

博士論文

**International Relations and National Innovation:
Security Threats, Strategic Alliances, and Technological Growth**

(国際関係と国家の革新：安全保障上の脅威、戦略的同盟、技術的成長)

ブルーマ マシュー

@2020

ブルーマ マシユー

(Matthew Brummer)

ALL RIGHTS RESERVED

論文の内容の要旨

**International Relations and National Innovation:
Security Threats, Strategic Alliances, and Technological Growth**

(国際関係と国家の革新：安全保障上の脅威、戦略的同盟、技術的成長)

ブルーマ マシュー

この博士論文は「国際的な安全保障と国内の技術革新間の関係性」について問うものである。一部の国々は革新の最先端に到達し、自らの立ち位置を固める一方、他の国々は革新を進められないか逆に革新の影響により力を失っている。この違いに至る理由を本論文は扱う。革新は相対的な経済力と絶対的な戦略力の両方に影響を与えるため、この内容は国家に関する研究において重要性が高い。本論文では、従来はエコノミスト達の領域とされていた研究分野に対して国際関係（IR）の視点を適用するものである。それを実施するため、本論文は脅威と同盟関係についての IR 変数の測定基準を構築し、活用することで、国際的な安全保障と国内の革新間の関係性を考察する。本論文は「同盟関係は全般的な革新に対しては大きなプラスの影響を与えるものの、軍事的な革新には繋がらない」、「脅威は全般的な革新と軍事的な革新の両方に大きなプラスの影響を与える」、「国際的な国家システムにおいては同盟関係、脅威、革新は「相互を決定付ける」関係にある」との実証的結論を3章に亘って記述する。これら3つの中核的結論は広義の革新研究においては真新しいものである。さらに、本論文では生物学的進化と技術革新間の類似点を考察する章を設けている他、本論文の裏付けとなる豊富なアペンドイクスを設けている。国家の技術革新プロジェクトにおいてはエコノミスト達が論じるような国内制度よりも、無政府状態にあるグローバル・システムにおける構造、ライバル関係といった力学のほうがより重要な要素であることを本論文の最終的な結論とする。

Acknowledgements

I would like to thank the professors on my Ph.D. panel for their willingness to serve as members of my committee. It is no small task to sit on such committees, and I sincerely thank them for their valuable advice and direction. I also owe a great debt of gratitude to professor Akihiko Tanaka and Yasuhiro Matsuda for their profound patience and guidance as I struggled over many years to grapple with a thesis topic perhaps too large for my first research project. Kyoko Ikeda and members of the Tanaka Zemi and Matsuda Zemi at The University of Tokyo supported me in immeasurable ways during my time at The University of Tokyo for which I am truly thankful. "Ikeda Cafe" played an integral part of both my experience at Todai and in my pursuit of doctoral completion and will forever remain dear to my heart. Eitan Oren, Wrenn Yennie Lindgren, Petter Lindgren, and Jon Schmid: thank you for the many, deep, and wide-ranging discussions – I hope many more to come.

I would also like to thank those who have helped support my dissertation in a professional context. Professors Hugh Patrick, David Weinstein, Takatoshi Ito, and Gerald Curtis at Columbia University; thank you for your leadership during my work at the Center on Japanese Economy and Business, Columbia Business School. Professor Akihiko Tanaka hired me both as a Teaching Assistant and Research Assistant at the University of Tokyo, my first experiences with managing classroom dynamics and building databases, for which I am sincerely grateful. To my colleagues at the Ministry of Economy, Trade and Industry: Thank you. To my colleagues at The Economist and Economics Intelligence Unit: Thank you. To my colleagues at Tokyo International University and Hosei University: Thank you. To Professor Takumi Takeda at Meiji University: Thank you. And to Professor Atsushi Sunami and future colleagues at GRIPS: Thank you.

Finally, I would like to thank those whose research has paved the way for my own on the relationship between international relations and technological innovation, in particular: professors Richard Nelson, Sidney Winter, Joel Mokyr, Richard Samuels, Dan Drezner, Calestous Juma, Jan Fagerberg, Dan Breznitz, Richard Doner, and Mark Z. Taylor.

Dedication

This dissertation is dedicated to Shiori and Athena and...

Table of Contents

論文の内容の要旨	iii
Acknowledgements	iv
Dedication	v
List of Tables	x
List of Figures.....	xii
List of Symbols and Abbreviations	xiii
Chapter 1: Introduction	Error! Bookmark not defined.
Chapter 2: Design, Definitions, and Data	Error! Bookmark not defined.
2.1 Boundaries	Error! Bookmark not defined.
2.2 Key Terms and Definitions	Error! Bookmark not defined.
2.3 Data	Error! Bookmark not defined.
2.4 Features of Innovation and Patenting	Error! Bookmark not defined.
Chapter 3: Literature Review: From IR to Growth Theory to IR	Error! Bookmark not defined.
3.1 International Relations	Error! Bookmark not defined.
3.2 Brief Expose on Nuclear Technology.....	Error! Bookmark not defined.
3.3 Observation: Unidirectional Focus of International Relations	Error! Bookmark not defined.
3.4 Institutions and Policies and Technological Innovation	Error! Bookmark not defined.
3.5 International Relations and Innovation Revisited.....	Error! Bookmark not defined.
Chapter 4: Innovation and Alliances	Error! Bookmark not defined.
4.1 Introduction.....	Error! Bookmark not defined.
4.2 The Problem: The Incompleteness of Domestic Institutions.....	Error! Bookmark not defined.
4.3 The Solution? – Data Anomalies and Omitted Variable Bias	Error! Bookmark not defined.
4.4 Definitions, Methods, and Data	Error! Bookmark not defined.
4.4.1 Dependent Variables: General and Military Innovation	Error! Bookmark not defined.
4.4.2 Independent Variable: Security Alliances	Error! Bookmark not defined.
4.4.3 Control Variables	Error! Bookmark not defined.
4.5 Results.....	Error! Bookmark not defined.
4.5.1 Alliances and National Innovation.....	Error! Bookmark not defined.
4.5.2 Alliances and Innovation in Military Technology	Error! Bookmark not defined.
4.6 Conclusion	Error! Bookmark not defined.

