Geopolitics, Supply Chains, and International Relations in East Asia

Global supply chains connect the world in unprecedented and intricate ways. Geopolitics, Supply Chains, and International Relations in East Asia dissects the sources and effects of contemporary disruptions of these networks. Despite their dramatic expansion as distinct, complex, and unique mechanisms of economic interdependence, the role of supply chains in broader patterns of interstate conflict and cooperation has been relatively neglected. This volume sheds light on whether a highly interdependent “Factory Asia” and Asia-Pacific can withstand geopolitical, geo-economic, and pandemic threats. This combustible mix, fueled by rising hyper-nationalism in the US and China, threatens to unleash sizable disruptions in the global geography of production and in the international relations of East Asia.

Geopolitics, Supply Chains, and International Relations in East Asia

Edited by

ETEL SOLINGEN

University of California, Irvine
To my mother, and the memory of my father
## Contents

**List of Figures**  
page ix  

**List of Tables**  
xi  

**List of Contributors**  
xiii  

**Preface and Acknowledgements**  
v  

1 Introduction: Geopolitical Shocks and Global Supply Chains  
Etel Solingen  

1  

**PART I: GLOBAL SUPPLY CHAINS, GEOPOLITICS, AND TRADE WARS**  

2 Global Value Chains and the US–China Trade War  
   Yuqing Xing  
   23  

3 The US–China Trade War: Implications for Japan’s Global  
   Value Chains  
   Hongyong Zhang  
   41  

4 Constructing a Chinese AI Global Supply Chain in the Shadow  
   of “Great Power Competition”  
   Victor Shih  
   60  

5 Competition and Collaboration among East Asian Firms in the  
   Smartphone Supply Chains  
   Momoko Kawakami  
   77  

6 Hidden Economic Costs of Geopolitical Disputes for Supply  
   Chains in East Asia  
   Kristen Aanstoos  
   96  

7 Global Supply Chains and Great Power Competition in Africa  
   Prince Paa-Kwesi Heto  
   115  

vii
## PART II: DOMESTIC POLITICAL, ECONOMIC, AND SOCIAL DIMENSIONS OF GLOBAL SUPPLY CHAINS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Are Global Supply Chains Vital to China’s Leaders?</td>
<td>Nazim Uras Demir and Etel Solingen</td>
<td>135</td>
</tr>
<tr>
<td>9</td>
<td>Firms Fight Back: Production Networks and Corporate Opposition to the China Trade War</td>
<td>Jieun Lee and Iain Osgood</td>
<td>153</td>
</tr>
<tr>
<td>10</td>
<td>Understanding and Contesting Global Supply Chains in an Era of Inequality</td>
<td>Erin Lockwood</td>
<td>173</td>
</tr>
<tr>
<td>12</td>
<td>The Role of Chinese Workers in Supply Chain Campaigns</td>
<td>Marissa Brookes</td>
<td>211</td>
</tr>
</tbody>
</table>

## PART III: POSTSCRIPT ON COVID-19

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>On Covid-19, Global Supply Chains, and Geopolitics</td>
<td>Etel Solingen</td>
<td>229</td>
</tr>
</tbody>
</table>

**References**  
**Index**
Figures

2.1 China’s iPhone exports to the US (USD billions) page 29
2.2 US trade deficit with China in advanced technology products in 2018 (USD billions) 31
2.3 Share of processing exports in China’s exports to the US (%) 32
2.4 Distribution of the iPhone X value-added by country (production only, %) 34
3.1 Sales destination of Japanese affiliates in Asia 51
3.2 Procurement source of Japanese affiliates in North America 52
3.3 Covid-19 shock and sales uncertainty 57
4.1 The AI sector value chain: upstream, midstream, and downstream entities 62
5.1 Different patterns of smartphone production in EA3 84
6.1 Modeling the effects of geopolitical disputes on supply chain topology 99
6.2 East Asian supply chain participation rate, 1990–2018 109
7.1 Intermediate goods trade between countries and the two great powers 124
8.1 Imports of intermediate goods into China from Japan, South Korea, and the US, all manufactures and services (in USD billions), 1990–2018. 139
8.2 China’s GSC activity, urban and rural earnings groups membership (% of the population), 1990–2016 141
8.3 China’s income inequality (%), 1978–2015 145
9.1 Mentions of trade, trade with China, offshoring, and unfair trade agreements (as a percentage of paragraphs) in President Trump’s speeches 157
List of Figures

11.1 How global supply chain influences interstate conflict escalation 195
11.2a Gross trade and indirect value-added between South Korea and Japan (2000–2018) 196
11.2b Total trade between South Korea and Japan, by industry (2018) 196
11.3a Gross trade and indirect value-added between South Korea and China (2000–2018) 202
11.3b Total trade between South Korea and China, by industry (2018) 202
Tables

