions of ‘whether or not there is a significant shift in research focus in developed and developing countries with the Covid-19 pandemic?’. It also aims to understand ‘what are the recent research trends and whether or not they are linked to recent policy agenda in Türkiye?’

Reviewing the co-occurrence of keywords in the database of GVC publications over the last three decades helps get a time series analysis of the most common keywords in the field and understand research trends, as seen in the following Figure 10 VOSviewer’s outlay visualization for the keywords with minimum 10 occurrences. Until 2018, ‘globalization’, ‘multinational companies’, ‘industrial clusters’, ‘networks’, ‘east asia’, ‘latin america’, ‘industrial upgrading’, ‘global commodity chains’, ‘fair trade’, ‘coffee’, and ‘apparel’ have been found as established research themes in early GVC research. These keywords were followed by ‘China’, ‘innovation’, ‘upgrading’, ‘governance’, ‘global production networks’, ‘foreign direct investment’, ‘automobile industry’, ‘Vietnam’, ‘India’, ‘Brazil’, ‘development’ and

‘regional development as the most co-occurred keywords in GVC literature. This trend is very parallel to the entrance of economies like India and Vietnam to the global market as an alternative to China with its cheap labor and assembly production for export-led growth. After 2018, ‘international trade’, ‘manufacturing’, ‘industrial policy’, ‘trade policy’, ‘input-output analysis’, ‘global supply chains’, ‘European Union’, ‘sustainability’, ‘regional economic integration’, ‘World Trade Organization’, and ‘protectionism’ were fundamental keywords discussed in the literature followed by ‘Brexit’ and ‘trade war’. Not surprisingly, the most recently used keywords since 2020 are found as ‘Covid-19’, ‘digitalization’, ‘industry 4.0’, ‘digital transformation’, ‘circular economy’, ‘resilience’, ‘reshoring’ as well as ‘Belt and Road Initiative’. The fundamental changes in GVC dynamics and related policies such as transforming the industries with digital technologies, and focusing on sustainable and low-carbon production can be observed in the thematic clustering map below (Figure 10).

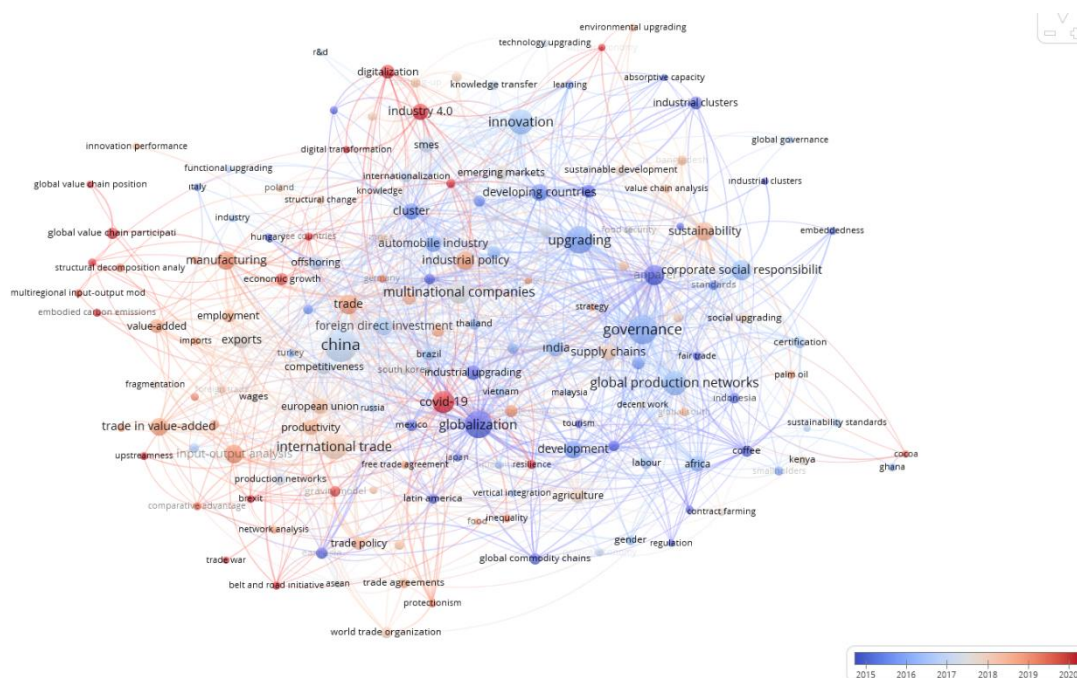


Figure 10: Keyword Clusters Over Time

Source: Author’s own work. Accessible via <https://tinyurl.com/2fafz19u>

Furthermore, analysis of changes in trend topics and research hotspots over time through the Biblioshiny software package under R Studio showed ‘commodity chains’ as the most frequently occurring topic in early literature. Research trends have evolved to topics such as ‘clusters/industry clusters’, ‘governance’, ‘upgrading’, ‘sustainability’, and ‘trade’. More recently, publications increasingly cover topics including ‘Industry 4.0’, ‘covid-19 pandemic’, ‘digitalization’, ‘multistakeholder initiatives’, and ‘resilience’.

In Figure 11, a temporal analysis of key GVC concepts is also conducted to examine the thematic evolution for the entire period from 1994 to 2022 with five-year time intervals, except the two years period of 2021 and 2022 to see the Covid-19’s impact on GVC research field. The late 1990s represented the initial discussions on global commodity chains and globalizing features of the production. During this period, emerging East Asian economies, called Asian Tigers, witnessed a deep financial crisis across the region with an unsustainably high levels of current account deficits due to sudden growth in foreign trade, especially in the exports of goods dependent on imported inputs, which is studied as a direct result of globalization of production and GVCs.

The theme of ‘global commodity chains’ continued into the early 2000s and commodity types of products like ‘coffee’ were studied while the rising integration of ‘developing countries’ in GVCs opened the discussion of ‘industrial upgrading’. The NAFTA Agreement, the Customs Union, and various other trade agreements on regional integration paved the way for increased participation of developing countries in GVCs. The rise of China as the “world factory” through entering the World Trade Organization and with the removal of trade quotas to developed markets in 2005, and was key to the change of research focus in GVCs. Accordingly, the main themes of research found were ‘China’, ‘competitiveness’, ‘innovation’, and ‘export’.

The global financial crisis of 2008/2009 and the global recession in the following years can be traced back to the evolution of GVC’s key themes that included ‘global governance’. Another important shift during this period is the rising concerns about the adverse impacts on the environment and sustainability. The United Nations’

Sustainable Development Goals (SDGs) introduced in September 2015 became a widely accepted set of development policies. Another feature of this period was the Paris Agreement initiated by more than 190 countries in 2015 as a global agreement to reduce global greenhouse gas emissions and mitigate the threat of climate change. In parallel with such global initiatives, ‘environmental upgrading’ has become a critical research topic in GVCs. As the world entered a period of protectionism while not still recovering from the global financial crisis and China became the world's largest economy in terms of purchasing power parity increasing its share of emerging economies in global value chains, ‘trade policy’, ‘trade in value-added’ as well as ‘belt and road initiative’ of China has become important themes for studies. ‘European Union’ was specifically studied by GVC researchers as Brexit posed a threat to EU-led GVCs. In the novel coronavirus pandemic worldwide, the period of 2021 and 2022 was taken as a specific time interval. The pandemic accelerated the GVC’s refocus on ‘supply chain’ as well as ‘protectionism’, and ‘climate change’.

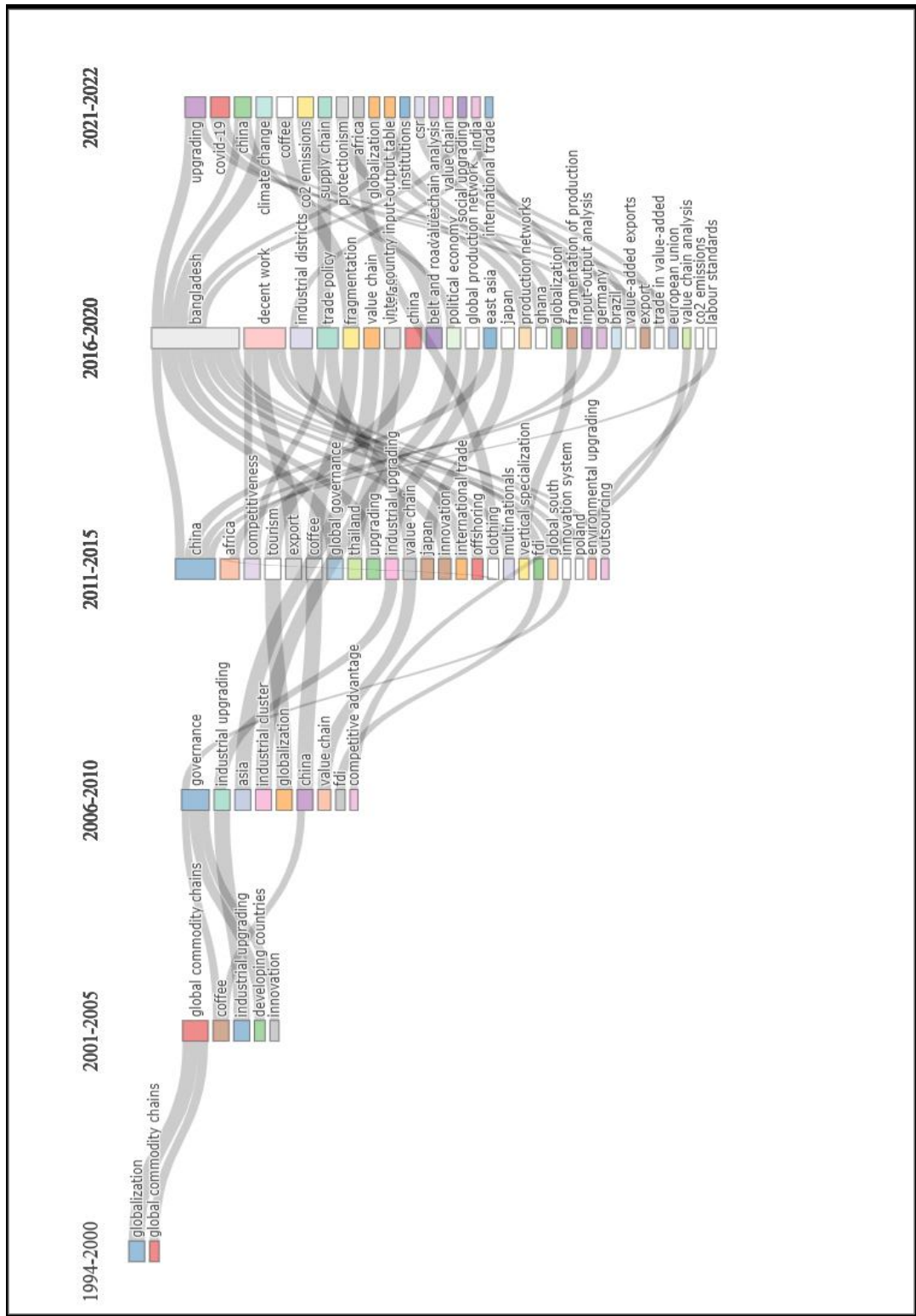


Figure 11: Thematic Evolution of GVC Research (1994-2022)

Source: Author's own work based on Biblioshiny

5.1.8 Shifts in Research Trends for Developed and Developing Countries

In addition to aggregate analysis of the thematic evolution of literature, for the purpose of this thesis, a separate temporal analysis comparing developing and developed countries is conducted in order to see the motivation of research from two different perspectives. It would be more helpful to guide future research for Türkiye as a developing country and one of the main suppliers to developed countries, particularly to the EU.

It has been observed from the thematic map (Figure 12) that scholarly work in developing countries as a late-comer has started with research attention on ‘upgrading’. The early literature then evolved into both economic, social, and organizational aspects of GVCs such as industrial clusters, corporate social responsibility, foreign direct investment, trade, governance as well as country case studies. More recently, it was seen that environmental upgrading and social upgrading as well as service sectors such as tourism come to the fore of studies while with the post-Covid period, digital economy and industrial policy have moved up in the research agenda in addition to environmental upgrading and carbon emissions.

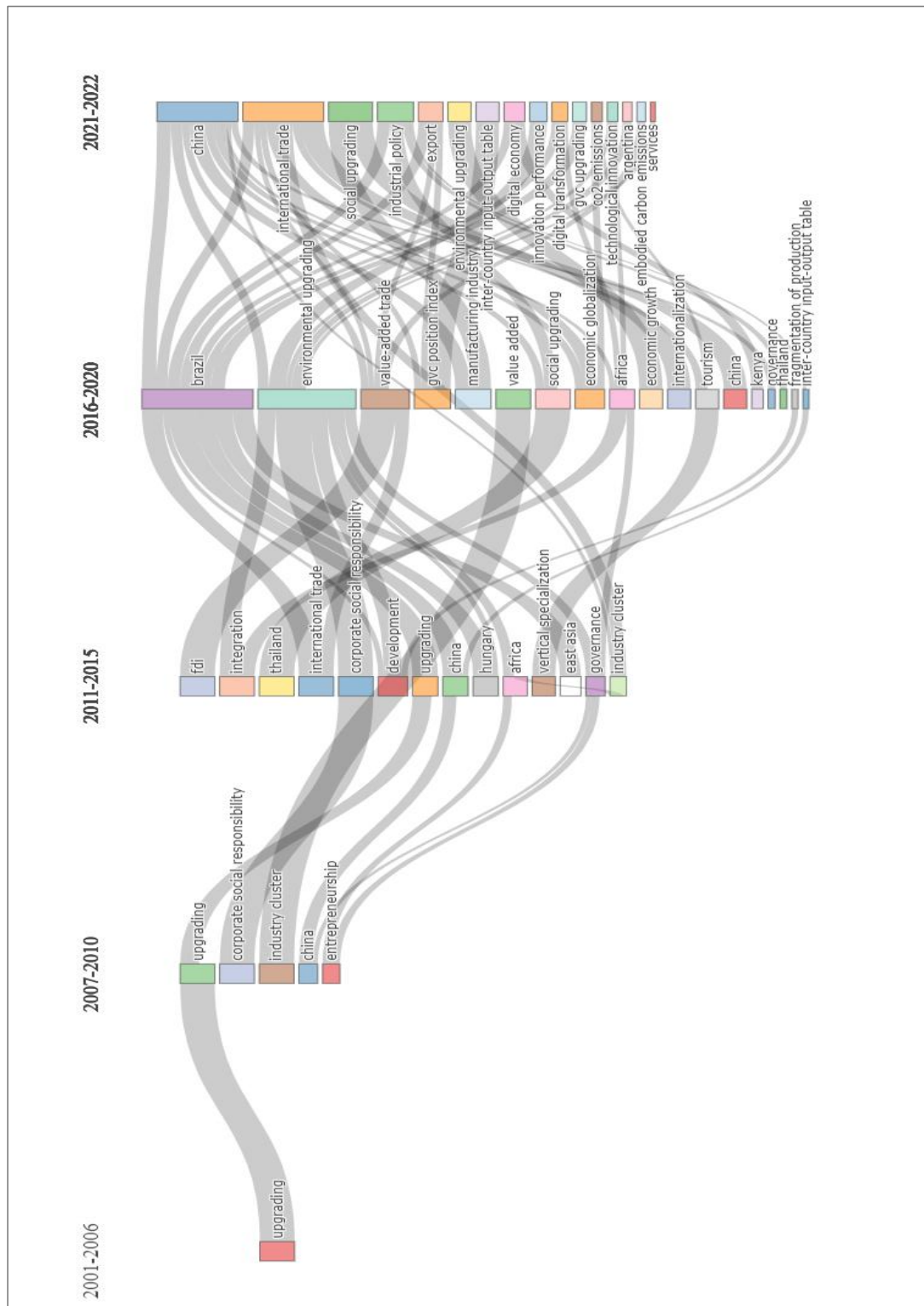


Figure 12: Thematic Evolution of GVC Research in Developing Countries

Source: Author's own work based on Biblioshiny

In comparison to developing countries' GVC research agenda, in developed countries, from which the concept and its framework originated, early research was on globalization and global commodity chains (Figure 13). Then it evolved into a few country case studies as well as studies on certain commodities such as coffee or products such as apparel. Those studies were followed by governance-related academic research and especially global governance which refers to international organizations and studies mostly on China have come to the fore. More recently themes of most GVC studies in developed countries have shifted to the European Union and industry 4.0. More recently, Covid-19 studies have been the central topic followed by governance, European Union and industrial policy.