4.6.1	On Potential Mechanisms	Error! Bookmark not defined.
4.6.2	Implications for the International Political Economy of Innovation Error! Bookmark not defined.	
4.6.3	Implications for Military Innovation ...	Error! Bookmark not defined.
4.6.4	A Security-Innovation Trilemma?	Error! Bookmark not defined.
Chapter 5: Innovation and Threats.....		Error! Bookmark not defined.
5.1	Introduction.....	Error! Bookmark not defined.
5.2	The Problem with Domestic Institutions Explanations	Error! Bookmark not defined.
5.3	Lessons from International Relations	Error! Bookmark not defined.
5.4	Definitions, Variables, and Hypotheses.....	Error! Bookmark not defined.
5.4.1	Dependent Variables: Innovation and Military Innovation	Error! Bookmark not defined.
5.4.2	Independent Variable: Threat	Error! Bookmark not defined.
5.4.3	Control Variables: Institutions.....	Error! Bookmark not defined.
5.5	Results.....	Error! Bookmark not defined.
5.5.1	Threat and National Innovation	Error! Bookmark not defined.
5.5.2	Threat and Military Innovation.....	Error! Bookmark not defined.
5.5.3	Sensitivity Analysis	Error! Bookmark not defined.
5.6	Conclusion	Error! Bookmark not defined.
5.6.1	Implications.....	Error! Bookmark not defined.
5.6.2	New Puzzle: Threats, Alliances, and Innovation	Error! Bookmark not defined.
Chapter 6: Threats, Alliances, and Technological Innovation		Error! Bookmark not defined.
6.1	Introduction.....	Error! Bookmark not defined.
6.2	Literature Review.....	Error! Bookmark not defined.
6.2.1	Threats and Alliances.....	Error! Bookmark not defined.
6.2.2	Threat and Technological Innovation ..	Error! Bookmark not defined.
6.2.3	Alliances and Technological Innovation	Error! Bookmark not defined.
6.3	Research Design.....	Error! Bookmark not defined.
6.3.1	Endogenous Variables	Error! Bookmark not defined.
6.3.2	Exogenous Variables	Error! Bookmark not defined.
6.4	Results.....	Error! Bookmark not defined.
6.4.1	Threat	Error! Bookmark not defined.
6.4.2	Alliances	Error! Bookmark not defined.
6.4.3	Innovation	Error! Bookmark not defined.
6.4.4	Robustness checks	Error! Bookmark not defined.
6.4.5	Exogenous Variables	Error! Bookmark not defined.
6.5	Conclusion	Error! Bookmark not defined.
Chapter 7: Conclusion.....		Error! Bookmark not defined.
7.1	Epilogue	Error! Bookmark not defined.

7.2	Contributions.....	Error! Bookmark not defined.
7.2.1	Summary.....	Error! Bookmark not defined.
7.2.2	Theory.....	Error! Bookmark not defined.
7.3	Limitations.....	Error! Bookmark not defined.
7.3.1	What about China?.....	Error! Bookmark not defined.
7.3.2	What about Specific Industries and Innovations?.....	Error! Bookmark not defined.
7.3.3	Is War Necessary?.....	Error! Bookmark not defined.
7.4	Extensions.....	Error! Bookmark not defined.
7.4.1	New Innovation Leaders, New Innovations.....	Error! Bookmark not defined.
7.4.2	Linking Specific Innovations with Specific IR Variables.....	Error! Bookmark not defined.
7.4.3	Common Threats, Common Innovation.....	Error! Bookmark not defined.
Chapter 8:	Reflection.....	Error! Bookmark not defined.
8.1	Innovation and Evolution.....	Error! Bookmark not defined.
8.2	Why Does Change Happen?.....	Error! Bookmark not defined.
8.3	How Does Change Happen?.....	Error! Bookmark not defined.
8.4	Variation.....	Error! Bookmark not defined.
8.5	Heritability.....	Error! Bookmark not defined.
8.6	Fitness.....	Error! Bookmark not defined.
8.7	International Relations and The Animal Spirits of Creative Destruction	Error! Bookmark not defined.
References	15
Appendix A: Patents as a Measure of Military Weapons Innovation.....	Error!	Bookmark not defined.
Appendix B: Countries Included in the Analyses.....	Error!	Bookmark not defined.
Appendix C: Base Regression Models Using Alternative Innovation Measures	Error!	Bookmark not defined.
Appendix D: Country list.....	Error!	Bookmark not defined.
Appendix E: Country List.....	Error!	Bookmark not defined.
Appendix F: Descriptive Statistics.....	Error!	Bookmark not defined.
Appendix G: Regression Results using Total Patents as Innovation Measure	Error!	Bookmark not defined.
Appendix H: Mid Run Regression Results.....	Error!	Bookmark not defined.
Appendix I: Three Dependent Variable Graphs: Average and +/- 1 Standard Deviations.....	Error!	Bookmark not defined.

Appendix J: Sensitivity Analysis 2 – Alternative Time PeriodsError! Bookmark not defined.

Appendix K: Four-Equation Model Including Military Innovation.....Error! Bookmark not defined.

Appendix L: Threats, Alliances, and Innovation in “Deviant” Country Cases: Israel and TaiwanError! Bookmark not defined.