2.1 Apple’s sales in and US trade with China (USD billions)  page 36
3.1 Factors affecting business plans (%)  46
4.1 Theoretically expected relationships and the Chinese government’s preferred relationships in the AI supply chain after late 2017  63
4.2 Total number of MIIT-, NDRC-, and MOF-supported AI projects and share by segments  71
5.1 Share of handsets assembled in EA3 and share of handsets produced by firms based in East Asia  81
5.2 Top five vendors of smartphones in the world  83
6.1 Typology of trade barriers  101
6.2 Summary of case studies  112
7.1 Intermediate goods and services trade as a percentage of total trade  117
7.2 SACU–China and SACU–US intermediate goods and services trade  122
9.1 Summary of producers’ submissions to USTR on Section 301 (N = 4,725)  164
9.2 Bivariate analysis of opposition to the Section 301 case  167
9.3 Coalition activity in opposition to the Section 301 case against China  169
9.4 Bivariate analysis of opposition to Section 301 case  171
11.1 ROK’s TSI against Japan for twenty products with the highest trade value (2018)  197
11.2 ROK’s TSI against China for twenty products with the highest trade value (2015)  203
Contributors

(in chapter order)

**Etel Solingen** is Distinguished Professor and Thomas T. and Elizabeth C. Tierney Chair in Peace Studies at the Department of Political Science, University of California, Irvine.

**Yuqing Xing** is Professor at the National Graduate Institute for Policy Studies (GRIPS), Japan.

**Hongyong Zhang** is Senior Fellow at the Research Institute of Economy, Trade and Industry (RIETI), Japan.

**Victor Shih** is Associate Professor and Ho Miu Lam Chair in China and Pacific Relations at the School of Global Policy and Strategy, University of California, San Diego.

**Momoko Kawakami** is Area Studies Center Director-General at the Institute of Developing Economies Japan External Trade Organization (IDE-JETRO).

**Kristen Aanstoos** is graduate student at the Department of Political Science, University of California, Irvine.

**Prince Paa-Kwesi Heto** is graduate student at the Department of Political Science, University of California, Irvine.

**Nazim Uras Demir** is graduate student at the Department of Political Science, University of California, Irvine.
List of Contributors

Iain Osgood is Assistant Professor at the Department of Political Science, University of Michigan.

Jieun Lee is Assistant Professor at the Department of Political Science, University of Buffalo.

Erin Lockwood is Assistant Professor at the Department of Political Science, University of California, Irvine.

Phoebe W. Moon is graduate student at the Department of Political Science, University of California, Irvine.

Marissa Brookes is Associate Professor at the Department of Political Science, University of California, Riverside.
Preface and Acknowledgements

This book examines the broader role of global supply chains in the international relations of East Asia, beyond the purely economic dimensions. The relationship between economic interdependence and interstate conflict and cooperation has a longstanding lineage in the theoretical and empirical literature in international relations. Yet, despite their dramatic expansion in recent decades as a distinct, more complex, and perhaps unique mechanism of economic interdependence, global supply chains have not yet gained adequate attention in the analysis of broader patterns of interstate conflict and cooperation. Accounting for about two-thirds of total (gross) trade until recently, global supply chains connect the world in unprecedented and intricate ways. They spread the full range of tasks related to the design, production, and marketing of products and services over several countries. Each stage or task contributes some value-added to the final product, leading to “Made in the World” goods. The phenomenon is sometimes addressed under different labels including global value chains, global production networks, cross-border production chains, vertical specialization, disintegration or fragmentation of production, and globalized production, among others.

I began wrestling with this topic in greater depth in 2013, while preparing an article that cautioned against simplistic comparisons between the onset of World War I in 1914 – which ended the first wave of globalization – and 2014. The centenary of the outbreak of the Great War elicited frequent analogies between 1914 and 2014, as if history was condemned to repeat itself. Yet, the first and second waves of globalization were very different, I argued, and the complexity and density of contemporary global supply chains was one important distinction, among others, between the two epochs (the article appeared in International Security in 2014). At that time, global supply chains hardly captured much attention beyond economics and business schools. The Trump administration changed all that. A centerpiece of its “America First” theme...
was the campaign to dismantle global supply chains through reshoring (back to the US), with special attention to decoupling chains linking the US with China. And then came Covid-19, further catapulting global supply chains into the headlines and accelerating pre-existing conditions that had made them a target. The longer-term implications of these two exogenous shocks (geopolitical and pandemic) will be a likely focus of attention for years to come.