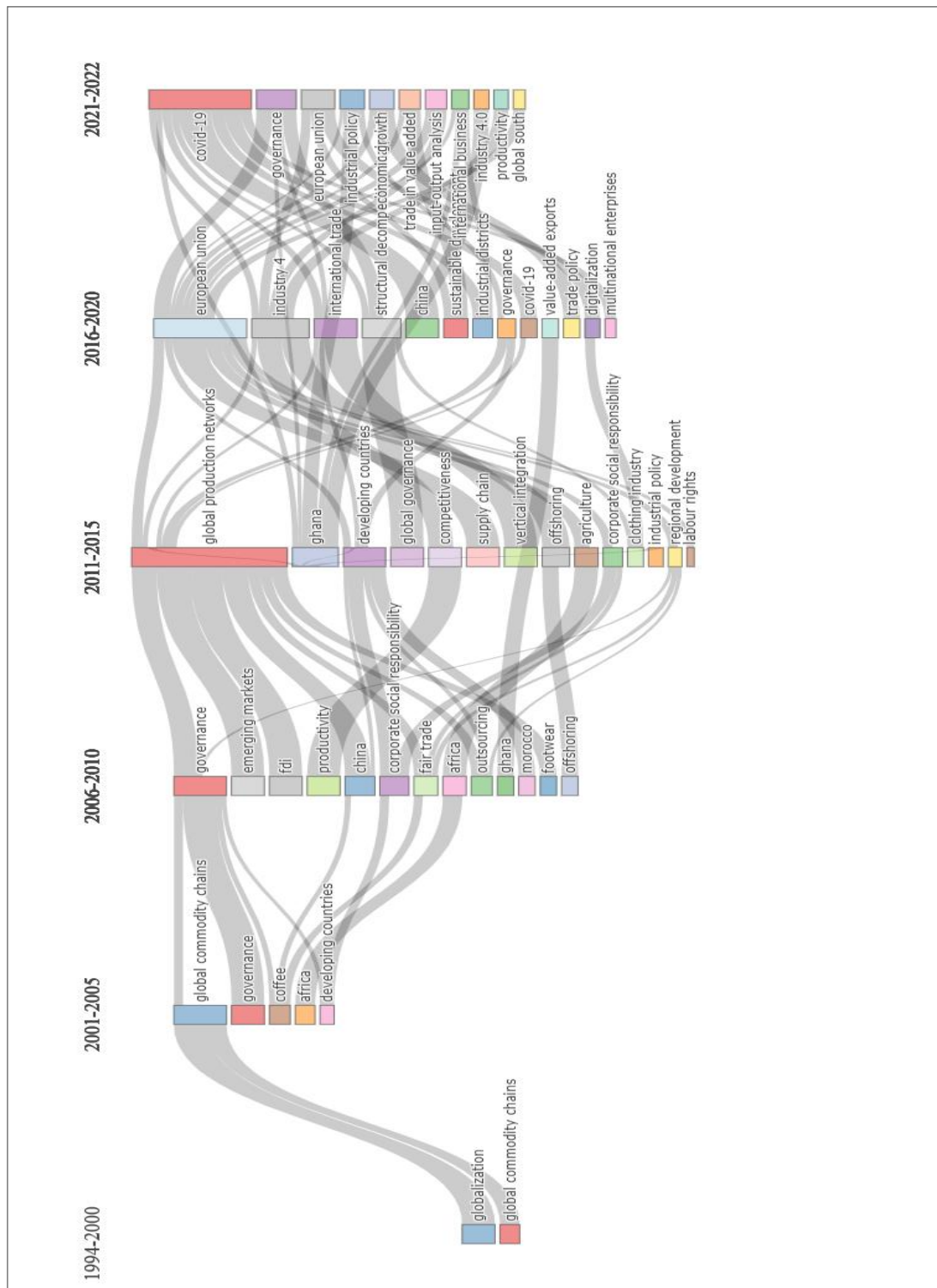


Figure 13: Thematic Evolution of GVC Research in Developed Countries

Source: Author's own work based on Biblioshiny

and the US (74). When digitalization and selected themes (((TS=("DIGITALIZATION") OR TS=("INDUSTRY 4.0") OR TS=("FOURTH INDUSTRIAL REVOLUTION")))) were included in the main search query, 114 articles were found relevant to the GVC framework. Indeed, 111 of these articles were found to be published after the year 2018, which suggests that the topic has become a highly relevant field in GVC research and requires more attention from scholars. Russia (18 publications) and the EU (Italy (17 publications) and Germany (15 publications)) are the main economies in terms of the country-origin of the studies. While studies from China have a great focus on sustainability (119 publications), the country does not have similar performance in digitalization-related research (9 publications) in GVCs. Indeed, this might reflect the dominance of developing countries' interest in sustainability issues as being the most carbon-emitting economies whereas the developed countries' research interests have dominance in digital technologies-related topics as their lead firms' established technological capabilities and governance in digital activities within GVCs. It may also infer that digitalization in its current framework related to 3-D manufacturing, machine learning as well as other industry 4.0 practices are mostly serving the contemporary political agenda of developed economies for building resilience and re-shoring production activities.

5.1.10 Conceptual Gaps between Global Research Clusters and Studies in Türkiye

In order to understand whether there is a gap or mismatch in terms of thematic research trends between local and global levels, publications of Türkiye in the dataset were reviewed in more detail, though the total number of records is not significant to make generalized conclusions. The first publication of GVC-related research in Türkiye was in 2004 on the organizational foundations of export performance in the Turkish clothing industry (Neidik, 2004). Most of the publications in early literature were similarly empirical studies conducted in tourism, agriculture, textiles and clothing (Neidik & Gereffi, 2006; Saka-Helmhout & Karabulut, 2006; Tokatli & Kızılgün, 2009; Erkuş-Öztürk & Terhorst, 2010; Özatağan, 2011; Sausman et al., 2015;

Tartanoğlu, 2018). While the early case studies were emphasizing export gains in traditional products/sectors via participation and upgrading in GVCs, the latter generally analyzed the pros and cons of GVC participation covering a wider range of sectors including more technology-intensive products/sectors such as automotive. The studies covered power relations, namely governance, and upgrading dynamics in GVCs, and discussed challenges of Turkish firms to enter and move into higher value-added and innovative activities in the sectors of study as well as the potential to generate wider economic and especially social benefits. Also, the majority of the latter research was published on trade and macroeconomic impacts of GVC participation using cross-country analysis (Gersch, 2019; Akçomak & Bürken, 2020; Kayaoğlu, 2020; Sancak, 2022; Mostafiz et al., 2022, Erbay & Yıldırım, 2022).

In more recent publications during the period of Covid-19, it is found that case studies were conducted in niche cases such as battery electric vehicles, namely TOGG (Mordue & Sener, 2022) and medical ventilators (Soyyigit & Eren, 2022). Notwithstanding the global research trends going towards digitalization and sustainability, only a few publications are found specifically on innovation (Onuklu et al., 2020; Akçomak & Bürken, 2020; Kleiner-Schaefer & Schaefer, 2022), digital transformation (Erbay & Yıldırım, 2022), Industry 4.0 (Cakmakci, 2019) and high-technology exports (Altun et al., 2022). There have been only a few GVC-related publications on environmental sustainability (Nadeem et al., 2022). More surprisingly, diverging from global research trends, there is a new cluster of publications discussing GVC participation of Türkiye with a special focus on exchange rates, inflation, and monetary policy (Shuabiu et al., 2021; Saygılı, 2022). Indeed, research on inflation dynamics could be a promising field that could be studied with the GVC framework. The macroeconomic environment, specifically trade, investment, and employment is observed to be more critical for GVC researchers in Türkiye while sustainability, particularly carbon emissions and environmental upgrading, and digitalization seem to have little or no effect in local research networks.

To conclude, the bibliometric analysis of GVC-related publications in this chapter has shown the evolution of the output performance, affiliation, and funding institutions,

research clusters, recent research trends, and hotspots including the period of Covid-19 as summarized below:

- GVC research has been exponentially growing in terms of publication and citation records over the past three decades, but especially after 2016. During the Covid-19 period, although trade in GVCs has stagnated, the continued and even increasing publications on GVCs can be inferred as a ground for a change in the future of GVC research and policies.
- Among 3.812 publications from 1994 to 2022, while developed countries such as the US, the UK, and other European countries have the origins and continuous impact on the GVC literature, China is currently the most contributing country to research with the highest number of scholarly publication as expected from its leading role in world trade. Other developing countries, especially the BRICS countries as well as newly emerging economies such as Vietnam, in line with their engagement in GVCs, have increased their interest in GVC research.
- While more than half of publications is still in the field of business and economics, the study showed that GVCs have been expanding into various other research categories including environmental sciences, geography, international relations, development studies as well as engineering and computer science. The recent attention of science and technology ranking third in recent GVC research is surprising but also expected due to the impact of Covid-19. The growing multidisciplinary of GVC research proves that instead of a stall in GVC research, it is changing its shell to address multi-dimensional challenges related to economic, social, technological, and environmental issues.
- Despite the historical dominance of Anglo-Saxon origins of GVC research, it is remarkable that more recently, a number of Chinese universities such as the University of International Business and

Economics, Hunan University, and Wuhan University were listed among the top organizations publishing GVC research. Moreover, the research interest of international organizations such as ILO, UNIDO, WTO, OECD, and World Bank, as well as national and supranational institutions USAID, European Commission, and the Chinese Academy of Sciences also proved the fact that GVC research has been increasingly turning into policy.

- Funding has been a triggering factor for GVC research, especially in the case of Europe and more recently in China as evident in the high share of funded publications. It was surprising that research in the US has not received university funding. Funding was also critical in the creation of research clusters as in the case of European countries funded under the EU programs. Also, geographical, historical, or cultural commonalities seem to encourage scholarly collaboration.
- Clustering analysis showed that authors as well as researchers on global value chains mostly clustered around the topics of governance, upgrading, trade, and competitiveness, particularly China's role, and innovation. With its upgrading and development experience, it is not surprising that China stands out in research studies as the most studied topic as a country that has participated in GVCs aggressively in the 2000s and upgraded rigorously in a wide range of exporting sectors. The findings of this study also imply that the ongoing central discussion in GVCs is how the chain is governed by lead firms and governments which in turn determines the upgrading and development trajectory of a country in a specific sector or activity continues to be a central topic of discussion and innovation as the most used co-cited keyword is seen as a fundamental tool for upgrading.
- As found in the study, developments during Covid-19 have increased the attention on supply chain resilience, protectionism, climate change, and innovation. It is also observed that there has been a turning point for GVC studies evolving towards two major and intervened fields of

study which are sustainability concepts of environmental and social upgrading, and digitalization that is linked to industry 4.0 and the digital economy. It is observed that sustainability has been mostly studied by developing countries while the latter, digitalization, has been increasingly studied by developed countries and also by developing economies. It is found that China has a particular focus on environmental studies in GVCs while European economies and surprisingly Russia are active researchers of digitalization through GVCs. A closer look at sustainability and digitalization themes might help further expand the GVC framework in the next period.

- Türkiye does not seem to follow the same pattern as peer countries in the growing scale and scope of GVC research globally. In contrast to its export-led and higher value-added focus on trade and development policy, its publication is modest in number and there is only a slight increase in research output with Covid-19 possibly due to the rise of discussions in research and policy circles after distortions in supply chains. Looking at Türkiye's research performance in GVCs, its authors are rarely involved in research networks with a few cases of co-authorship and funding is almost nonexistent. The number of fairly limited publications is centered around a few empirical studies in agriculture, textiles, and automobiles and macroeconomic cross-country comparisons. On the other hand, it is surprising to find that diverging from global trends of research, there are a few studies on the link between monetary policy and trade policy from the perspective of GVCs and exploring the role of GVCs in fighting inflation. The themes of environment and digitalization are noted as possible areas that policies in buyer countries, particularly in European economies as well as rival countries such as China might entail in the future and caution prehand is advised for Türkiye.