List of Tables

- Table 1: Summary of IR Treatments of Technological Innovation.. **Error! Bookmark not defined.**
- Table 2: Variety Across Explanations and Innovators **Error! Bookmark not defined.**
- Table 3: Descriptive Statistics **Error! Bookmark not defined.**
- Table 4: Correlation Matrix **Error! Bookmark not defined.**
- Table 5: Joint Military Exercises, Dependent Variable = Logged Weighted / Capita Patents **Error! Bookmark not defined.**
- Table 6: Official Military Visits, Dependent Variable = Logged Weighted / Capita Patents **Error! Bookmark not defined.**
- Table 7: Alliance with US, Dependent Variable = Logged Weighted / Capita Patent Production **Error! Bookmark not defined.**
- Table 8: Alliance with U.S., DV = Logged Weighted / Capita Military Patents. **Error! Bookmark not defined.**
- Table 9: Descriptive Statistics **Error! Bookmark not defined.**
- Table 10: Correlations Matrix..... **Error! Bookmark not defined.**
- Table 11: Threat, Dependent Variable: Logged Weighted Per Capita Patents (1974-2001) **Error! Bookmark not defined.**
- Table 12: ICB Crises, Dependent Variable: Logged Weighted Per Capita Patents (1974-2008)..... **Error! Bookmark not defined.**
- Table 13: MID, Dependent Variable: Logged Weighted Per Capita Patents (1974-2008) **Error! Bookmark not defined.**
- Table 14: Threat, ICB, MID, Dependent Variable = Logged Weighted / Capita Military Patents **Error! Bookmark not defined.**
- Table 15: Sensitivity Analysis, Dependent Variable: Logged Weighted / Capita Patents (1974-2001) **Error! Bookmark not defined.**
- Table 16: Short Run Results **Error! Bookmark not defined.**
- Table 17: Long Run Results **Error! Bookmark not defined.**
- Table A1: Twenty Most Recent Derwent Weapons Patents (Class W07—2008)**Error! Bookmark not defined.**
- Table A2: Military Patent Productivity by State, 1975-2008**Error! Bookmark not defined.**
- Table A3: Military Patent Productivity by Assignee..**Error! Bookmark not defined.**
- Table A4: Military Patent Productivity by Assignee (Government Agencies) ... **Error! Bookmark not defined.**
- Table C1: Joint Military Exercises, Dependent Variable 5 PCT Patents **Error! Bookmark not defined.**
- Table C2: Joint Military Exercises, Dependent Variable 5 Capacity for Innovation (2010)..... **Error! Bookmark not defined.**
- Table G1: Total Patents Long Run Results (10 year lag)**Error! Bookmark not defined.**

Table G2: Total Patents Short Run Results	Error! Bookmark not defined.
Table H1: Mid Run Results (5-Year Lag)	Error! Bookmark not defined.
Table J1: Threat, Dependent Variable: Logged Weighted Per Capita Patents (1974-1990)	Error! Bookmark not defined.
Table J2: Threat, Dependent Variable: Logged Weighted Per Capita Patents (1990-2005)	Error! Bookmark not defined.
Table K1: Four Equation Model Results	Error! Bookmark not defined.
Table K2: Mutual Effects of Threats, Alliances, General and Military Innovation	Error! Bookmark not defined.

List of Figures

- Figure 1: Most Innovative, Middle, & Rapid Innovating Industrialized Countries
 **Error! Bookmark not defined.**
- Figure 2: Innovations vs. Institutions in Rapidly Innovating Countries **Error!
 Bookmark not defined.**
- Figure 3: Cases of Stagnant Innovation but Increasing Institutions . **Error! Bookmark
 not defined.**
- Figure 4: Cases of Decreasing Innovation and Increasing Institutions..... **Error!
 Bookmark not defined.**
- Figure 5: Cross-Sectional Institutions vs. Innovations (a-b-c) ...**Error! Bookmark not
 defined.**
- Figure 6: International Security vs. Innovations..... **Error! Bookmark not defined.**
- Figure 7: The Security-Innovation Trilemma **Error! Bookmark not defined.**
- Figure 8: The Security-Innovation Trilemma Suggestive Evidence. **Error! Bookmark
 not defined.**
- Figure 9: Hypothesized Endogenous Relationship **Error! Bookmark not defined.**
- Figure 10: Hypothesized Endogenous Relationship **Error! Bookmark not defined.**
- Figure 11: Results of Short Run Effects **Error! Bookmark not defined.**
- Figure 12: Results of Long Run Effects **Error! Bookmark not defined.**
- Figure 13: Innovation and Alliances (1975-2010)..... **Error! Bookmark not defined.**
- Figure 14: Innovation and Threats (1975-2005)..... **Error! Bookmark not defined.**
- Figure 15: Kondratieff Waves and Change in IR and Technology .. **Error! Bookmark
 not defined.**

List of Symbols and Abbreviations

AECA:	Arms Export Control Act
EPO:	European Patent Office
FDI:	Foreign Direct Investment
GDP:	Gross Domestic Product
GDPPC:	Gross Domestic Product per Capita
GERD:	Gross Domestic Expenditure on R&D
HMV:	High-level Military Visits
ICT:	Information Communication Technology
IPE:	International Political Economy
IR:	International Relations
IS:	International Security
IAEA:	International Atomic Energy Agency
ICB:	International Crisis Behavior
IMF:	International Monetary Fund
ITAR:	International Traffic in Arms Regulations
JME:	Joint Military Exercise
JPO:	Japan Patent Office
MAD:	Mutually Assured Destruction
METI:	Ministry of Economy, Trade and Industry, Japan
MID:	Militarized Interstate Disputes
NATO:	North Atlantic Treaty Organization
NIS:	National Innovation System (synonymous with NSI)
NNT:	Nuclear Nonproliferation Treaty
NSI:	National System of Innovation (synonymous with NIS)
OECD:	Organisation for Economic Co-operation and Development
OLS:	Ordinary least squares
PATSTAT:	EPO Worldwide Patent Statistical Database
PCT:	Patent Cooperation Treaty
R&D:	Research and Development
S&T:	Science and Technology
UN:	United Nations
US:	United States of America
USPTO:	United States Patent and Trademark Office
VoC:	Verities of Capitalism
WB:	World Bank

WTO: World Trade Organization
WIPO: World Intellectual Property Organization
WWI: World War One
WWII: World War Two