International relations in East Asia and the Asia-Pacific face the most complex bundle of geopolitical and geo-economic threats in decades, including trade-and-technology wars, rising tariffs, export controls, sanctions, protectionism, nationalism, populism, the erosion of trade agreements and World Trade Organization rules, corrosion of alliance commitments, domestic political polarization, deterioration in regimes governing weapons of mass destruction, energy and environment-related rifts, and tensions from Northeast Asia to the South China Sea, among others. How have global supply chains responded to the US-China trade-and-technology war and other geopolitical tensions among East Asian states thus far? Can global supply chains make a difference in taming the potential for conflict? Or will they become as vulnerable targets of nationalist or autarkic ambitions as previous forms of economic interdependence have at various historical junctures?

This volume goes to press at a time of great uncertainty. Our hopes to raise some important questions are much higher than anybody’s ability to answer them at this time. Covid-19 erupted in fury just when chapters were ready for submission in early 2020, compelling heroic efforts to distill some preliminary implications of the effects of Covid-19 on the subject matter, virtually under the proverbial fog of war (viral war in this case). The crisis drew special attention to global supply chains in medical equipment, pharmaceuticals, and other supplies that had been quite removed from our original concentration on electronics, smartphones or artificial intelligence (nor did we anticipate that loo paper and hand gel would become so strategic or pertinent to the topic either).

Our focus on global supply chains holds several advantages while separating the scope of this study from other worthy research programs toiling in cognate vineyards. First, we minimize attention to what is an otherwise well-trodden literature exclusively occupied with systemic balance-of-power, hegemony, polarity, and similar considerations (including the role of nuclear weapons) that sometimes dominates the debate over the future of East Asia. We concentrate instead on crucial dimensions that those debates largely neglect, including how domestic drivers of protectionism and hyper-nationalism may affect not merely global supply chains but also strategic considerations. Second, in doing so, the volume’s focus on supply chains also expands the scope of scholarship in international political economy into understanding broader implications for conflict and cooperation, including international security. Third, some chapters refer to regional institutions in East Asia but only tangentially, as those are the subject of another extensive and dedicated literature. Instead, the chapters here span
Preface and Acknowledgements

varied levels of aggregation relevant to global supply chains, from individual firms to specific industries, peak industrial and labor associations, networks, and domestic political-economy models.

Fourth, whereas much of the literature on supply chains in economics and business focuses on firms and industries, we place states at the very center of agency. Doing so helps capture the deeper political foundations, trajectory, centrality, and implications of global supply chains for international politics.

Fifth, relatedly, important extant research on global supply chains draws attention to their economic and developmental effects; labor, environmental and other externalities; and governance arrangements. While some chapters build on authoritative work on some of those externalities, the latter remain outside the main scope of this volume.

Sixth, whereas the sub-field of global supply chain risk management has concentrated primarily on environmental shocks and operational risk, this volume draws attention to meta or mega geopolitical challenges to global supply chains and to the global political economy more broadly. Finally, the book leans on valuable interdisciplinary collaborations, not an easy feat for a topic lacking even a common nomenclature. While settling for “global supply chains,” some chapters also refer to “global value chains” especially when citing standard work in economics and business.

While rooted in professional literature on global supply chains across various disciplines, the volume aims at a wide-ranging scholarly audience as well as a broader readership, including students and practitioners with interest in international relations, international political economy, globalization, national and international security, world politics, economic statecraft, multinational corporations, international economics and business, East Asian politics, US-China relations, American politics and foreign policy, China’s domestic and international politics, and science and technology studies. As the book addresses pivotal issues affecting contemporary domestic and international politics in an environment of heightened uncertainty and an evolving world order, it may also be of interest to the broader public.

The list of acknowledgements is most certainly longer than what I can fit here, and my apologies for any unintended omission. I am greatly indebted to the University of California’s Office of the President for a generous grant that funded all graduate student researchers involved in this project as well as two international workshops, field research, and travel by foreign participants. The University of California, Irvine’s module on global supply chains was part of a broader joint project with the University of California, San Diego’s Institute on Global Conflict and Cooperation (IGCC), UCLA, UC Berkeley, and Lawrence Livermore Laboratory on “Great Power Competition in the 21st Century.” I am especially grateful to the IGCC staff, especially Nicole Daneshvar and Marie Thiveos Stewart, who were instrumental in helping me organize collaborative workshops hosting faculty and graduate students from University of California campuses as well as other national and international experts from the fields of economics, political science, business schools, law schools, the
World Bank, think tanks, and industry. My thanks to Daria Taglioni, Gary Gereffi and Hongyong Zhang for their stimulating presentations at the July 2019 summer workshop, and to Stephen Kröbin, Roawen Chen, Katherine Barbieri, and Leonard Lane for theirs at the September 2019 workshop, both held in La Jolla. For their excellent discussion of papers and presentations, special thanks to Katherine Barbieri, Peter Gourevitch, Susan Shirk, Scott Kastner, Stephen Kröbin, Barry Naughton, and Pablo Pinto. The papers also benefited from helpful suggestions from other participants at the workshop, including Roawen Chen, Henry Gao, Shanna Phillips, Gregory Shaffer, Shuya Yin, and He Yuhong. Peter Gourevitch and Victor Shih were instrumental in encouraging the production of this volume at a crucial decision point. Several papers also benefited from Miles Kahler’s surgical analysis as a discussant at the American Political Science Association’s 2020 panel.