CHAPTER 6

DISCUSSION AND POLICY SUGGESTIONS

This section discusses the findings of the study and focuses on the ‘how can GVC research be boosted in Türkiye to improve the link between research and policy for evidence-based policy making?’ building on the previous chapter, which examined and evaluated several arguments as follows:

- In the last three decades, having received growing research interest expanding into different disciplines and to developing countries, mainly China, GVCs show the potential to bring forth a new development paradigm, especially after Covid-19.
- There are many countries including both developed and developing economies (US, UK, China, India, etc.) as well as international organizations with GVC research initiatives linking research to policy in order to explore opportunities of restructuring the global economy and to handle the challenges in GVCs.
- The current research trend in GVCs have been moving recently towards more environmental and digital forms of GVCs led by China, Europe, and Russia. As the world recovers from the Covid-19 pandemic and GVCs evolve, the focus of the most recent publications has gradually shifted from traditional sectors’ governance and upgrading dynamics to niche themes such as environmental aspects and digitalization in GVCs.
- Compared with other countries, with its limited scholarly foundation in GVCs, research in Türkiye is not aligned with the growing scale and scope

of global trends. It also does not seem to provide a strong input for national policy-making processes despite the ambitious goals of the country to upgrade to higher value-added activities in GVCs.

- Overall, environmental focus and digitalization are possible areas that policies of the EU, Türkiye's main export destination, might entail in the future, and developing research and policy capacity is advised for Türkiye. These topics need to be approached comprehensively in research in order to provide analytical input for policy-making.

Two main areas upon which Türkiye can focus and aim to utilize the window of opportunity are environmental transition and digitalization in GVCs. These two themes hold the promise of advancing in the GVCs which are being restructured in the post-Covid world. Due to the increasing domain of international governance, in particular the EU regulations, Türkiye has already shown political will in the fields of green transition, on which current initiatives can be combined with GVC research.

In the field of environmental transition in GVCs, with the current industrialization level, financial capacity, institutional structures, innovation systems, and external networks, Türkiye has limited capacity to produce green technologies and provide fast and smooth green transition for its firms in GVCs; however, government policy is committed to addressing the ways for strengthening capabilities and competitiveness in green technologies that link to both environmental priorities and technological capabilities. In this regard, environmental upgrading, sustainable development, R&D in critical technologies, digitalization, indigenous innovation, and circular economy, which reduces resource use by optimizing production processes and recycling the resulting waste, can be considered prominent clusters of new research themes to be focused on in order to support Türkiye's gains from participation and upgrading in GVCs in the coming periods.

Policies and programs already initiated can be combined with the GVC approach to balance activities in high-emission sectors and investments in green technologies to maintain competitiveness and ensure environmental sustainability. Furthermore, policy tools need to be developed to encourage the capital accumulation of

environmental technology investments in associated sectors and strengthen forward and backward linkages in GVCs.

In a similar fashion, digitalization in GVCs also aligns with Türkiye’s national interests in the integration of digital technologies into various critical processes of an organization ranging from private to public agents. Current initiatives under Digital Türkiye and National Technology Move visions as well as the implementation of the Model Factories, a support program that has been offered by KOSGEB to businesses, can be enriched with GVC studies and policies which can help explore niche areas of high value-added.

To achieve desired outcomes in any effort toward these areas, there needs to be a holistic and coordinated approach to address national challenges in Türkiye’s engagement in GVCs. In this regard, the following table offers three main policy areas corresponding to research and policy gaps.

Table 9: Suggested Policy Set for Addressing Research and Policy Gaps

Creation of an enabling environment	<ul style="list-style-type: none"> - Increase awareness in the public, academia, and industry on GVCs - Increase and improve human resources - Expand the topic to different academic disciplines - Build partnerships with already established research centers abroad - Support national and international collaboration of researchers
Promotion of institutional development	<ul style="list-style-type: none"> - Promote public, academic, and industry partnerships in research and policy- making - Design a comprehensive strategic and support framework
Focusing on performance	<ul style="list-style-type: none"> - Develop research performance indicators and monitor - Provide prioritized funding programs in strategic areas (e.g. environmental upgrading, digitalization, multidisciplinary GVC studies)

Source: Author’s own work

The details of the recommended set of policies in Table 9 are provided below:

1. Creation of An Enabling Environment

In the case of Türkiye, considering the limited interest in GVCs by Turkish researchers despite the ambitious policy targets of moving to higher value-added segments of global value chains, there is an absolute need for creating awareness in research, practice, and policy circles. With a few publications in a low variety of sectors and topics that do not match the global trend towards environmental and digital aspects of GVCs, as well as insignificant research collaboration and funding compared to other developing country peers in GVCs research performance, research currently does not seem to provide enough evidence-based input for policy-making; utilization of GVC research and models to maximize it in policy formulation cannot be observed. An understanding of research providing evidence of ‘what kind of policies work best’, ‘in which sectors’ and ‘in which contexts’, and ‘which cross-sectoral and future themes need to be prioritized relevant to the country’s development priorities’ is vitally needed.

Therefore, it is, at first hand, significant to create awareness and improve local research capacity on GVCs through a strategic plan which can be realized through the planning of events and activities, training programs, competition for funds, etc. Researchers’ positions can be provided in academia or in public institutions to study the subject for uptake of research findings by policymakers and use of research evidence in policy work. Also, considering the multidisciplinary nature of global value chains, it would be a strategy to expand the topic to different disciplines by providing either a joint program or a separate multidisciplinary program for researchers from each relevant discipline. Initiating linkages and collaboration between different disciplines would help exploit already available research capacity in related subjects. Academic initiatives can also be started relatively easily as in the case of ‘North Carolina in Global Economy’ which is a research project driven by undergraduate and graduate students as well as GVC researchers at Duke University in the US to provide information on the past, present and future trends in key traditional and emerging industries in the state employing a value chain framework.

Building partnerships with established research centers in the field as well as supporting the collaboration of national researchers with their international peers would give a boost to accumulate and transfer knowledge on GVCs. Research network linkages, collaboration, and cooperation, which are currently very limited and needed urgently to supplement policies, can be encouraged with already established research centers in other countries and regions, particularly with the US, EU, and China. Partnership programs, short-term positions, internships, or student exchange programs particularly with European universities under ongoing programs would contribute to improving the quality and quantity of researchers.

2. Promotion of Institutional Development

In contribution to policies for encouraging intellectual capacity in GVCs, designing a comprehensive institutional structure would be an accurate move since there is no strategy or support framework for research and policy in Türkiye's current integration with global value chains. Although various documents from academia, industry, and government institutions mention the importance of the GVC approach and the objective of upgrading, there is no specific or coordinated approach leading to a strategy or a comprehensive policy. Presently, in numerous policy documents, moving up to higher value-added activities and remaining competitive in global markets is articulated as a goal; however, there is no detailed mention or analysis of the specific value chain and Türkiye's position in that related industry or sector that can link the ambitious goals to sound analysis. In this regard, setting a research agenda under a comprehensive framework first and having a research focus aligned to national priorities based on a participatory approach would be helpful in guiding further work.

Employing a multistakeholder approach would avoid a purely top-down or bottom-up approach in designing the institutional framework to address research and policy gaps observed in Türkiye's GVC participation. In that sense, the formation of partnerships among academia, government institutions, and industry organizations in research and policymaking can be formulated based on the successful examples of tripartite platforms linking all parties and providing valuable inputs for policy-making processes. Moreover, an institutional framework needs to consider the inter-sectoral

and inter-disciplinary features of GVCs. In other words, any collaboration effort for encouraging research and policy for GVC upgrading should cover all relevant sectors of the economy, related disciplines, and government policies, extending from investment, education, employment, industrial development, science, technology and innovation, and trade to environment. Thus, a cross-sectoral, cross-disciplinary coordination cannot be under a line ministry or a specific institution but needs to be planned at a higher level to oversee the coordination of research. One option could be founding a publicly funded research institute specifically dealing with GVC research which can serve both public and private organizations. Successful country practices can be employed as in the case of the US, EU, South Korea, China, and Brazil.

Indeed, such an institutional framework would work for the benefit of all three parties involved. First, it is critical for policymakers to research the present role and future of GVCs in order to build sound national policies to sustain economic and social development (Gereffi, 2021). Relying on key concepts and tools of the GVC framework can help them define intervention policies to achieve sustainable development. It is also relevant for practitioners in industries to investigate how lead firms in value chains in which they participate direct their sourcing strategies and different forms of governance within those chains to explore upgrading prospects. Researchers can benefit from the GVC framework by enriching their current knowledge by testing their arguments and influencing policy.

3. Focusing on Performance

Building an intellectual capacity and designing an institutional framework may not guarantee the performance of research and its links to policy. As it is not an automatic process, models to encourage the production of more research on GVCs and maximization of its utilization need to be encouraged by specific policies such as designing research performance indicators, offering prioritized funding to GVC research, particularly in desired areas such as green and digital transition, as well as designing selective and targeted support programs.

Research performance indicators may include but are not limited to publication in a scholarly journal, co-authoring a research publication, conducting interdisciplinary or multidisciplinary research, successfully obtaining research funding, presentation at a national or international GVC-related conference, attending a conference on GVCs, organizing research meetings, teaching and advising GVC research students, presenting research outputs to policymakers, completion of a research project –with additional performance points if conducted in prioritized research areas-. It should be noted that not each disciplines can perform the same on GVC research; therefore the design of research performance should be carefully planned and implemented. Its monitoring and evaluation also need to be transparent and fair for which an institutional framework would be critical to overseeing the process.

Funding programs as in the case of China and Europe have been boosting factors for exponential growth in their performance in GVC research and possibly in their reflections on policy. While there are funding programs already being offered in related economic and social fields of research, a special funding mechanism in GVC research indicators would highlight the importance of the GVC framework from the eyes of policymakers and would directly complement the aforementioned research performance indicators. Considering the multiple dimensions of the GVC framework, interdisciplinary and multidisciplinary research should be prioritized. It is also critical to prioritize funds for research in specific areas in line with national priorities in order to achieve desired outcomes. Giving priority to research projects that directly link to the policy in strategic areas such as environmental upgrading and digitalization is essential for the effective integration of research and policy.

As universities have limited resources and industry often does not make research expenses for intangible projects, funding sources may initially be provided by the government budget; however, through time, as research gets more client-oriented and more valued by all parties, blended funding would become an option. Furthermore, considering the EU and other foreign funds provided to a large number of GVC studies, funding alternatives under joint programs such as IPA can be explored to mobilize additional financial sources.

6.1 Limitations of the Study

The descriptive analysis of this study aimed to highlight the research and policy gaps in Türkiye's GVC participation and the policy suggestions aimed at addressing the need to boost research and improve the link between GVC research and policy.

To briefly note the main limitations of the study; the descriptive analysis of this study is considered to limit the validity of findings due to the inherent weaknesses of the bibliometric analysis. These weaknesses are as follows; first, the WoS database may not have included a complete set of publications. The dataset is indeed very comprehensive and the sample size is large enough to draw conclusions; however, it covers only academic publications and policy papers of national and supranational institutions are not included in the database which weakens the policy focus of the study. However, a number of research papers by international organizations were found in the selected dataset and supplemented the policy focus of the study. Second, the analysis is highly sensitive to the search string, and selecting only global value chains and global commodity chains as keywords may have ignored some research using the alternative keywords of global supply chains or global production networks. It was still a reasonable limitation as the latter two keywords belong to different streams of literature although they may be used interchangeably. Third, the analysis in this study is highly quantitative; therefore, the findings do not substitute for full-textual reviews of GVC research. However, background information on GVCs provided through policy documents and a review of global developments from different resources aims to offer more in-depth analysis.

Further, it needs to be noted that the identification of research clusters and global trends is a dynamic process and the findings, especially the recent trends after Covid-19 should be regarded within the present context.

6.2 Conclusion to Thesis

GVCs are widely considered a defining feature of globalization (OECD, 2015). In this regard, this study considered the GVC framework as a good starting point for policy-making authorities to assess the impact of globalization on development and to design alternative policies on engagement and upgrading in the increasingly challenging global web of production. GVCs in the last few years have faced with rising environmental and sustainability concerns, trade protectionism especially after the financial crisis, the Covid-19 outbreak, and the recent war between Russia and Ukraine distorting demand and supply linkages. Considering the ongoing changes in GVCs, the study aimed to provide a revisiting GVC research to assess its changing dynamics.

Against this background, considering the critical role of research for policymaking on the present role and future of GVCs in order to build sound national policies to sustain economic and social development, the study aimed to understand the evolution of GVC studies and explore key areas to strengthen the link between research and policy. In this regard, the thesis employed a descriptive analysis to explore how the scale and scope of the scholarly work in GVCs evolved with changing dynamics and shifting trends of global economy including the Covid-19 period, and to identify changes and upcoming transitions in the main research clusters for guiding policy from a developing country perspective.

Through bibliometric analysis, the evolution of main research frontiers, trends, and research hotspots in GVC-related research were identified and discussed in this thesis with the use of the WoS database. Co-occurrence analysis for keywords, co-citation analysis, core keyword clusters, and the temporal shifts in knowledge frontiers as well as thematic trends are mapped to get a better understanding and visualization of the GVC literature. It was found that despite the backlash in globalization in recent years, the exponentially growing research on global value chains that started with developed countries-originated studies have now been expanding to developing countries led by China and generous funding to GVC research has been a trigger in increasing research in this country. In the post-Covid period, not only publications have increased but also GVCs were found expanding to multiple disciplines including

science and technology, and the proliferation of research after Covid-19 is observed mostly in the sub-fields of sustainability and digitalization. Contrary to expectations, Türkiye is not found to follow the same pattern as peer countries in the growing scale, scope, and focus of recent GVC research trends. Despite its export-led and higher value-added focus on ambitious goals of trade and development policy, its research performance is lagging behind with only a few empirical studies mostly in traditional sectors and cross-country comparisons based on aggregate data. It was found that departing from global trends of research, there is not any record of interest in the promising GVC research areas of environment and digitalization which were noted as possible areas that policies of especially European economies entail in the near future and caution prehand advised for Türkiye. Hence, these two themes were suggested trends for Türkiye to employ as they hold the promise of advancing in the GVCs which are being restructured in the post-Covid world.

The remaining question on how to fill the research and policy gaps and link research interest with policymaking with a GVC orientation was explored in the study with a discussion of findings and policy suggestions. A policy set under three main headings was developed; (i) creation of enabling environment through increasing awareness and human resources capacity and expansion through collaborations between researchers, disciplines, and countries; (ii) promotion of institutional development via founding a research institution, forming partnerships between academia, public, and industry as well as building a comprehensive institutional framework to oversee research and policy; (iii) focusing on performance by developing indicators for measuring research performance and offering prioritized funding to programs in strategic areas such as environment and digitalization in the current context of GVC dynamics.