References

- Abramovitz, Moses. 1956. *Resource and Output Trends in the United States since 1870*. Cambridge, MA: National Bureau of Economic Research.
- Acemoglu, Daron, Philippe Aghion, and Fabrizio Zilibotti. 2006. "Distance to Frontier, Selection, and Economic Growth." *Journal of the European Economic Association* 4 (1): 37–74.
- Acemoglu, Daron, and James A. Robinson. 2013. *Why Nations Fail: The Origins of Power, Prosperity, and Poverty* (reprint edition). New York, NY: Crown Business.
- Achen, Christopher H. 2005. "Let's Put Garbage-Can Regressions and Garbage-Can Probits Where They Belong." *Conflict Management and Peace Science* 22 (4): 327–39.
<https://doi.org/10.1080/07388940500339167>.
- Acosta, Manuel, Daniel Coronado, and Rosario Marin. 2011. "Potential Dual-use of Military Technology: Does Citing Patents Shed Light on this Process?" *Defence and Peace Economics* 22 (3): 335–49.
- Acosta, Manuel, Daniel Coronado, Rosario Marin, and Pedro Prats. 2013. "Factors Affecting the Diffusion of Patented Military Technology in the Field of Weapons and Ammunition." *Scientometrics* 94 (1): 1–22.
- Adler, Emanuel. 1997. "Seizing the Middle Ground: Constructivism in World Politics." *European Journal of International Relations* 3 (3): 319–63.
<https://doi.org/10.1177/1354066197003003003>.
- Adler, Emanuel, and Michael Barnett, eds. 1998. *Security Communities*. Cambridge, UK: Cambridge University Press.
- Aghion, Philippe, Nick Bloom, Richard Blundell, Rachel Griffith, and Peter Howitt. 2005. "Competition and Innovation: An Inverted-U Relationship." *Quarterly Journal of Economics* 120 (2): 701–28.
- Akaev, Askar, and Vladimir Pantin. 2014. "Technological Innovations and Future Shifts in International Politics." *International Studies Quarterly* 58 (4): 867–72.
<https://doi.org/10.1111/isqu.12124>.
- Albert, Michael B., Daniel Avery, Francis Narin, and Paul McAllister. 1991. "Direct Validation of Citation Counts as Indicators of Industrially Important Patents." *Research Policy* 20 (3): 251–9. [http://doi.org/10.1016/0048-7333\(91\)90055-U](http://doi.org/10.1016/0048-7333(91)90055-U).
- Alon, Ben David. 2008. "Iron Dome Advances to Meet Qassam Threat." *Jane's Defence Security Report*, March 17, 2008.
- Altfeld, Michael F. 1984. "The Decision to Ally: A Theory and Test." *The Western Political Quarterly* 37 (4): 523–44.
- Amable, Bruno. 2000. "Institutional Complementarity and Diversity of Social Systems of Innovation and Production." *Review of International Political Economy* 7 (4): 645–87.
- Andersen, Esteban S. 1994. *Evolutionary Economics: Post-Schumpeterian Contributions*. London, UK: Pinter Publishers.
- Archibugi, Daniele, and Simona Lammarino. 2002. "The Globalization of Technological Innovation: Definition and Evidence." *Review of International Political Economy* 9 (1): 98–122.
- Archibugi, Daniele, and Mario Planta. 1996. "Measuring Technological Change Through Patents and Innovation Surveys." *Technovation* 16 (9): 451–519.

- Ardrey, Robert. 1960. *The Territorial Imperative. A Personal Inquiry into the Animal Origins of Property and Nations*. New York, NY: Atheneum.
- Arrow, Kenneth. 1962. "Economic Welfare and the Allocation of Resources for Invention." In *The Rate and Direction of Inventive Activity: Economic and Social Factors*, 609–26. Cambridge, MA: National Bureau of Economic Research, Inc.
- Arundel, Anthony, and Isabelle Kabla. 1998. "What Percentage of Innovations Are Patented? Empirical Estimates for European Firms." *Research Policy* 27 (2): 127–41.
- Asal, Victor, and Kyle Beardsley. 2007. "Proliferation and International Crisis Behavior." *Journal of Peace Research* 44 (2): 139–55. <https://doi.org/10.1177/0022343307075118>.
- Asbell, Bernard. 1995. *The Pill: A Biography of the Drug that Changed the World*. New York, NY: Random House.
- Aunger, Robert. 2002. *The Electric Meme: A New Theory of How We Think*. New York, NY: Free Press.
- Avant, Deborah D. 1993. "The Institutional Sources of Military Doctrine: Hegemons in Peripheral Wars." *International Studies Quarterly* 37 (4): 409–430.
- Axelrod, Robert. 1980. "Effective Choice in the Prisoner's Dilemma." *Journal of Conflict Resolution* 24 (1): 3–25. <https://doi.org/10.1177/002200278002400101>.
- Axelrod, Robert, and Robert Keohane. 1985. "Achieving Cooperation Under Anarchy: Strategies and Institutions." *World Politics* 38 (1): 226–54.
- Balalaeva, Dina. 2015. "Political Competition, Agenda Power, and Incentives to Innovate: An Empirical Examination of Vested-Interest Theory." *Review of Policy Research* 32 (4): 413–42. <http://doi.org/10.1111/ropr.12130>.
- Baldwin, John R., and Wulong Gu. 2004. "Trade Liberalization: Export-market Participation, Productivity Growth, and Innovation." *Oxford Review of Economic Policy* 20 (3): 372–92.
- Barbosa, Natalia, and Ana Paula Faria. 2011. "Innovation Across Europe: How Important are Institutional Differences?" *Research Policy* 40 (9): 1157–69.
- Bardeen, Matthew, and Narciso Cerpa. 2015. "Technological Evolution in Society - The Evolution of Mobile Devices." *Journal of Theoretical and Applied Electronic Commerce Research* 10 (1): i–vii.
- Barnett, Michael and Levy, Jack S. (1991) "Domestic Sources of Alliances and Alignments: The Case of Egypt, 1962 – 73", *International Organization* 45(3), pp. 369-395.
- Bauer, Martin. 1997. *Resistance to New Technology: Nuclear Power, Information Technology and Biotechnology*. Cambridge, UK: Cambridge University Press.
- Bean, Richard. 1973. "War and the Birth of the Nation State." *The Journal of Economic History* 33 (1): 203–21.
- Beasley, David R. 1988. *The Suppression of the Automobile: Skulduggery at the Crossroads*. Westport, CT: Greenwood Press.
- Betts, Richard K. 1987. *Nuclear Blackmail and Nuclear Balance*. Washington, DC: Brookings Institution Press.
- Biglaiser, Glen, and Karl DeRouen Jr. 2007. "Following The Flag: Troop Deployment and U.S. Foreign Direct Investment." *International Studies Quarterly* 51 (4): 835–54. <http://doi.org/10.1111/j.1468-2478.2007.00479.x>.