I would also like to express my special appreciation to the University of California Irvine for support through the Thomas T. and Elizabeth C. Tierney Endowed Chair in Peace and Conflict Studies. My deep gratitude to the London School of Economics for hosting me under a Susan Strange Professorship during the epochal Lent term of 2020, especially to Karen Smith and Peter Trubowitz and their delightful administrative team. Special thanks go to a long list of experts who shared their work and views on global supply chains during field research visits at the following institutions: Institute of Developing Economies/Japan External Trade Organization; Chinese Academy of Social Sciences; Institute of World Economics and Politics; Vietnam’s Ministry of Industry and Trade/Institute for Industrial Policies and Strategies; Tokyo’s Research Institute of Economy, Trade and Industry; Beijing University; Fudan University (Shanghai); Jiao Tong University (Shanghai); Tsinghua University (Beijing); Hong Kong University of Science and Technology; Waseda University; Tokyo’s National Graduate Institute for Policy Studies; United States Council for International Business; The Center for Strategic and International Studies in Washington DC; Mercator Institute for China Studies (MERICS/Berlin); and USAID LinkSME (Hanoi and Ho Chi Minh City). My thanks also to Melanie Hart, Fujita Mai, Kawakami Momoko, Meng Bo, Patarapong Intarakumnerd, Qiu Mingda, John Ravenhill, Truong Thi Chi Binh, Ron Ashkin, Frank Weinand, and especially to Inomata Satoshi and Richard Rosecrance.

I am profoundly grateful to all volume contributors who, under the difficult circumstances of Covid-19 and remote teaching, completed their chapters on a timely basis. Fifteen graduate student researchers were associated with the project at different stages, from various disciplines including political science, business, economics, geography, engineering, epidemiology, and environmental science. With virtually no prior expertise in global supply chains, some are now writing dissertations on the topic. The project benefited from the extraordinary commitment and research assistantship of Uras Demir, who immersed himself in input–output tables from day one. Prince Paa-Kwesi Heto, Phoebe Woorim
Moon, and Kristen Aanstoos contributed a set of diverse, original, and creative chapters under the challenging conditions of Covid-19. I also thank Bryan Castro, Nathan Cisneros, George Dewey, Aidan Dong, Mark Hup, Paul Love, Melisa Perut, Shanna Phillips, Ben Raynor, Alisson Rowland, Jiarui Tao, Sal Vidal, and Xiaolu Zhou for their research assistance. Annette Buckley’s unique command of library resources was invaluable. My thanks also to Jin Chae, Claudia Cheffs, Ekua Arhin, Stephanie Andrade, Andrew Hallak, Elizabeth Robison, and Trish Fisher. It has been particular gratifying to work with Robert Dreesen at Cambridge University Press, who steered every step of the process with wit and thoughtful guidance. I also thank three anonymous referees whose detailed advice and recommendations made this volume better than it would have otherwise been. Particularly helpful in the process of converting the manuscript into a book were Erika Walsh, Robert Judkins, Ken Moxham, and Paris West. Special thanks to Vesna Petrovic for adapting the book’s cover to its content.

The usual disclaimers apply regarding any remaining errors: they are all mine (although they also stand on the shoulders of giants).

As always, I owe my family the most, for their love, encouragement, humor, and support along the way. Covid-19 time brought all that to another level. I dedicate this book to my mother who, at ninety-five, uses the long durée of Covid-19 for rewarding electronic explorations of literature and music, and to my father, whose legacy remains a powerful source of inspiration. Zoom sessions with my brother Pedro and with Ana provided blessed escapes from pandemics and political pandemonium, and those with my grandchildren Ruby, Benjamin, and Remy reminded me why love and laughter know no seasons. The love and encouragement of my husband Simon and children Gabrielle and Aaron continue to make anything possible and everything worthwhile.