To sum up, although it is descriptive in nature, the thesis can be considered an exploratory study providing a systematic analysis of GVC-related literature in order to guide future research and policy agenda in Türkiye. It can also be regarded as an effort for increasing awareness and introducing policymakers who are unfamiliar with GVCs to the research field. It is known that towards the goal of advancing into innovative activities in GVCs, Türkiye's current GVC participation needs to be

deepened and more effort has to be made on digital and green transition. Further studies can focus on exploring the dynamics of these two topics in GVCs and employ empirical studies of different sectors to discuss the challenges and develop policies.

REFERENCES

- Akçomak, I., & Bürken, S. (2020). Middle-Technology Trap: The Case of Automotive Industry in Turkey. *Technological Innovation and International Competitiveness for Business Growth: Challenges and Opportunities* (263).
- Altun, A., Avsar, I., Turan, T., & Yanikkaya, H. (2022). Does global value chain participation boost high technology exports? *Journal of International Development*.
- Amador, J., & Cabral, S. (2016). Global value chains: A survey of drivers and measures. *Journal of Economic Surveys*, 30(2), 278-301.
- Bair, J. (2005). Global capitalism and commodity chains: Looking back, going forward. *Competition & Change*, 9(2), 153-180.
- Cakmakci, M. (2019). Interaction in project management approach within industry 4.0. (176-189). Springer, Cham.
- Coe, N., Hess, M., & Yeung, H.-C. (2004). 'Globalizing' regional development: A global production networks perspective. *Transactions of the Institute of British Geographers*, 29(4), 468-484.
- De Marchi, V., Di Maria, E., Golini, R., & Perri, A. (2020, October). Nurturing International Business research through Global Value Chains literature: A review and discussion of future research opportunities. *International Business Review*, 29(5).
- Dedrick, J., Linden, G., & Kraemer, K. L. (2018, July 6). *Dedrick, J., Linden, G., & Kraemer, K. L. (2018). The Conversation: <https://theconversation.com/we-estimate-china-only-makes-8-46-from-an-iphone-and-thats-why-trumps-trade-war-is-futile-99258>*
- Erbay, H., & Yıldırım, N. (2022). Combined Technology Selection Model for Digital Transformation in Manufacturing: A Case Study From the

Automotive Supplier Industry. *International Journal of Innovation and Technology Management*, 19(7).

Erkuş-Öztürk, H., & Terhorst, P. (2010). Variety of modes of governance of a global value chain: the case of tourism from Holland to Turkey. *Tourism Geographies*, 12(2), 217-245.

ESCAP. (2018). *Leveraging technology and trade for economic development*. Economic and Social Commission for Asia and the Pacific.

Evenett, S. J., & Fritz, J. (2019). *Going It Alone? Trade Policy After Three Years of Populism*. Global Trade Alert.

Fernandez-Stark, K., & Gereffi, G. (2019). Global value chain analysis: A primer. G. G.-R. In S. Ponte, S. Ponte, G. Gereffi, & G. Raj-Reichert içinde, *Handbook on global value Chains*. UK: Edward Elgar.

Garfield, E. (1972). Citation analysis as a tool in journal evaluation: Journals can be ranked by frequency and impact of citations for science policy studies. *Science*, 178(4060), 471-479.

Garfield, E. (1983). Mapping science in the Third World. *Science and public policy*, 10(3), 112-127.

Gereffi, G. (1999). International trade and industrial upgrading in the apparel commodity chain. *Journal of International Economics*, 48(1), 37-70.

Gereffi, G. (2005). The global economy: Organization, governance, and development. *The Handbook of Economic Sociology*(2), 160-182.

Gereffi, G. (2005). *The New Offshoring of Jobs and Global Development*. Jamaica: LO Social Policy Lectures.

Gereffi, G. (2011). Global value chains and international competition. *The Antitrust Bulletin*, 56(1), 37-56., 1(56), 37-56.

Gereffi, G. (2019, September). "Global value chains and international development policy: Bringing firms, networks and policy-engaged scholarship back in. *Journal of International Business*, 2(3), 195-210.

Gereffi, G. (2021, July 15). Implementing Supply Chain Resiliency. *Written Testimony Submitted to the Committee on Commerce, Science and Transportation*.

- Gereffi, G., & Fernandez-Stark, K. (2011). *Global value chain analysis: A primer*. Durham: Center on Globalization, Governance & Competitiveness (CGGC) Duke University.
- Gereffi, G., & Korzeniewicz, M. (1994). *Commodity Chains and Global Capitalism*. Connecticut: Praeger.
- Gereffi, G., Hyun-Chin, L., & Lee, J. (2021, April). Trade Policies, firm strategies, and adaptive reconfigurations of global value chains. *Journal of International Business Policy*, 506-522.
- Gersch, I. (2019). Foreign direct investment and local supplier upgrading – the case of grocery retail in Turkey. *Geografisk Tidsskrift-Danish Journal of Geography*, 119(2), 108-120.
- Giuliani, E., Pietrobelli, C., & Rabellotti, R. (2005). Upgrading in global value chains: Lessons from Latin American clusters. *World Development*, 549-573.
- Global Change Data Lab. (2020, May 28). Our World in Data: <https://ourworldindata.org/grapher/globalization-over-5-centuries-km>
- Golini, R., Caniato, F., & Kalchschmi, M. (2016). Golini, R., Caniato, F., Kalchschmidt, M., 2016. Linking global value chains and supply chain management: evidence from the electric motors industry. *Production, Planning and Control*, 27(11), 934-951.
- Han, F., Feng, Z., Chao, W., Nujie, Y., & Dong, Y. (2021). Interweaving industrial ecology and ecological modernization: a comparative bibliometric analysis. *Sustainability*, 13(17), 9673.
- Haustein, S., & Larivière, V. (2015). The use of bibliometrics for assessing research: Possibilities, limitations and adverse effects. *Incentives and Performance*, 121-139.
- Henderson, J., Dicken, P., Hess, M., Coe, N., & Yeung, H.-C. (2002). Global Production Networks and the Analysis of Economic Development. *Review of International Political Economy*, 9(3), 436-464.
- Humphrey, J., & Schmitz, H. (2002). How does insertion in global value chains affect upgrading in industrial clusters?. *Regional Studies*, 36 (9), 1017-1027.

- Humphrey, J. (2004, May). *Upgrading in Global Value Chains*. Geneva: International Labor Office.
- Ignatenko, A., Raei, F., & Mircheva, B. (2019). *Global Value Chains: What are the Benefits and Why Do Countries Participate?* IMF Working Paper.
- IMF. (2022). *World Economic Outlook, October*. International Monetary Fund.
- Jurowetzki, R., Lema, R., & Lundvall, B.-Å. (2018). Combining Innovation Systems and Global Value Chains for Development: Towards a Research Agenda. *European Journal of Development Research*, 364-388.
- Kano, L., Tsang, E., & Yeung, H.-c. (2020). Global value chains: A review of the multidisciplinary literature. *Journal of International Business Studies*, 577-622.
- Kayaoğlu, A. (2020). Labour market impact of Syrian refugees in Turkey: the view of employers in informal textile sector in Istanbul. *Migration Letters*, 17(5), 583-595.
- Kleiner-Schaefer, T., & Schaefer, K. (2022). Barriers to university–industry collaboration in an emerging market: Firm-level evidence from Turkey. *The Journal of Technology Transfer*, 47(3), 872-905.
- Korzeniewicz, M. (1994). Commodity chains and marketing strategies: Nike and the global athletic footwear industry. *Contributions in Economics and Economic History*, 247-247.
- Linqing, L., & Mei, S. (2016). Visualizing the GVC research: a co-occurrence network based bibliometric analysis. *Scientometrics*, 953-977.
- Mayer, F., & Gereffi, G. (2019). International development organizations and global value chains. *Handbook of Global Value Chains* (s. 570-584). Edward Elgar Publishing.
- Ministry of Development. (2014). The 10th National Development Plan (2014-2018). Türkiye.
- Moed, H. (2005). Citation analysis of scientific journals and journal impact measures. *Current Science*, 1990-1996.
- Mordue, G., & Sener, E. (2022). Upgrading in the Automotive Periphery: Turkey's Battery Electric Vehicle Maker Togg. *Development and Change*.

- Mostafiz, M., Musteen, M., Saiyed, A., & Ahsan, M. (2022). COVID-19 and the global value chain: Immediate dynamics and long-term restructuring in the garment industry. *Journal of Business Research*(139), 1588-1603.
- Nadeem, M., Lou, S., Wang, Z., Sami, U., Ali, S., Abbas, Q., & Artan, S. (2022). Efficiency of domestic institutional arrangements for environmental sustainability along the way to participate in global value chains: evidence from Asia. *Economic Research-Ekonomska Istraživanja*, 1-20.
- Neidik, B. (2004). Organizational foundations of export performance: The case of the Turkish apparel industry. *Journal of Fashion Marketing and Management: An International Journal*.
- Neidik, B., & Gereffi, G. (2006). Explaining Turkey's emergence and sustained competitiveness as a full-package supplier of apparel. *Environment and Planning A*, 38(12), 2285-2303.
- Neilson, J., Pritchard, B., & Yeung, H. (2014). Global value chains and global production networks in the changing international political economy: An introduction. *Review of International Political Economy*, 21(1), 1-8.
- OECD. (2015). *Participation of Developing Countries in Global Value Chains*.
- OECD. (2022, March 10). *International trade during the COVID-19 pandemic: Big shifts and uncertainty*. <https://www.oecd.org/coronavirus/policy-responses/international-trade-during-the-covid-19-pandemic-big-shifts-and-uncertainty-d1131663/>
- Oldekop, J., Horner, R., Hulme, D., Adhikari, R., Agarwal, B., & Alford, M. (2020). COVID-19 and the case for global development. *World Development*, 134.
- Onuklu, A., Darendeli, I., & Mudambi, R. (2020). Regulative distance, international connectivity and innovation systems: Turkey's links to the EU. *Competitiveness Review: An International Business Journal*, 231-249.
- Özatağan , G. (2011). Shifts in value chain governance and upgrading in the European periphery of automotive production: evidence from Bursa, Turkey. *Environment and Planning A*, 43(4), 885-903.
- Pelupessy, W., & Van Kempen, L. (2005). The impact of increased consumer-orientation in global agri-food chains on smallholders in developing countries. *Competition & Change*, 9(4), 357-381.

- Pietrobelli, C., & Rabellotti, R. (2021). Global Value Chains Meet Innovation Systems: Are There Learning Opportunities for Developing Countries? *World Development*, 39(7), 1261-1269.
- Ponte, S. (2002, July). The 'Latte Revolution'? Regulation, Markets and Consumption in the Global Coffee Chain. *World Development*, 30(7), 1099-1122.
- Ponte, S., Gereffi, G., & Raj-Reichert, G. (2019). *Handbook on Global Value Chains*. Edward Elgar Publishing.
- Praveen, J., & Amit, C. (2014). *Post-fordism, Global Production Networks and Implications for Labour*. Institute for Studies in Industrial Development.
- Presidency of Strategy and Budget. (2019). The 11th National Development Plan (2019-2023). Türkiye.
- Pritchard, A. (1969). Statistical bibliography or bibliometrics. *Journal of documentation*, 25, 348.
- Rodrik, D. (2007, December 25). Türkiye için Sanayi Politikaları. *TUSIAD-Koc Economic Research Forum*. İstanbul.
- Saka-Helmhout, A., & Karabulut, E. (2006). Institutional barriers to entrepreneurship in clusters: Evidence from the Turkish textile sector. *International Journal of Emerging Markets*.
- Sancak, M. (2022). The varying use of online supplier portals in auto parts-automotive value chains and its implications for learning and upgrading: The case for the Mexican and Turkish suppliers. *Global Networks*, 22(4), 701-715.
- Sausman, C., Garcia, M., Fearne, A., Felgate, M., Ait El Mekki, A., & Cagatay, S. (2015). From value chain analysis to global value chain analysis: Fresh orange export sector in Mediterranean partner countries. *Sustainable Agricultural Development*, 197-225.
- Saygılı, H. (2022). Invoicing currency, exchange rate pass-through, and value-added trade: The case of Turkey. *International Journal of Finance & Economics*.
- Shin, N., Kraemer, K., & Dedrick, J. (2012, February). Value Capture in the Global Electronics Industry: Empirical Evidence for the "Smiling Curve" Concept. *Industry and Innovation*, 19(2), 89-107.

- Shuabiu, U., Usman, M., & Çavuşoğlu, B. (2021). The Nexus among Competitively Valued Exchange Rates, Price Level, and Growth Performance in the Turkish Economy; New Insight from the Global Value Chains. *Journal of Risk and Financial Management*, 14(11), 528.
- Soyyigit, S., & Eren, E. (2022). Global supply and demand of medical goods in the fight against Covid-19: a network analysis. *Asia-Pacific Journal of Regional Science*, 6(3), 1221-1247.
- Tartanoğlu, Ş. (2018). The voluntary precariat in the value chain: The hidden patterns of home-based garment production in Turkey. *Competition & Change*, 22(1), 23–40.
- Tokatli, N., & Kızılgün, Ö. (2009). From manufacturing garments for ready-to-wear to designing collections for fast fashion: evidence from Turkey. *Environment and Planning A*, 41(1), 146-162.
- Tunç, G., Akbostancı, E., & Türüt-Aşık, S. (2022). Ecological unequal exchange between Turkey and the European Union: An assessment from value added perspective. *Ecological Economics*, 107269.
- U.S. Chamber of Commerce. (2017). *Made in China 2025: Global Ambitions Built On Local Protections*.
https://www.uschamber.com/sites/default/files/final_made_in_china_2025_report_full.pdf
- Wang, S., & Gu, Z. (2022). Mapping the Field of Value Chain: A Bibliometric and Visualization Analysis. *Sustainability*, 14(12), 7063.
- Webster, F. (2006). *Theories of the Information Society* (Third Edition b.). London and New York: Routledge.
- World Bank. (2020, January 8). *The World Development Report (WDR) 2020: Trading for Development in the Age of Global Value Chains*. World Bank website: <https://www.worldbank.org/en/publication/wdr2020>
- World Bank. (2022). *Leveraging Global Value Chains for growth in Turkey : A Turkey Country Economic Memorandum*. Washington, DC: World Bank.
- World Trade Organization. (2019). *Statistics on merchandise trade*. Annual Trade Data: https://www.wto.org/english/res_e/statis_e/merch_trade_stat_e.htm

Xing, Y., Gentile, E., & Dollar, D. (2021). *Global value chain development report 2021: Beyond production*. World Trade Organization.