- Bijker, Wiebe E. 1995. *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change*. Cambridge, MA: MIT Press.
- Bijker, Wiebe E., Thomas Parke Hughes, and Trevor Pinch. 1987. *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Cambridge, MA: MIT Press.
- Bimber, Bruce. 1994. "Three Faces of Technological Determinism." In *Does Technology Drive History: The Dilemma of Technological Determinism*, edited by Merrit Smith and Leo Marx, 79–10. Cambridge, MA: MIT Press.
- Blainey, Geoffrey. 1973. *The Causes of War*. New York, N: The Free Press.
- Brecher, Michael, and Jonathan Wilkenfeld. 2000. *A Study of Crisis*. Ann Arbor, MI: University of Michigan Press.
- Brecher, Michael, Jonathan Wilkenfeld, Kyle Beardsley, Patrick James, and David Quinn. 2017. *International Crisis Behavior Data Codebook, Version 12*. <http://sites.duke.edu/icbdata/data-collections/>
- Brodie, Bernard. 1946. *The Absolute Weapon: Atomic Power and World Order*. New York, NY: Harcourt.
- Bremer, Stuart A. 1992. "Dangerous Dyads: Conditions Affecting the Likelihood of Interstate War, 1816-1965." *Journal of Conflict Resolution* 36 (2): 309–41. <https://doi.org/10.1177/0022002792036002005>.
- Bennett, D. Scott, and Allan C. Stam. 2000. "Research Design and Estimator Choices in the Analysis of Interstate Dyads: When Decisions Matter." *Journal of Conflict Resolution* 44 (5): 653–85. <https://doi.org/10.1177/0022002700044005005>.
- Breznitz, Daniel. 2007. *Innovation and the State: Political Choice and Strategies for Growth in Israel, Taiwan, and Ireland*. New Haven, CT: Yale University Press.
- Breznitz, Daniel. 2009. "National Institutions and the Globalized Political Economy of Technological Change: An Introduction." *Review of Policy Research* 26 (1,2): 1–11.
- Brummer, Matthew. 2017. "Tangoing with Schumpeter: The Security Politics of Science & Technology." *International Studies Review* 19 (2): 312–4.
- Brummer, Matthew. 2019. "Bridges Over Troubled History: Japan's Foreign Policy in Asia." *International Studies Review* 21 (1): 172–4.
- Brummer, Matthew. 2020a forthcoming. "Innovation and Threats."
- Brummer, Matthew. 2020b forthcoming. "Anarchy is a Ladder: Threats, Alliances, and Innovations."
- Brummer, Matthew. 2020c. "Security Threats, Elite Veto Power, and Technological Innovation." *Working paper*.
- Brummer, Matthew. 2020d forthcoming. "Technological Innovation and Biological Evolution."
- Brummer, Matthew, and Oren, Eitan. 2017. "Israel and Japan's Rising Sun Relations: Why Tokyo and Tel Aviv Are Finally Cozying Up." *Foreign Affairs*, July 28, 2017. <https://www.foreignaffairs.com/articles/japan/2017-07-28/Israel-and-japans-rising-sun-relations>.
- Brummer, Matthew, and Muhui Zhang. 2018. "Rapprochement in Northeast Asia can Stabilise the Region." *East Asia Forum Quarterly* 10 (3): 17–20.
- Bueno De Mesquita, Bruce, and William H. Riker. 1982. "An Assessment of the Merits of Selective Nuclear Proliferation." *Journal of Conflict Resolution* 26 (2): 283–306.

- Burmeister, Alita R. 2015. "Horizontal Gene Transfer." *Evolution, Medicine, and Public Health* 2015 (1): 193–4. <http://www.doi.org/10.1093/emph/eov018>.
- Buzan, Barry. 1987. *An Introduction to Strategic Studies: Military Technology and International Relations*. London, UK: Macmillan.
- Buzan, Barry, Charles Jones, and Richard Little. 1993. *The Logic of Anarchy: Neorealism to Structural Realism*. New York, NY: Columbia University Press.
- Cardwell, Donald S.L. 1972. *Turing Points in Western Technology: A Study of Technology, Science, and History*. New York: Science History Publishing.
- Carlsson, Bo, Staffan Jacobsson, Magnus Holmén, and Annika Rickne. 2002. "Innovation Systems: Analytical and Methodological Issues." *Research Policy* 31 (2): 233–45.
- Centeno, Miguel A. 2002. *Blood and Debt: War and the Nation-State in Latin America*. University Park, PA: Penn State Press.
- Chandler, Alfred D. 1977. *The Visible Hand: The Managerial Revolution in American Business*. Cambridge, MA: Harvard University Press.
- Chang, Shu-Hao, and Hsin-Yuan Chang. 2013. "Study on National Innovation Capacity and International Connection." *Innovation: Management, Policy and Practice* 15 (4): 452–62.
- Checkel, Jeffrey T. 1998. "The Constructivist Turn in International Relations Theory." *World Politics* 50 (2): 324–48.
- Cheung, Tai Ming, ed. 2014. *Forging China's Military Might: A New Framework for Assessing Innovation*. Baltimore, MD: Johns Hopkins University Press.
- Christensen, Thomas J, and Jack Snyder. 1990. "Chain Gangs and Passed Bucks: Predicting Alliance Patterns in Multipolarity." *International Organization* 44 (2): 167–68.
- Chu, John S. 2006. *Military Exercises in Korea: A Provocation or a Deterrent to War?* Newport, RI: Naval War College.
- Cole, Jonathan R. 2009. *The Great American University: Its Rise to Preeminence, Its Indispensable National Role, and Why It Must Be Protected*. New York, NY: Public Affairs.
- Collier, David. 2011. "Understanding Process Tracing." *PS: Political Science and Politics* 44 (4): 823–30.
- Coppedge, Michael, Angel Alvarez, and Claudia Maldonado. 2008. "Two Persistent Dimensions of Democracy: Contestation and Inclusiveness." *The Journal of Politics* 70 (3): 632–47. <http://doi.org/10.1017/S0022381608080663>.
- Cote, Owen R. 1996. "The Politics of Innovative Military Doctrine: The U.S. Navy and Fleet Ballistic Missiles." PhD diss., Massachusetts Institute of Technology.
- Cox, Robert W. 1981. "Social Forces, States and World Orders: Beyond International Relations Theory." *Millennium: Journal of International Studies* 10 (2): 126–55.
- Crane, Diana. 1972. *Invisible Colleges: Diffusion of Knowledge in Scientific Communities*. Chicago, IL: University of Chicago Press.
- Dawkins, Richard. 1976. *The Selfish Gene*. New York, NY: Oxford University Press.
- Deese, David A., and Joseph S. Nye. 1981. *Energy and Security*. Cambridge, MA: Ballinger Publishing Company.
- Delanda, Manuel. 1991. *War in the Age of Intelligent Machines*. Cambridge, MA: Zone Books.