APPENDICES

A. KEY CONCEPTS OF GVC RESEARCH

Industrial Upgrading in GVCs

Upgrading, an integral part of GVC framework, is defined as “a process of improving the ability of a firm or an economy to move to more profitable and/or technologically sophisticated capital and skill-intensive economic niches” (Gereffi, 1999). The process of industrial upgrading encompasses several different paths though it should be noted that none of them by itself guarantees sustained competitiveness without a flexible and adaptable strategy in a changing economic and political environment. The four principal ways a firm or a country can upgrade are as follows (Humphrey & Schmitz, 2002):

Process upgrading: Firms can upgrade processes as they increase efficiency and shorten time-to-market by re-organizing the production system, reducing production costs or introducing superior technology. Introducing highly-codified procedures, employing supplier traceability mechanisms, installing irrigation systems, moving to organic product lines or re-organizing local suppliers to reduce costs could be examples of process upgrading. There are various sectoral examples of process upgrading in GVCs (e.g., Brazil’s Sinos Valley footwear cluster) as it is a favored type of upgrading demanded by lead firms to minimize costs through the chain.

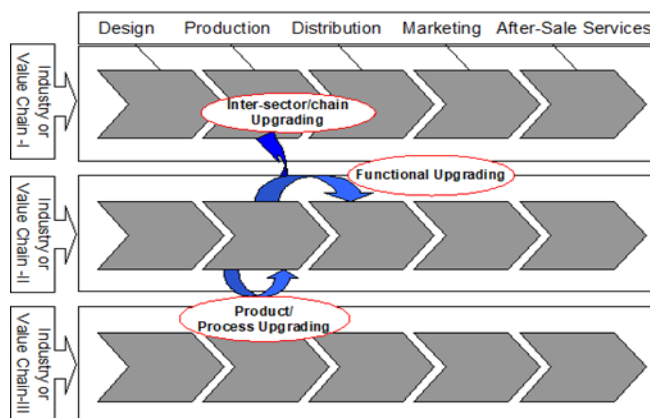
Product upgrading: Firms upgrade by moving from basic products into more sophisticated product lines that can be observed as increased unit values (e.g., cotton shirts to men's suits). This form of upgrading also entails shifting from mass production of standardized merchandise to flexible production of differentiated goods.

As an example of product upgrading, in the 1980s, voluntary export restrictions applied to Japanese car producers at the request of the U.S. government in order to limit the exports of Japanese automobiles not only led to Japanese carmakers opening production facilities in the US but also paved the way for product upgrading of Japanese manufacturers to higher-priced product lines (Gereffi, Hyun-Chin, & Lee, 2021).

Functional upgrading: Firms upgrade by acquiring new functions and increasing the overall skill and technology content of their activities. They might move from a simple assembly of imported components to taking care of the entire production process, design of their own products, and sale of their own branded products in national and global markets. In the case of East Asian apparel, footwear, and electronics industries, producers shifted from the assembly of imported inputs in export-processing zones to the domestic production and sourcing of finished goods (Original Equipment Manufacturing) to design (Original Design Manufacturing), branding (Original Brand Manufacturing), trading, and logistics (Gereffi, Hyun-Chin, & Lee, 2021).

Inter-sectoral (chain) upgrading: Firms may apply the competence acquired in a particular function to move into a new sector. They can transform from low-value, labor-intensive industries into capital and technology-intensive ones (e.g., from apparel to automotive, from TVs to computers (Taiwan)).

Figure: Types of Upgrading



Source: Adopted from Humphrey and Schmitz, 2001

Upgrading in GVCs is indeed a central topic of GVC studies and policy circles as it helps to understand how the gains from the globalization of production are distributed and determine ways and strategies to increase them. At a firm or an industry level, it is the motivation to raise profits by moving to a niche area or integrating production activities while at the national level, the motivation is generally improving the relative position of a country in the global economy and/or increasing efficiency and productivity either by designing targeted policies to attract technology-intensive greenfield investments or removing trade barriers to better integrate with the chain and capture a higher share of value-added. Accordingly, economic upgrading can be measured in terms of various indicators such as value-added, exports' quantity and value, share in world exports, product and market diversification levels, and the technological intensity of production or labor productivity rates.

Discussions on upgrading suggest that upgrading has not occurred automatically and it is often constrained to process or product upgrading in developing firms engaged in GVCs. Functional upgrading and inter-sectoral upgrading are often under pressure of the lead firms and they have not been happening too often, except for the availability of conducive governance structures.

Governance in GVCs

In a globalized economy, firms, industries, and countries functioning through GVCs face different challenges and follow different pathways to upgrade their positions and increase gains in such terms. A key determinant of such differences in upgrading patterns is the governance structure of GVCs. The various types of governance structures in GVCs include public, private and social forms of governance. (Gereffi and Fernandez-Stark, 2011)

By public governance, it is referred to local, regional or, national rules and regulations (e.g., tariff policy, tax policy, employment policy, industrialization strategy, and so on) as well as bilateral, multilateral or international rules and regulations (e.g., free trade agreements, customs unions, climate agreements). The policy agenda at the

domestic level or global platform is another key determinant of the upgrading trajectories of individual firms and nations. Governments can either facilitate or hinder upgrading through their policies, rules and regulations. (Gereffi, Hyun-Chin, & Lee, 2021)

In addition to public governance, the social form of governance refers to civil society organizations including labor unions or consumer groups and any other civil advocates interacting with the GVCs.

Private governance, on the other hand, mainly refers to the behavioral characteristics of global suppliers and lead firms in the coordination of production. Therefore, the type of relationship between suppliers and lead firms is key to understanding the GVC's private governance structure. Whether it is market (easily codified transactions with no explicit coordination of production), modular (suppliers given almost full responsibility with highly codified procedures), relational (suppliers and lead firms are mutually dependent with low levels of codification), captive (suppliers are highly dependent on and controlled by lead firms with codified processes such in assembly factories) or hierarchy (vertical integration of the chain under lead firm with a low level of codification but highest level of control) is an important factor for upgrading. It is important to note that any upgrading strategy cannot be isolated from these three types of governance structures.

Figure: Types of Governance

Governance type	Complexity of transactions	Ability to codify transactions	Capabilities in the supply-base	Degree of explicit coordination and power asymmetry
Market	Low	High	High	Low
Modular	High	High	High	
Relational	High	Low	High	
Captive	High	High	Low	
Hierarchy	High	Low	Low	

Source: Gereffi et al. (2005)

B. REVIEW OF NATIONAL DEVELOPMENT PLANS FROM THE LENS OF GVCS

National Development Plans (NDPs) are known as the most comprehensive and holistic policy documents for the ultimate goal of raising the economic and social welfare level of the country. They include mandatory high-level policy targets for public institutions to follow and offer a guiding framework for the private sector to consider. With the planning approach, eleven development plans have been implemented in the last 60 years in Türkiye. As the highest level of official document of development policy in Türkiye, National Development Plans have prioritized export-led growth and domestic factors to boost it since the 1980s. In the successive Development Plans covering the period from 1980 to 2023, trade and integration have always been recognized as critically important topics, and raising exports has long been a prioritized policy objective.

Considering the specific address of GVCs in the Development Plans, the country's integration into global value chains was first elaborated in the 10th Development Plan (2014-2018) and then in the succeeding 11th Development Plan (2019-2023). It was found that both the 10th Development Plan and the 11th Development Plan included the term "global value chains" for eight times each. The term GVC was included in the 10th and 11th NDPs with the following paragraphs:

Table: GVC-related Paragraphs in National Development Plans of Türkiye

10th Development Plan (Period: 2014-2018)
<p>“18. While global competition has been rapidly increasing, perception of competition has also been changing. Successive stages of production processes, which could be carried in a single facility before, can now be split and carried out in multiple locations, countries and firms are becoming increasingly specialized. Thus, different stages of the value chain can well be located in different regions and countries. Due to the re-organization of production, an increasing proportion of international trade consists of intermediate products and intra-industry trade rather than final products. Transportation, logistics services and information and communication technologies (ICT) with decreasing costs and increasing quality facilitate the re-organization of production and trade.”</p>
<p>“20. Developed countries dominate the high value-added stages of global value chains and govern other stages of these chains and production networks. Lower value-added stages are mostly carried out by developing and emerging economies. Considering its potential, Turkey’s weight in high value-added stages is not sufficient yet. However, relying on its industrialization experience, rapidly improving corporate organizational and managerial skills and export oriented stance, Turkey is capable of organizing and developing value chains in its neighborhood and thus turning changing production and demand conditions into opportunities. Being at a transit location, being a leader in terms of fleet size of highway transportation among European Union (EU) and neighboring countries, and being a ‘safe haven’ in its unstable neighborhood, give Turkey advantages for organizing value chains. Besides, in comparison with the countries in its hinterland, health and higher education infrastructure of Turkey brings new opportunities in services exports.”</p>
<p>“99. A structural transformation is needed to establish high value added and technology intensive production and export structure. This transformation is also important for the position of Turkey’s manufacturing industry in global value chains. In this context, significant improvements have been achieved in instruments and institutions needed to transform science and technology to economic and social benefits; human and financial resources allocated to R&D activities have been increased. However, despite the increase in resources allocated to R&D, the need for progress continues in patenting and commercialization activities.”</p>
<p>“419. Analyzing the experience of countries which were not caught by the middle-income trap in joining high income countries, it is observed that industry has played a central role in the process of development and it has been a driving sector leading transformation in economic structure. Moreover, a rapid capital accumulation process was observed through high rates of investment. In this way, these economies acquired production capabilities in more advanced technologies and took higher positions in the global value chain during the internationalization of production process.”</p>
<p>“424. The main objectives in the industry sector are increasing domestic value added in production, transition to a higher-technology product range that enables sustainable production and ascending the steps of global value chain. With improvements in these areas, it will be possible to increase within-industry productivity level and to reach a more competitive production structure with lower import dependence and higher export share in the world market.”</p>
<p>“431. Thus, on a solid macroeconomic base, Turkish economy will attain a stable structure that can produce in global standards, has higher positions in the global value chain, has higher-technology product range, and lower import dependence.”</p>
<p>“666. The buyout of foreign companies that will provide strategic branding advantage to domestic firms in the global value chain will be supported in the context of state support programs.”</p>
<p>Healthcare Related Industries Structural Transformation Program: “In this context, increasing the effectiveness in global value chain by means of improving domestic production capacity and developing R&D and entrepreneurship ecosystem in the medium term, and in the longer term building capability</p>

of developing new molecules, capability of producing higher value-added pharmaceuticals and medical devices, is envisaged.”

11th Development Plan (Period: 2019-2023)

19. High-income countries, on the other hand, continue their efforts to maintain their leadership in **global value chains** by fortifying their superiority in innovative production technology and qualified human resources with technology wars, trade wars and protectionism approaches.

130. While fixed capital investments increased by 4.5 percent on average in this period, the share of productive areas in the investment composition decreased relatively, as resources were directed to non-traded sectors rather than the industrial sector. In order to increase the potential growth rate of the economy in the medium and long term, need for investments in productive areas that will raise our country's position in the **global value chain** hierarchy continue.

230.1. With a target market and target product-oriented approach, the Export Master Plan will be prepared and put into practice, which will support the integration of our companies into the value-added stages of **global value chains** and aim at sustainable export growth.

278. Due to the transformative acceleration of technological developments and communication channels in economic and social life, competitive pressure has increased at the global level, and countries have entered into a fierce race to become more competitive. In this race, it is necessary to strengthen the physical, human and technological infrastructure in order for our country to have a more competitive economic structure that will enable it to be at the top of the **global value chains**.

279. At the global level, the elements of competitiveness are rapidly transforming, and the roles between capital and labor in production are re-shared. While the weight of competition based on cheap labor is decreasing, strong trade channels and marketing strategies that are based on high technology, capable of faster, flexible and innovative production, strengthened with active diplomacy and logistics infrastructure, as well as design and branding, stand out as the main factors that increase the competitive advantages of countries. Efficiency gains in these elements have a special place in order to integrate technological progress with production processes and to be competitively integrated into the **global value chain**.

323. “Producing Cities Programme” to support institutionalization, marketing, innovation and transportation infrastructures in order for cities that are the focus of manufacturing and export to move to higher levels of value chains in medium-high technology products and to integrate with global value chains, and to increase the employment of qualified labor in these cities by increasing the quality of life. will be developed.

327.1. In the project-based incentive system, priority will be given to investments that come to our country for the first time, aim to produce strategic products, integrate into the **global value chain**, and increase our technological level and export capacity.

353. In order to obtain a higher value-added share in the **global value chain**, preliminary research will be carried out in our country.

As the first plan that officially expressed the integration into global value chains as a critical policy for economic and social development, the 10th Development Plan (2014-2018) included 25 Priority Transformation Programs with policies that emphasized the rule of law, knowledge, international competitiveness, social development, environmental protection and sustainable use of resources, as well as high, stable and

inclusive economic growth. Globalization had a high impact on the policy background and policy objectives of the Plan.

The 10th Development Plan recognized the importance of global value chains that have altered the conventional organization of production and trade across regions and countries. The Plan not only underlined the changing global production landscape but also raised the concern about governance of value chains dominated by developed countries. Considering the opportunities for Türkiye to move up in the value chains based on its local strengths with strong industrialization, organizational capabilities, and the favorable geopolitical position as a regional hub, the Plan addressed the ongoing need for high value-added and technology-intensive production and exports structure with better progress in patenting and commercialization activities. It articulated the policy target to lower import dependence and increase domestic value-added and move to higher-technology production with R&D for upgrading in GVCs. Buying out foreign firms to move to OBM position was also incentivized as a policy tool in the 10th Development Plan.

Reviewing the Plan from the GVC perspective, it is significant that the governance of the chain, local capabilities, regional networks, technological sophistication, the state's active role in functional upgrading (from manufacturing into branding through acquiring foreign firms), patenting, and commercialization that are the two indicators of innovation, were discussed at the highest level of development policy-making.

The latest Plan, the 11th Development Plan (2019-2023), has prioritized integration into GVCs and capturing higher value-added that can lead to industrial upgrading and sustainable growth in exports. Similar to the preceding Plan, the focus of the 11th Development Plan has been placed on the production and exports of higher value-added products and high-technology sectors. It reiterated the fact that governance of GVCs is dominated by high-income countries' firms through their superiority in technological and innovation activities, and high skills. Protectionist moves of developed countries further strengthen their superiority in GVCs. Policies prioritized

in the Plan have been increasing industrial investments in targeted products/sectors and supporting their exports into targeted markets in order to upgrade in GVCs. The Plan has been characterized by sectoral prioritization; certain sectors that include chemicals, pharmaceuticals-medical devices, machinery-electrical equipment, automotive, electronics, and rail system vehicles, under the manufacturing industry, were determined as priority sectors in the Plan. For competitiveness in GVCs, especially in the prioritized sectors, the Plan recognized the importance of strengthening physical, human and technological infrastructure, high-technology, research, innovation, fast and flexible production, diplomacy, logistics infrastructure, as well as design and branding activities.

While both development plans have prioritized focusing on export market development and domestic value chain development in order to move up the global value chains, the 10th Development Plan put more emphasis on globalization while the 11th Development Plan covers the time period coinciding with the protectionist trade policies in global economy differs from the preceding plan by employing mission-oriented policies that target specific sectors to provide support and favoring local production and domestic value-added. The key focus areas and differing priorities of the two development plans can also be seen in the word clouds created through R-Studio. In the 10th Development Plan (2014-2018), the keywords ‘social’, ‘globalization’, ‘knowledge’, ‘investments’, ‘indigenous’, ‘R&D’, and ‘environment’ are the most articulated themes whereas in the 11th Development Plan, the most frequently used terms are ‘social’, ‘services’, ‘R&D’, ‘sector/industry’, ‘competition’, ‘environment’ and ‘national’.

importance of the document for Korea was expressed by President Moon-Jae as “The Korean New Deal will form the basis of Korea's next 100 years.” The Korean New Deal refers to Korea as a smart country at the center of a digital transition based on data, network and artificial intelligence infrastructure; a green country that, as a responsible member of the global community, achieves a balance between people, nature and growth with the green transition towards net-zero emissions; the deal aims to transform the country into a safe territory that invests in human resources for strong employment and social safety net. With the structural changes that occurred with Covid-19, 10 key projects were included in KND, consisting of the main titles "Digital New Deal", "Green New Deal", "Stronger Safety Net", "Forecasts for 2025 and Implementation Plan". It is a national strategy document with a vision of “From a fast tracker economy to a first mover economy”, “From a carbon dependent economy to a low carbon economy” and “From a socially divided society to an inclusive society” (Korean Ministry of Economy and Finance, 2020). With the Korean New Deal, it is seen that the South Korean economy is moving towards a path where green transformation and digital economy practices will be given even greater importance. With the Digital New Deal, digital innovation and new dynamics in the economy will be encouraged, with the Green New Deal, it is aimed to accelerate the transition to a low-carbon economy and environmentally-friendly economy practices, and it is revealed in the Deal that industrial and technological integration and innovation will be achieved with the interaction of these two strategies.

China, on the other hand, has been preparing five-year plans that include economic and social development priorities by the Chinese Communist Party since 1953. When the development plans of China are reviewed in general, industrial production and technological breakthrough have been the main elements of the plans. The latest 14th development plan covers the period 2021-2025 and entered into force with the approval of the National Congress on March 11, 2021. The Fourteenth Plan (2021-2025), based on the 2035 vision, has been prepared in a comprehensive and broad framework. Three main themes stand out in the plan: high-tech production, quality growth, and climate change. The plan aims for China to become a "moderately

developed" economy by 2035, with a GDP per capita of around US\$30,000, almost three times the 2020 level. It also includes the goals of creating "innovation-driven development" and "digital China". For the first time in China's planning history, no growth target was articulated in the plan. The reason for this is that it focuses on quality growth, not numerical growth. Under the plan, China aims to nurture new digital industries, including artificial intelligence, big data, blockchain, and cloud computing, and expand the use of 5G technologies into more sectors such as smart transportation and logistics. The plan covers many areas from education to health, from the digital economy to industrialization, from cultural structure to urbanization, and population dynamics. In addition to the five-year plan, the 'Made in China' initiative is focused on indigenous innovation and strategic engagement with foreign firms.

All three countries' planning experiences have similar focus areas in terms of targeting key manufacturing industries for economic growth. However, China and South Korea differ from Türkiye in their most recent policy documents by focusing heavily on digitalization and sustainability. Both countries seek to use innovation and upgrading in emerging industries (e.g., biotechnology, clean energy, robotics, artificial intelligence) other than traditional manufacturing sectors. On the other hand, South Korea and Türkiye differ from China as the two countries still have export-led growth as the top priority for boosting productivity; therefore, further economic integration through GVCs is the main pillar of development. China, instead, with its huge population size, is aiming to move from export-led growth to consumption-led growth. Also, China's indigenous innovation efforts, aggressive plans of purchasing foreign technology firms, and the platform economies that coordinate suppliers across multiple industries for foreign lead firms investing in the region as well as the regional economic and social integration model called 'One Belt One Road Initiative' together represent a unique model of development policy to leverage GVCs and upgrade in value chains (Frederick et al., 2017).

Considering the thematic changes in studies and planning documents in line with the restructuring of GVCs in a challenging global economy, sustainability, green

transition, environmental upgrading, innovation, and digitalization topics need to have greater priority in future policy-making. Indeed, the need for such a move is already signaled in recent policy actions. Türkiye ratified the Paris Convention on Climate Change in 2016 and committed that it will reduce carbon emissions to net zero by 2053. The strategic role that Türkiye has attached to green transition can also be seen in various other initiatives recently such as announcing the Action Plan in compliance with the European Green Deal, signing a global agreement for transition to zero-emission vehicles at COP-26 in 2021, establishing a National Green Building Certification System, establishing the green city vision, and forming a well-functioning and participatory institutional coordination mechanism for the follow-up and review of Sustainable Development Goals (SDGs). The other prioritized policy targets for green transition include developing green organized industrial zones; preparation of a Circular Economy Action Plan; increasing R&D to development of technologies for green production; improving the ecosystem for green financing; improving the infrastructure for sustainable and intelligent transport; charging infrastructure and the use of electric vehicles in public transport fleets and service vehicles.

Closely linked to sustainability and environmental upgrading, the critical importance of digitalization has also been recognized by the government of Türkiye. Various ministries and government institutions have recently been proactively working to design policies and programs that are far more technology-intensive than before and focusing on providing incentives to industries for digitalization processes and improvement of innovation skills in order to gain sustainable competitiveness.

While the maturity of efforts is still in infancy and is not fully reflected on the implementation ground yet, except for a few projects in certain industries such as automotive and electrical machinery, it can be concluded that environment, sustainability, and digitalization topics are likely to be the most critical themes in the following policies, programs, and regulations in line with the recent evolution of GVC research after Covid-19.

C. TURKISH SUMMARY / TÜRKE ÖZET

KDZ'ler yaygın olarak küreselleşmenin tanımlayıcı bir özelliđi olarak kabul edilir (OECD, 2015). Bu bağlamda, bu çalışma, KDZ çerçevesini, politika yapıcılarının küreselleşmenin kalkınma üzerindeki etkisini değerlendirmeleri ve giderek zorlaşan küresel üretim ađına katılım ve yükseltme konusunda alternatif politikalar tasarımları için iyi bir başlangıç noktası olarak değerlendirmektedir. Son birkaç yılda KDZ'ler artan çevresel ve sürdürülebilirlik endişeleri, özellikle finansal krizden sonraki ticari korumacılık, Kovid-19 salgını ve Rusya ile Ukrayna arasındaki son zamanlarda arz ve talep bağlantılarını bozan savaşla karşı karşıya kalmıştır. KDZ'lerde devam eden deđişiklikler göz önüne alındığında, bu çalışma, deđişen dinamikleri değerlendirmek için KDZ araştırmasının yeniden gözden geçirilmesini sağlamayı amaçlamıştır.

Küresel deđer zinciri (KDZ), bir ürün veya hizmeti başlangıcından bugüne getirmek için birden fazla firma ve ülke arasında bölünmüş tasarım, üretim, pazarlama ve dağıtımdan müşteri hizmetleri ve satış sonrası hizmetlere kadar tüm katma deđerli faaliyetleri ifade etmektedir (Gereffi & Fernandez-Stark, 2011). Temel olarak, KDZ'ler işlevsel olarak birbirine bađlı ancak küresel olarak bölünmüş faaliyetler yoluyla deđer yaratan çok katmanlı bir firma ađıdır (Fernandez-Stark & Gereffi, 2019). Örneđin bir pamuklu gömlek İtalya'da tasarlanabilir, kumaşı Türkiye'den temin edilebilir, Çin'den tedarik edilen düğmeler ile Tunus'ta kesilip dikilebilir ve İngiltere pazarında satılabilir. Bu örneđi daha farklı ürün ve teknolojilere genişletmek mümkündür.

Küresel deđer zincirleri alternatif olarak küresel tedarik zincirleri, küresel emtia zincirleri veya küresel üretim ađları ifadeleriyle birlikte kullanılır; ancak, bu

kavramların arkasındaki motivasyonlar ve bağılı olduğu düşünce sistemleri farklıdır. Örneğin, küresel tedarik zincirleri KDZ'lere benzer şekilde, bir ürünü üretmek, satmak ve dağıtmak için küresel olarak organize edilmiş olsa bile, KDZ kavramı, zincirde daha fazla değer katmak için bu tür faaliyetlerin birbirine bağlanma ve yönetim şekline odaklanır (Golini ve diğerleri, 2016). Başka bir deyişle, KDZ yaklaşımı, esas olarak bir sektördeki tedarikçiler arasındaki operasyonel ve lojistik organizasyona odaklanan tedarik zinciri kavramının ötesine geçmiştir; bunun yerine zincirin nasıl yönetildiğine ve her bir ekonomik aktörün aralarındaki güç asimetrisini hesaba katarak değer yaratmada hangi rolleri oynadığına bakarak bir ürün/hizmet zincirindeki her faaliyet veya görevdeki katma değeri ortaya koyar. KDZ'lerde, bir zincirin nasıl organize edildiği ve yönetildiği, KDZ çerçevesine göre daha üst seviyelere geçmek için belirleyici bir faktör olabilir. İkincisi, alternatif olarak kullanılan küresel emtia zincirleri, genellikle farklılaştırılmamış ve katma değeri düşük olan ürünlerin emtia özelliğini vurgulayarak olgunun anlaşılmasını sınırlayabilirken, KDZ'ler basitten karmaşığa her tür ürün, hizmet ve teknolojiyi ifade eder. Son olarak, KDZ'lere benzer şekilde, "küresel üretim ağları" kavramı da firmaların, bölgelerin ve ülkelerin küresel pazardaki katılımını anlamak için yararlı bir açıklayıcı çerçeve sağlar (Neilson, Pritchard ve Yeung, 2014); Bununla birlikte, küresel üretim ağlarının, değer, güç ve yerleşiklik kavramlarına yönelik merkezi eğilimi ve ekonomik coğrafyadan ilham alması, katma değerli görevlerin haritalandırılmasına, yönetime ve kalkınma için yükseltmeye odaklanan KDZ yaklaşımının bütüncül motivasyonundan farklı bir motivasyonu bulunmaktadır (De Marchi, Di Mariaa, Golini, & Perric, 2020). KDZ yaklaşımı, yerel firmalar arasındaki bağların önemini de dikkate alırken, özellikle dış bağlantılarla ilgilenir.

Öncülüğünü Duke Üniversitesi'nden Profesör Gary Gereffi'nin yaptığı küresel değer zincirleri çerçevesi, belirli bir endüstri veya ürün/hizmet için küresel pazarın nasıl organize edildiğini ve bir firma veya bir ülkenin küresel ekonomiye nasıl uyum sağladığını araştırır. Bu bakış açısına göre, küresel değer zincirleri lider firmalar tarafından yönlendirilip kontrol edilir ve lider firmalar, küresel olarak organize edilmiş zincir içindeki rant açısından zengin faaliyetler üzerinde önemli bir güce sahiptir.

Küresel bir değer zincirine katılmak için gerekli ilk adım, öncelikle gerekli kapasiteyi geliştirmektir; ancak, KDZ'lere katılımdan edinilecek fayda düzeyi, zincir boyunca değer yaratmak ve elde etmek için diğer aktörlerle nasıl etkileşim kurulacağına göre belirlenir. Küresel ağdaki lider firmalarla stratejik bağlantı bu perspektifte kilit unsur olsa da, aynı zamanda yerel ve küresel seviyelerde kurumsal çerçeve ve düzenleyici yapının değer zincirinde yükselme beklentilerini şekillendirmedeki rolü de önem arz etmektedir. Bu nedenle, KDZ'lerle ilgili politikaları ve programları tasarlayan bir kamu politikası rolü kritiktir.

Küreselleşme sürecinde organizasyonel, teknolojik, lojistik, kurumsal ve sosyal değişimlerle birlikte KDZ'ler hem gelişmiş hem de gelişmekte olan ülkeler için önemli bir olgu haline gelmiştir. Öte yandan, son kırk yılda KDZ'ler yoluyla ekonomiler arasında karşılıklı bağımlılığın artmasıyla birlikte kalkınma umutlarının, Çin'in dışındaki ülkeler için farklı sonuçlandığına dair tartışmalar devam etmektedir. Gelişmekte olan ülke firmalarının, özellikle küçük ve orta ölçekli işletmelerin KDZ'lere katılım, gelişmekte olan ülkelerde üretim, ihracat ve firma düzeyinde öğrenmede daha büyük fırsatlar oluşturması bakımından genellikle ekonomik büyümenin temel bir kaynağı olarak algılanırken, uzun vadede düşük katma değerli faaliyetlere kilitlenmeye ilişkin endişeler zaman içinde artmıştır.

Türkiye, diğer gelişmekte olan pek çok ülke gibi KDZ'lere katılım eğiliminden izole olmamış ve KDZ'lerle entegrasyonu son yirmi yılda sürekli olarak geliştirmiştir. Bu katılımın ihracat ve istihdam performansının artmasına neden olduğu savunulmaktadır; ancak, elverişli politikalara ve KDZ'lerde iyileştirmeye yönelik yüksek hedeflere rağmen, ihracatın yenilikçi faaliyetlerde, teknik gelişmişlikte ve ihracatın birim değerinde önemli bir ilerleme olmadığı, buna ilave olarak yüksek karbon yoğunluğuna sahip olduğu da tartışılmaktadır.

KDZ'lerin artan önemi ve özellikle Kovid-19'dan sonra küresel ekonomide bir paradigma değişikliğine yol açabilecek mevcut dinamikler ile birlikte, Türkiye'nin de dahil olduğu gelişmekte olan ülke politika yapıcılarının zorlu ama hayati derecede

önemli görevi, küresel trendleri analiz ederek gerçek bir endüstriyel yükselme ve kalkınma için araç olarak KDZ'lere katılımın hangi koşullar altında devreye sokulacağını keşfetmektir.