- Denicolò, Vincenzo, and Luigi Alberto Franzoni. 2003. "The Contract Theory of Patents." *International Review of Law and Economics* 23 (4): 365–80.
- De Rassenfosse, Gaëtan, Hélène Dernis, Dominique Guellec, Lucio Picci, and Bruno van Pottelsberghe de la Potterie. 2013. "The Worldwide Count of Priority Patents: A New Indicator of Inventive Activity." *Research Policy* 42 (3): 720–37. <http://doi.org/10.1016/j.respol.2012.11.002>.
- Desch, Michael C. 1996. "War and Strong States, Peace and Weak States?" *International Organization* 50 (2): 237–68.
- Devries, Kelly R., and Robert D. Smith. 2007. *Medieval Weapons: An Illustrated History of Their Impact*. Santa Barbara, CA: ABC-CLIO.
- Diamond, Jared. 1997. *Guns, Germs, and Steel: The Fates of Human Societies*. New York, NY: W.W. Norton.
- Dickey, Aaron M., Vivek Kumar, J. Kent Morgan, Antonella Jara-Cavieres, Robert G. Shatters, Cindy L. McKenzie, and Lance S. Osborne. 2015. "A Novel Mitochondrial Genome Architecture in Thrips (Insecta: Thysanoptera): Extreme Size Asymmetry among Chromosomes and Possible Recent Control Region Duplication." *BMC Genomics* 16 (1): 439.
- Diehl, Paul F. 1994. "Substitutes Or Complements?: The Effects Of Alliances On Military Spending In Major Power Rivalries." *International Interactions* 19 (3): 159–76. <http://doi.org/10.1080/03050629408434825>.
- Dombrowski, Peter, and Eugene Gholz. 2006. *Buying Military Transformation: Technological Innovation and the Defense Industry*. New York, NY: Columbia University Press.
- Doner, Richard F. 2009. *The Politics of Uneven Development: Thailand's Economic Growth in Comparative Perspective*. New York, NY: Cambridge University Press.
- Doner, Richard F., Allen Hicken, and Bryan K. Ritchie. 2009. "Political Challenges of Innovation in the Developing World." *Review of Policy Research* 25 (1-2): 151–71.
- Doner, Richard, Bryan K. Ritchie, and Dan Slater. 2005. "Systemic Vulnerability and the Origins of Developmental States: Northeast and Southeast Asia in Comparative Perspective." *International Organization* 59 (2): 327–61. <https://doi.org/10.1017/S0020818305050113>.
- Dopfer, Kurt, ed. 2005. *The Evolutionary Foundations of Economics*. Cambridge, UK: Cambridge University Press.
- D'Orazio, Vito. 2012. "War Games: North Korea's Reaction to US and South Korean Military Exercises." *Journal of East Asian Studies* 12 (2): 275–94.
- D'Orazio, Vito. 2013. "International Military Cooperation: From Concepts to Constructs." PhD diss., Pennsylvania State University.
- Doyle, James E. 2013. "Why Eliminate Nuclear Weapons?" *Survival* 55 (1): 7–34.
- Drake, Alvin W., Stan N. Finkelstein, and Harvey M. Sapolsky. 1982. *The American Blood Supply*. Cambridge, MA: MIT Press.
- Dreher, Axel. 2006. "Does Globalization Affect Growth? Evidence from a New Index of Globalization." *Applied Economics* 38 (10): 1091–110.
- Drezner, Daniel. 2001. "State Structure, Technological Leadership and the Maintenance of Hegemony." *Review of International Studies* 27 (1): 3–25.
- Dudziak, Mary L. 2011. *Cold War Civil Rights: Race and the Image of American Democracy*. Princeton, NJ: Princeton University Press.