Tüm tartışmalara rağmen, KDZ'lerin kritik öneminin, giderek birbirine bağımlı ancak kırılgan hale gelen küresel ekonomide devam ettiği gözlenmektedir. Sürdürülebilir ekonomik, sosyal ve çevresel kalkınma için, KDZ konusunun geçmişten günümüze sistematik olarak gözden geçirilerek tüm etkilerinin daha iyi anlaşılmasına ihtiyaç bulunmaktadır. Ekonominin ve toplumun rekabetçi kalabilmesi ve daha kazançlı faaliyetlere yönelebilmesi için proaktif ve şartlara uygun politikaların tasarlanmasına yardımcı olmak amacıyla araştırmacıların politika oluşturma sürecini, KDZ'lerde kanıta dayalı karşılaştırmalı çalışmalarla desteklemeleri kritik bir görevdir.

Bu arka plan ışığında, ekonomik ve sosyal kalkınmayı sürdürmek için sağlam ulusal politikalar oluşturmak üzere KDZ'lerin mevcut rolü ve geleceği hakkında politika oluşturma araştırmalarının kritik rolünü göz önünde bulunduran bu tez, KDZ çalışmalarının evrimini anlamayı ve araştırma ve politika arasındaki bağlantıyı güçlendirecek kilit alanları keşfetmeyi amaçlamıştır. Bu bağlamda, tez, Kovid-19 dönemi de dahil olmak üzere küresel ekonominin değişen dinamikleri ve değişen eğilimleri ile KDZ'lerdeki bilimsel çalışmanın ölçeğinin ve kapsamının nasıl geliştiğini keşfetmek ve geliştirmekte olan bir ülke perspektifinden politikaya rehberlik etmek üzere ana araştırma kümelerindeki değişiklikleri ve yaklaşmakta olan tematik geçişleri belirlemek için betimsel bir analiz kullanmıştır.

Seçilen yöntem olarak bibliyometrik analiz yoluyla, ana araştırma sınırlarının evrimi, KDZ ile ilgili araştırmalardaki eğilimler ve araştırma noktaları belirlenmiş ve WoS veritabanı kullanılarak tezde tartışılmıştır. Anahtar kelimeler için birlikte kullanım analizi, ortak alıntı analizi, temel anahtar kelime kümeleri ve bilgi sınırlarındaki zamansal kaymaların yanı sıra tematik eğilimler, KDZ yazınının daha iyi anlaşılması ve görselleştirilmesi için haritalandırılmıştır. Bu tezin diğer çalışmalara kıyasla getirdiği yenilik, araştırma konularını ve yıllar içinde değişen eğilimlerini geliştirmiş

ülkelere kıyasla gelişmekte olan ülkelerin gündemiyle ilişkilendiren kapsamlı bir yaklaşım gözetmesidir. Özellikle değişen ticaret rotalarının merkezindeki gelişmekte olan bir ülke olarak Türkiye perspektifinden incelenmesi ayrıca önem arz etmektedir. Ayrıca, bu çalışma, KDZ araştırmasının evrimine ilişkin tartışmayı 1990'ların başından günümüzdeki en yakın döneme, yani KDZ araştırmasını şekillendiren başta Kovid-19 salgını olmak üzere çeşitli ekonomik ve sosyal gelişmeleri kapsayan Ekim 2022'ye kadar genişletmektedir. Genel bir kural olarak, bibliyometrik analizler genellikle tamamlanmamış yılları hariç tutmaktadır; ancak Ekim 2022 sonu itibarıyla, erken erişim makalelerinin yılın tamamına dair literatürün bir göstergesi olması nedeniyle, bu analizin 2022 sonuna kadar araştırmanın gelişimini mümkün mertebe yansıtabileceği değerlendirilmiştir.

Analiz sonucunda, son yıllarda küreselleşmede yaşanan geri gidişe rağmen, gelişmiş ülkeler kaynaklı çalışmalarla başlayan küresel değer zincirleri araştırmalarının sayıca ve giderek daha çok disiplini içerecek şekilde artmaya devam ettiği, Çin başta olmak üzere gelişmekte olan ülkelere yayıldığı ve bu ülkede araştırmaların artmasında KDZ araştırmalarına sağlanan cömert fonların tetikleyici olduğu tespit edilmiştir. Kovid-19 sonrası dönemde sadece yayın sayısı artmakla kalmamış, aynı zamanda bilim ve teknoloji de dâhil olmak üzere birden fazla disipline genişleyen KDZ çalışmaları tespit edilmiş ve Kovid-19 sonrası araştırmaların yaygınlaşması daha çok sürdürülebilirlik ve dijitalleşme alt alanlarında gözlemlenmiştir.

Beklentilerin aksine, son zamanlardaki KDZ araştırma eğilimlerinin büyüyen ölçeği, kapsamı ve odağında Türkiye'nin diğer ülkelerle aynı modeli izlemediği görülmektedir. Ticaret ve kalkınma politikasının iddialı hedeflerinde ihracata dayalı büyüme ve daha yüksek katma değere odaklanmasına rağmen, araştırma performansı, çoğunlukla geleneksel sektörlerde ve makro verilere dayalı ülke karşılaştırmalarıyla, yalnızca birkaç ampirik çalışma ile geride kalmaktadır. Türkiye'nin küresel ana araştırma eğilimlerinden ayrılarak, özellikle Avrupa ekonomilerinin politikalarının yakın gelecekte içermesi muhtemel alanlar olarak belirtilen ve gelecek vaat eden KDZ araştırma alanlarından çevre ve dijitalleşmeye yönelik yeterli araştırma ilgisi tespit

edilememiştir. Dolayısıyla bu iki tema, Kovid-19 sonrası dünyada yeniden yapılanmakta olan KDZ'lerde ilerleme vaadinde bulunan Türkiye'nin dikkate alması için önerilen temel eğilimler olmuştur.

Araştırmada elde edilen bulgular daha ayrıntılı olarak aşağıda sunulmaktadır:

KDZ araştırmaları, son otuz yılda, özellikle de 2016'dan sonra yayın ve alıntı açısından katlanarak büyümektedir. 1994'ten 2022'ye kadar tespit edilen 3.812 yayın arasında, ABD, İngiltere ve diğer Avrupa ülkeleri gibi gelişmiş ülkeler KDZ literatürünün başlangıcını sağlamış ve alıntı bakımından sürekli etkiye sahip olmuşken, Çin şu anda dünya ticaretindeki lider rolünden ve KDZ'lere entegrasyonundan beklendiği gibi en fazla bilimsel yayınlara KDZ araştırmalarına en çok katkı sağlayan ülke konumuna gelmiştir. Başta BRICS ülkeleri olmak üzere diğer gelişmekte olan ülkeler ve Vietnam gibi yeni gelişen ekonomiler, KDZ'lere olan entegrasyonları doğrultusunda KDZ araştırmalarına olan ilgilerini artırmışlardır.

Yayınlara yarısından fazlası hala işletme ve ekonomi alanında olsa da, çalışma KDZ'lerin çevre bilimleri, coğrafya, uluslararası ilişkiler, kalkınma çalışmaları, mühendislik ve bilgisayar bilimi dahil olmak üzere çeşitli diğer araştırma kategorilerine doğru genişlediği görülmektedir. Son KDZ araştırmalarında, bilim ve teknoloji alanında KDZ ile ilgili artan yayın sayısı şaşırtıcı ama aynı zamanda Kovid-19'un etkisi nedeniyle normal kaşınlanmaktadır. KDZ yayınlarının bu son dönemde artan sayısı ve çok disiplinliliği, araştırmalarda bir duraklama yerine küreselleşmede ekonomik, sosyal, teknolojik ve çevresel konularla ilgili çok boyutlu zorlukları ele almak için kabuk değişimi yaşandığını kanıtlamaktadır.

KDZ yayınlarının ABD ve Avrupa'daki üniversitelere dayanan Anglo-Sakson kökenlerinin tarihsel hakimiyetine rağmen, son zamanlarda Uluslararası İşletme ve Ekonomi Üniversitesi, Hunan Üniversitesi ve Wuhan Üniversitesi gibi bir dizi Çin merkezli üniversitenin en çok KDZ araştırması yayınlayan kuruluşlar arasında yer alması dikkat çekicidir. Ayrıca ILO, UNIDO, DTÖ, OECD, Dünya Bankası gibi

uluslararası kuruluşların yanı sıra ulusal ve uluslararası kuruluşlardan USAID, Avrupa Komisyonu, Çin Bilimler Akademisi'nin araştırma ilgisi de KDZ araştırmalarının giderek politikaya dönüştüğünü göstermektedir.

Özellikle Avrupa'da ve son zamanlarda Çin'de finanse edilen yayınların yüksek payından da anlaşılacağı üzere, KDZ araştırmalarının yaygınlaşması için finansman tetikleyici bir unsur olmuştur. Bu noktada, ABD'deki araştırmacıların Avrupa ve Çin'deki araştırmacılara kıyasla kısıtlı bir fon ile desteklenmesi şaşırtıcıdır. Araştırma işbirliklerine dair küme analizine göre, çeşitli AB programları kapsamında finanse edilen Avrupa ülkelerinde, araştırma kümelerinin oluşturulmasında finansmanın kritik öneme sahip olduğu; ayrıca, coğrafi, tarihi veya kültürel ortaklıkların akademik işbirliğini teşvik ettiği değerlendirilmektedir.

Bibliyometrik analiz, yazarların yanı sıra küresel değer zincirleri üzerine yapılan araştırmaların çoğunlukla yönetim, değer zincirinde yükseltme, ticaret ve rekabet edebilirlik, özellikle Çin'in rolü ve yenilikçilik konuları etrafında kümelendiğini göstermiştir. Çin'in 2000'li yıllarda KDZ'lere agresif bir şekilde katılan ve çok çeşitli ihracat sektörlerinde titiz bir şekilde yükseltme yapan bir ülke olarak araştırma çalışmalarında en çok çalışılan konu olarak öne çıkması şaşırtıcı değildir. Ayrıca, çalışmanın bulgularına göre, KDZ'lerde devam eden merkezi tartışma, değer zincirinin lider firmalar ve devletler tarafından nasıl yönetildiğine ve bunun da bir ülkenin belirli bir sektör veya faaliyette ilerleme ve gelişme yörüngesini nasıl belirlediğinin araştırılmasıdır. En çok kullanılan ortak atıflı anahtar kelime olarak 'inovasyon', değer zincirinde yükseltme için temel bir araç olarak görülmektedir.

Çalışmada, Kovid-19 dönemindeki gelişmelerin tedarik zinciri dayanıklılığı, korumacılık, iklim değişikliği ve yenilikçilik konularına olan ilgiyi artırdığını göstermektedir. KDZ çalışmalarının çevresel ve sosyal açıdan değer zincirinde yükseltme, sürdürülebilirlik kavramları ile endüstri 4.0, dijital ekonomi ile bağlantılı dijitalleşme olmak üzere iki ana çalışma alanına doğru evrilerek bir dönüm noktasına ulaştığı görülmektedir.

Gelişmekte olan ve gelişmiş ülkelerin araştırma odakları karşılaştırıldığında, sürdürülebilirliğin en çok gelişmekte olan ülkeler tarafından çalışıldığı, ikinci olarak dijitalleşmenin ise gelişmiş ülkeler ve gelişmekte olan ekonomiler tarafından giderek daha fazla çalışıldığı görülmektedir. Avrupa ekonomileri ve Rusya'nın şaşırtıcı bir şekilde KDZ'ler aracılığıyla aktif bir dijitalleşme araştırmacısı olduğu, Çin'in ise KDZ'lerde çevresel çalışmalara özel olarak odaklandığı gözlenmiştir. Sürdürülebilirlik ve dijitalleşme temalarına daha yakından bakmak, önümüzdeki dönemde GVC çerçevesini daha da genişletmeye yardımcı olabilecektir.

Türkiye'nin, küresel olarak artan KDZ araştırma ölçeğine ve genişleyen kapsamına bakıldığında, diğer ülkelerle benzer bir eğilim takip etmediği gözlenmektedir. Ticaret ve kalkınma politikasında ihracata dayalı ve daha yüksek katma değer odağının aksine, Türkiye'deki KDZ ile ilgili yayın sayısı ve kapsamı oldukça mütevazı bulunmaktadır. Muhtemelen Kovid-19 süreci ile KDZ üzerine tartışmaların artması nedeniyle, son dönemde araştırma çıktısında sınırlı bir artış gözlenmektedir.

Türkiye'nin KDZ'lerdeki araştırma performansına bakıldığında, yazarlarının araştırma ağlarına nadiren dahil olduğu, birkaç ortak yazarlı yayın yapıldığı ve finansmanın/araştırma fonu kullanımının neredeyse hiç söz konusu olmadığı görülmektedir. Oldukça sınırlı yayınların sayısı, tarım, tekstil ve otomobillerdeki birkaç ampirik çalışma ve ülkelerarası makroekonomik karşılaştırmalar etrafında toplanmıştır. Öte yandan, küresel araştırma trendlerinden farklı olarak, para politikası ile ticaret politikası arasındaki bağlantıya KDZ perspektifinden bakan ve KDZ'lerin enflasyonla mücadeledeki rolünü araştıran birkaç çalışmanın bulunması şaşırtıcıdır. Çevre ve dijitalleşme temaları ise, gelecekte Avrupa ekonomileri başta olmak üzere başlıca ihracat pazarı ülkeler ve Çin gibi rakip ülkelerdeki politikaların içerebileceği olası alanlar olarak not edilmeli ve çalışmanın bulgularına göre bu konulara yönelik araştırmaların ivedilikle artırılması tavsiye edilmektedir.

Yukarıda özetlenen çerçevede, bu tezde, KDZ ile ilgili politika oluşturmada araştırma ve politika arasındaki boşlukların nasıl doldurulacağı ve araştırma ilgisinin nasıl ilişkilendirileceği ile ilgili kalan soru, bulgular ve politika önerilerinin tartışılmasıyla ortaya konulmuştur. Şu üç ana başlık altında bir politika seti geliştirilmiştir; (i) farkındalık ve insan kaynakları kapasitesini artırarak ve araştırmacılar, disiplinler ve ülkeler arasındaki işbirliklerini genişleterek elverişli bir araştırma ortamının oluşturulması, (ii) bir araştırma kurumu kurarak kurumsal gelişimin teşvik edilmesi, akademi, kamu ve sanayi arasında da ortaklıklar kurulması yoluyla araştırma ve politika ilişkisini gözetmek için kapsamlı bir kurumsal çerçeve oluşturmak; (iii) araştırma performansını ölçmek için göstergeler geliştirerek ve mevcut KDZ dinamikleri bağlamında çevre ve dijitalleşme gibi stratejik alanlardaki programlara öncelikli finansman sağlayarak performansa odaklanmak.

Söz konusu politika seti daha ayrıntılı olarak aşağıda sunulmaktadır:

1. Elverişli Bir Araştırma Ortamı Oluşturulması

Türkiye örneğinde, küresel değer zincirlerinin daha yüksek katma değerli segmentlerine geçme konusundaki iddialı politika hedeflerine rağmen, Türkiye'deki araştırmacıların KDZ'lere sınırlı ilgisi göz önüne alındığında, araştırma, uygulama ve politika çevrelerinde farkındalık yaratmaya mutlak bir ihtiyaç bulunmaktadır. Türkiye'de KDZ'lerin çevresel ve dijital temalara yönelik küresel eğilimle eşleşmeyen düşük çeşitlilikteki sektörler ve konulardaki birkaç yayın olduğu dikkate alındığında, KDZ'lerin araştırma performansında diğer gelişmekte olan ülke emsallerine kıyasla yeterli düzeyde olmayan araştırma işbirliği ve finansmanı ile, halihazırda politika oluşturma için yeterli kanıt dayalı girdi sağlanamadığı görülmektedir. Dolayısıyla, politika oluşturulmasında KDZ araştırma ve çerçevesinin bunu en üst düzeye çıkarmak için kullanılması önem arz etmektedir. 'Hangi tür politikaların en iyi şekilde işlediğine', 'hangi sektörlerde' ve 'hangi bağlamlarda', 'ülkenin kalkınma öncelikleriyle ilgili olarak hangi sektörler arası ve geleceğe yönelik

temaların önceliklendirilmesi gerektiğine' dair kanıt sağlayan KDZ odaklı bir araştırma anlayışı hayati derecede gereklidir.

Bu kapsamda, akademi, sivil toplum kuruluşları, özel ve kamu kurumlarında etkinlik ve faaliyetlerin planlanması, eğitim programları vb. yoluyla gerçekleştirilebilecek bir stratejik plan aracılığıyla KDZ'ler hakkında farkındalık oluşturmak ve yerel araştırma kapasitesini geliştirmek ilk elden önemlidir. Ayrıca, küresel değer zincirlerinin çok disiplinli doğası göz önüne alındığında, ilgili disiplinlerden araştırmacılar için ortak bir program veya ayrı olacak şekilde çok disiplinli bir program sağlayarak konuyu farklı alanlarda genişletmek faydalı bir strateji olabilecektir. Farklı disiplinler arasında bağlantıların ve işbirliklerinin başlatılması, ilgili konularda halihazırda mevcut olan araştırma kapasitesinin kullanılmasına yardımcı olacaktır. ABD Duke Üniversitesi KDZ Araştırma Merkezi ve yerel yönetim öncülüğünde küresel değer zinciri çerçevesi kullanılarak ilgili eyaletteki geleneksel ve gelişmekte olan endüstrilerin geçmiş, mevcut ve gelecekteki eğilimlerini incelemek üzere çeşitli alanlarda lisans ve yüksek lisans öğrencilerinin yanı sıra üniversitedeki araştırmacılar tarafından yürütülmüş bir araştırma projesi olan 'Küresel Ekonomide Kuzey Karolina' örneğinde olduğu gibi nispeten kolay bir araştırma projesi başlatılabilecektir.

Ayrıca, alanında yerleşik araştırma merkezleriyle ortaklıklar kurmak ve ulusal araştırmacıların uluslararası meslektaşlarıyla işbirliğini desteklemek, KDZ'ler hakkında bilgi birikimine ve aktarımına destek sağlayacaktır. Halihazırda Türkiye için oldukça sınırlı olduğu gözlenen ve KDZ politikalarını desteklemek için ivedilikle ihtiyaç duyulan ulusal ve uluslararası araştırma ağı bağlantıları, işbirliği ve başta ABD, AB ve Çin olmak üzere diğer ülke ve bölgelerde kurulmuş araştırma merkezleri ile işbirliklerini teşvik edecek yapı ve araçların kullanılması faydalı olacaktır. Yürütülen programlar kapsamında özellikle Avrupa'daki üniversiteler ile ortaklık programları, kısa süreli

pozisyonlar, stajlar veya öğrenci değişim programları, araştırmacı niteliğinin ve niceliğinin geliştirilmesine katkıda bulunacaktır.

2. Kurumsal Gelişimin Desteklenmesi

Türkiye'nin küresel değer zincirleriyle mevcut entegrasyonunda, araştırma ve politika odaklı bir strateji ve kurumsal çerçeve bulunmadığından, KDZ'lerde entellektüel kapasiteyi teşvik etmeye ve politikalara katkı sağlama bağlamında kapsamlı bir kurumsal yapı tasarlamak yararlı bir adım olacaktır. Akademi, endüstri ve devlet kurumlarından çeşitli çalışmalar KDZ yaklaşımının öneminden ve değer zincirinde yükselmenin amaçlandığından söz etse de, bir stratejiye veya kapsamlı bir politikaya götüren belirli veya koordineli bir yaklaşım bulunmamaktadır. Halihazırda çok sayıda politika belgesinde daha yüksek katma değerli faaliyetlere geçmek ve küresel pazarlarda rekabet gücünü artırmak bir hedef olarak ifade edilmekle birlikte, spesifik bir değer zincirine ve Türkiye'nin ilgili sektör veya sektördeki konumuna ilişkin ayrıntılı bir analiz ve buna dayalı politika bulunmadığı gözlenmektedir. Bu bağlamda, öncelikle kapsamlı bir çerçevede bir araştırma gündeminin oluşturulması ve katılımcı bir yaklaşımla ulusal önceliklerle uyumlu bir araştırma odağına sahip olunması, bundan sonraki çalışmalara yol gösterici olacaktır.

Çok paydaşlı bir yaklaşımın kullanılarak, Türkiye'nin KDZ katılımında gözlemlenen araştırma ve politika boşluklarını ele alacak kurumsal çerçevenin tasarlanmasında tamamen yukarıdan aşağıya veya aşağıdan yukarıya bir yaklaşımdan kaçınılmalıdır. Bu anlamda, araştırma ve politika oluşturmada akademi, devlet kurumları ve endüstri kuruluşları arasında ortaklıkların oluşturulması, tüm tarafları birbirine bağlayan ve politika oluşturma süreçlerine girdi sağlayan üçlü platformların başarılı örneklerle göre formüle edilmesi mümkündür. Ayrıca, kurumsal bir çerçeve, KDZ'lerin sektörlerarası ve disiplinlerarası özelliklerini dikkate alarak, yatırım, eğitim, istihdam, endüstriyel gelişme, bilim, teknoloji ve yenilikçilikten ticarete, çevreye kadar

uzanan, ekonominin ilgili tüm sektörlerini, ilgili disiplinleri ve politikalarını kapsamalıdır. Bu nedenle, sektörlerarası, disiplinlerarası bir koordinasyonun ilgili bir bakanlık veya belirli bir kurum altında olmasından ziyade, daha yüksek bir düzeyde planlanması önemlidir. Bu çerçevede, seçeneklerden biri, hem kamu hem de özel kuruluşlara hizmet edebilecek, özellikle KDZ araştırmalarıyla ilgilenen, başlandıçta kamu tarafından finanse edilen bir araştırma enstitüsü kurmak olabilir. ABD, AB, Güney Kore, Çin ve Brezilya örneğinde olduğu gibi başarılı ülke uygulamaları hayata geçirilebilir.

3. Performansa Odaklanması

Entellektüel bir kapasite oluşturmak ve kurumsal bir çerçeve tasarlamak, araştırmanın performansını ve politikayla bağlantılarını garanti etmeyebilir. Bu kendiliğinden yürüyebilen bir süreç olmadığı için, KDZ'lere ilişkin daha fazla araştırma yapılmasını ve politika yapıcılar tarafından araştırma bulgularının ele alınarak politika tasarımında araştırma kanıtlarının kullanılmasını en üst düzeye çıkarılmasını teşvik edecek modellerin ve araştırma performans göstergelerinin tasarlanması önemlidir. Bu çerçevede, KDZ araştırmalarında özellikle yeşil ve dijital dönüşüm gibi ihtiyaç duyulan alanlarda seçici ve hedefe yönelik destek programlarının tasarlanması, belirli araçlarla öncelikli araştırma finansmanı sağlanması gereklidir.

Araştırma performansı göstergeleri arasında, burada sayılanlarla sınırlı olmamak üzere, bilimsel bir dergide yayın yapmak, bir araştırma yayınının ortak yazarı olmak, disiplinlerarası veya çok disiplinli araştırma yürütmek, KDZ ile ilgili ulusal veya uluslararası bir konferansta sunum yapmak veya konferansa katılmak, araştırma toplantıları düzenlemek, KDZ araştırmaları alanında eğitim vermek ve danışmanlık yapmak, araştırma çıktılarını politika yapıcılara sunmak, bir araştırma projesinin tamamlanması olabilecektir. Tüm bunların öncelikli araştırma alanlarında yürütülmesi halinde ilave performans puanları ile desteklenmesi faydalı olacaktır. Öte yandan, KDZ araştırmasında her disiplinin aynı performans

göstergelerine tabi olamayacağına da dikkat edilmelidir; örneğin sosyoloji ve mühendislik alanlarındaki KDZ çalışmalarının konferans katılımı, ortak yayın, vs. imkanları aynı olamayabilecektir. Bu nedenle, araştırma performansının tasarımı dikkatlice planlanmalı ve uygulanmalıdır. Aynı şekilde, performans izleme ve değerlendirmenin de şeffaf ve adil olması önemli olup süreci denetlemek için kurumsal bir çerçeve kritik olacaktır.

Çin ve Avrupa örneğinde olduğu gibi finansman programları, KDZ araştırmalarının performansında ve bunun politika üzerindeki yansımalarında tetikleyici rol oynamaktadır. İlgili ekonomik ve sosyal araştırma alanlarında hâlihazırda sunulan finansman programları varken, KDZ araştırma göstergelerinde özel bir finansman mekanizması, politika yapıcıların gözünden KDZ çerçevesinin önemini vurgulayacak ve yukarıda belirtilen araştırma performans göstergelerini doğrudan tamamlayacaktır. KDZ çerçevesinin çoklu boyutları göz önüne alındığında, disiplinlerarası ve çok disiplinli araştırmalara öncelik verilmelidir. İstenen sonuçlara ulaşmak için ulusal önceliklere uygun olarak belirli alanlarda araştırma fonlarına öncelik vermek de kritik öneme sahiptir. Çevre odaklı sanayileşme ve dijitalleş dönüşüm gibi stratejik alanlarda politikayla doğrudan bağlantılı araştırma projelerine öncelik verilmesi, araştırma ve politikanın etkili bir şekilde bütünleştirilmesi için esastır.

Üniversitelerin sınırlı finansal kaynakları ve endüstrinin genellikle bu tür projeler için kısıtlı araştırma harcamaları dikkate alındığında, finansman kaynakları başlangıçta devlet bütçesinden sağlanabilir; ancak zaman içerisinde, araştırmaların daha müşteri odaklı ve tüm taraflarca daha değerli hale geldikçe karma bir finansman ile desteklenmesi bir seçenek haline gelebilecektir. Ayrıca, çok sayıda KDZ çalışmasına sağlanan AB ve diğer uluslararası araştırma fonları dikkate alındığında, ilave mali kaynakları harekete geçirmek için IPA gibi ortak programlar kapsamındaki finansman alternatiflerinin araştırılması faydalı olacaktır.

Özetle, bu tez, çalışmanın doğası gereği betimleyici olmasına rağmen, Türkiye'de gelecekteki araştırmalara ve politika gündemine rehberlik etmek için KDZ ile ilgili literatürün sistematik bir analizini sağlayan keşifsel bir çalışma olarak kabul edilebilecektir. Aynı zamanda bu çalışma farkındalığı artırma ve KDZ'lere aşina olmayan politika yapıcılara araştırma alanını tanıtmaya çabası olarak da değerlendirilebilir. KDZ'lerde yenilikçi faaliyetlere geçme hedefi doğrultusunda Türkiye'nin mevcut katılımının derinleştirilmesi ve dijital ve yeşil dönüşüm konusunda daha fazla çaba gösterilmesi gerektiği bilinmektedir. Daha ileri çalışmalar, bu iki konunun dinamiklerini keşfetmeye, deneysel çalışmalar yaparak politika önerileri getirmeye odaklanabilecektir.

D. THESIS PERMISSION FORM / TEZ İZİN FORMU

ENSTİTÜ / INSTITUTE

- Fen Bilimleri Enstitüsü / Graduate School of Natural and Applied Sciences**
- Sosyal Bilimler Enstitüsü / Graduate School of Social Sciences**
- Uygulamalı Matematik Enstitüsü / Graduate School of Applied Mathematics**
- Enformatik Enstitüsü / Graduate School of Informatics**
- Deniz Bilimleri Enstitüsü / Graduate School of Marine Sciences**

YAZARIN / AUTHOR

Soyadı / Surname : GÜLER

Adı / Name : ESRA

Bölümü / Department : Bilim ve Teknoloji Politikası Çalışmaları / Science and Technology Policy Studies

TEZİN ADI / TITLE OF THE THESIS (İngilizce / English): Opportunities for Linking Global Value Chains Research to Policy-Making in Türkiye: A Bibliometric Analysis

TEZİN TÜRÜ / DEGREE: **Yüksek Lisans / Master** **Doktora / PhD**

1. **Tezin tamamı dünya çapında erişime açılacaktır. / Release the entire work immediately for access worldwide.**
2. **Tez iki yıl süreyle erişime kapalı olacaktır. / Secure the entire work for patent and/or proprietary purposes for a period of two years. ***
3. **Tez altı ay süreyle erişime kapalı olacaktır. / Secure the entire work for period of six months. ***

** Enstitü Yönetim Kurulu kararının basılı kopyası tezle birlikte kütüphaneye teslim edilecektir. / A copy of the decision of the Institute Administrative Committee will be delivered to the library together with the printed thesis.*

Yazarın imzası / Signature

Tarih / Date

(Kütüphaneye teslim ettiğiniz tarih. Elle doldurulacaktır.)

(Library submission date. Please fill out by hand.)

Tezin son sayfasıdır. / This is the last page of the thesis/dissertation.