- Eaton, Jonathan, and Samuel Kortum. 1999. "International Technology Diffusion: Theory and Measurement." *International Economic Review* 40 (3): 537–70.
- Edquist, Charles. 1997. "Systems of Innovation Approaches—Their Emergence and Characteristics." In *Systems of Innovation: Technologies, Institutions and Organizations*, 1–35. London: Pinter/Cassell.
- Edquist, Charles. 2005. "Systems Of Innovation: Perspectives And Challenges." In *The Oxford Handbook of Innovation*, edited by Jan Fagerberg and David C. Mowery, 181–208. Oxford, UK: Oxford University Press.
- Eesley, Charles E. 2010. "Institutions and Innovation: A Literature Review of the Impact of Public R&D and Financial Institutions on Firm Innovation." Rochester, NY: Social Science Research Network.
- Epstein, Steven. 1998. *Impure Science: AIDS, Activism, and the Politics of Knowledge*. Berkeley, CA: University of California Press.
- Ernst, Dieter, and Linsu Kim. 2002. "Global Production Networks, Knowledge Diffusion, and Local Capability Formation." *Research Policy* 31 (8-9): 1417–29.
- Fagerberg, Jan, David Mowery, and Richard R. Nelson. 2005. *The Oxford Handbook of Innovation*. Oxford, UK: Oxford University Press.
- Fagerberg, Jan, and Bart Verspagen. 2009. "Innovation Studies--The Emerging Structure of a New Scientific Field." *Research Policy* 38 (2): 218–33.
- Fearon, James D. 1997. "Signaling Foreign Policy Interests: Tying Hands versus Sinking Costs." *Journal of Conflict Resolution* 41 (1): 68–90. <https://doi.org/10.1177/0022002797041001004>.
- Freeman, Christopher. 1982. *The Economics of Industrial Innovation*. Urbana-Champaign, IL: University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.
- Freeman, Christopher. 1987. *Technology Policy and Economic Performance: Lessons from Japan*. London, UK: Pinter Publisher.
- Freeman, Christopher. 1988. "Japan: A New National System of Innovation?" In *Technical Change and Economic Theory*, edited by Giovanni Dosi et al., 330–48. London, UK: Pinter Publisher.
- Freeman, Christopher. 1995. "The 'National System of Innovation' in Historical Perspective." *Cambridge Journal of Economics* 19 (1): 5–24.
- Freeman, Christopher. 2009. "Schumpeter's Business Cycles and Techno-Economic Paradigms." In *Techno-Economic Paradigms: Essays in Honor of Carlota Perez*, edited by Wolfgang Drechsler, Rainer Kattel, and Erik S. Reinert, 125–44. New York, NY: Anthem Press.
- Friedman, Thomas L. 1999. *The Lexus and the Olive Tree: Understanding Globalization*. New York, NY: Farrar, Straus, Giroux.
- Fritsch, Stefan. 2011. "Technology and Global Affairs." *International Studies Perspectives* 12 (1): 27–45.
- Funes, Maria J. 2016. *Regarding Tilly: Conflict, Power, and Collective Action*. Lanham, MD: University Press of America.
- Furman, Jeffrey L., Michael E. Porter, and Scott Stern. 2002. "The Determinants of National Innovative Capacity." *Research Policy* 31 (6): 899–933. [http://doi.org/10.1016/S0048-7333\(01\)00152-4](http://doi.org/10.1016/S0048-7333(01)00152-4).

- Galindo-Rueda, Fernando, and Fabien Verger. 2016. "OECD Taxonomy of Economic Activities Based on R&D Intensity." *OECD Science, Technology and Industry Working Papers* 2016/04. Paris, France: OECD Publishing. <https://doi.org/10.1787/5jlv73sqqp8r-en>.
- Gartzke, Erik, and Dong-Joon Jo. 2009. "Bargaining, Nuclear Proliferation, and Interstate Disputes." *Journal of Conflict Resolution* 53 (2): 209–33. <https://doi.org/10.1177/0022002708330289>.
- Gelb, Alan. 1988. *Oil Windfalls: Blessing or Curse?* New York, NY: Oxford University Press.
- Geller, Daniel. 2005. "The India-Pakistan Rivalry: Prospects for War, Prospects for Peace." In *The India-Pakistan conflict: An Enduring Rivalry*, edited by Thazha V. Paul, 80–150. Cambridge, UK: Cambridge University Press.
- Gelpi, Christopher. 1999. "Alliances as Instruments of Intra-Allied Control." In *Imperfect Unions: Security Institutions in International Politics*, edited by Helga Haftendorn, Robert O. Keokane, and Celeste E. Wallander, 107–40. New York, NY: Oxford University Press.
- Gerschenkron, Alexander. 1962. *Economic Backwardness in Historical Perspective*. Cambridge, MA: Harvard University Press.
- Gholz, Eugene. 2000. "The Curtiss-Wright Corporation and Cold War–Era Defense Procurement: A Challenge to Military-Industrial Complex Theory." *Journal of Cold War Studies* 2 (1): 35–75. <http://doi.org/10.1162/15203970051032300>.
- Gholz, Eugene, and Harvey M. Sapolsky. 1999. "Restructuring The U.S. Defense Industry." *International Security* 24 (3): 5–51.
- Gibler, Douglas M. 2009. *International Military Alliances, 1648-2008*. Washington, DC: CQ Press.
- Gibler, Douglas M. 2012. *The Territorial Peace: Borders, State Development, and International Conflict*. New York, NY: Cambridge University Press.
- Gibler, Douglas M., and Toby Rider. 2004. "Prior Commitments: Compatible Interests versus Capabilities in Alliance Behavior." *International Interactions* 30 (4): 309–29. <https://doi.org/10.1080/03050620490883985>.
- Gibler, Douglas M., and Meredith Reid Sarkees. "Measuring Alliances: The Correlates of War Formal Interstate Alliance Dataset, 1816–2000." *Journal of Peace Research* 41 (2): 211–22. <https://doi.org/10.1177/0022343304041061>.
- Gibler, Douglas M., and Scott Wolford. 2006. "Alliances, Then Democracy: An Examination of the Relationship between Regime Type and Alliance Formation." *Journal of Conflict Resolution* 50 (1): 129–53. <https://doi.org/10.1177/0022002705281360>.
- Gilpin, Robert. 1981. *War and Change in World Politics*. Cambridge, MA: Cambridge University Press.
- Godin, Benoît. 2006. "The Linear Model of Innovation: The Historical Construction of an Analytical Framework." *Science, Technology, and Human Values* 31 (6): 639–67.
- Godin, Benoît. 2015. *Innovation Contested – The Idea of Innovation Over the Centuries*. London, UK: Routledge.
- Godin, Benoît. 2016. "Technological Innovation: On the Emergence and Development of an Inclusive Concept." *Technology and Culture* 57 (3): 527–56.
- Godin, Benoît. 2017. *Models of Innovation: The History of an Idea*. Cambridge, MA: MIT Press.
- Goldman, Emily O., and Leslie C. Eliason, ed. 2003. *The Diffusion of Military Technology and Ideas*. Stanford, CA: Stanford University Press.

- Goldstein, Bernard. 2005. "The Who, What, When, Where, and Why of Risk Characterization." *Policy Studies Journal* 23 (1): 70–5.
- Goldstein, Judith, and Robert O. Keohane. 1993. *Ideas and Foreign Policy Beliefs, Institutions, and Political Change*. Ithaca, NY: Cornell University Press.
- Gonzalez-Uribe, Juanita. 2013. *Dissertation Summary: Venture Capital and Innovation*. Rochester, NY: Social Science Research Network.
- Gorodnichenko, Yuriy, Jan Svejnar, and Katherine Terrell. 2008. "Globalization and Innovation in Emerging Markets" Bonn, Germany: IZA Institute of Labor Economics.
- Gorodnichenko, Yuriy, Jan Svejnar, and Katherine Terrell. 2010. "Globalization and Innovation in Emerging Markets." *American Economic Journal: Macroeconomics* 2 (2): 194–226.
- Gourevitch, Peter. 1978. "The Second Image Reversed: The International Sources of Domestic Politics." *International Organization* 32 (4): 881–912.
- Gowa, Joanne S. 1995. *Allies, Adversaries, and International Trade*. Princeton, NJ: Princeton University Press.
- Granovetter, Mark S. 1973. "The Strength of Weak Ties." *American Journal of Sociology* 78(6): 1360–80.
- Granstrand, Ove. 2005. "Innovation and Intellectual Property Rights." In *Oxford Handbook of Innovation*, edited by Jan Fagerberg, David Mowery and Richard Nelson, 209–39. Cambridge, MA: Oxford University Press.
- Greene, William H. 1998. *Econometric Analysis*, 3rd ed. New York: Prentice Hall.
- Greenhalgh, Christine, and Mark Rogers. (2010). *Innovation, Intellectual Property, and Economic Growth*. Princeton, NJ: Princeton University Press.
- Greitens, Sheena Chestnut. 2013. "Authoritarianism Online: What Can We Learn from Internet Data in Non-Democracies?" *PS: Political Science and Politics* 46 (2): 262–70.
- Grieco, Joseph, Cindy Cheng, and Ana Guzman. 2014. "International Conflict and National Technological Innovation." Paper presented at the *Annual Meeting of the International Studies Association*, Toronto, Canada, March 26, 2014.
- Griliches, Zvi. 1991. *Patent Statistics As Economic Indicators: A Survey* (Working Paper No. 3301). Cambridge, MA: National Bureau of Economic Research.
- Guellec, Dominique, and Bruno van Pottelsberghe de la Potterie. 2001. "The Internationalisation of Technology Analysed with Patent Data." *Research Policy* 30 (8): 1253–66. [http://doi.org/10.1016/S0048-7333\(00\)00149-9](http://doi.org/10.1016/S0048-7333(00)00149-9).
- Gujarati, Damodar N. 2003. *Basic Econometrics*. New York, NY: McGraw-Hill.
- Gusterson, Hugh. 2016. *Drone: Remote Control Warfare*. Cambridge, MA: MIT Press.
- Guterres, António. 2018. "Secretary-General's Remarks on Climate Change." Speech, New York, September 10, 2018. United Nations. www.un.org/sg/en/content/sg/statement/2018-09-10/secretary-generals-remarks-climate-change-delivered.
- Gutfeld, Arnon. 2017. "From 'Star Wars' to 'Iron Dome': US Support of Israel's Missile Defense Systems." *Middle Eastern Studies* 53 (6): 934–48.
- Haas, Ernst B. 1975. "Is There a Hole in the Whole? Knowledge, Technology, Interdependence, and The Construction Of International Regimes." *International Organization* 29 (3): 827–76.

- Haas, Peter M. 1992. "Introduction: Epistemic Communities and International Policy Coordination." *International Organization* 46 (1): 1–35.
- Hall, Bronwyn H., and Dietmar Harhoff. 2012. "Recent Research on the Economics of Patents." *Annual Review of Economics* 4: 541–65.
- Hall, Bronwyn H., Adam B. Jaffe, and Manuel Trajtenberg. 2000. *Market Value and Patent Citations: A First Look*. Cambridge, MA: National Bureau of Economic Research.
- Hall, Bronwyn H., Adam B. Jaffe, and Manuel Trajtenberg. 2001. *The NBER Patent Citation Data File: Lessons, Insights and Methodological Tools* (Working Paper No. 8498). Cambridge, MA: National Bureau of Economic Research.
- Hall, Peter, and David W. Soskice. 2001. *Varieties of Capitalism: The Institutional Foundations Of Comparative Advantage*. New York, NY: Oxford University Press.
- Hargadon, Andrew B., and Yellowlees Douglas. 2001. "When Innovations Meet Institutions: Edison and the Design of the Electric Light." *Administrative Science Quarterly* 46 (3): 476–501.
- Harhoff, Dietmar, Francis Narin, Frederic M. Scherer, and Katrin Vopel. 1999. "Citation Frequency and the Value of Patented Inventions." *The Review of Economics and Statistics* 81 (3): 511–15.
- Harrison, Lawrence, and Samuel P. Huntington, eds. 2000. *Culture Matters: How Values Shape Human Progress*. New York, NY: Basic Books.
- Hart, David M. 2001. "Antitrust and Technological Innovation in the US: Ideas, Institutions, Decisions, and Impacts, 1890–2000." *Research Policy* 30 (6): 923–36.
- Hayes, Jarrod. 2015. "Nuclear Disarmament and Stability in the Logic of Habit." *The Nonproliferation Review* 22 (3-4): 505–15.
- Headrick, Daniel. 1981. *The Tools Of Empire. Technology and European Imperialism in the Nineteenth Century*. New York, NY: Oxford University Press.
- Henisz, Witold J. 2000. "The Political Constraint Index Database." <https://mgmt.wharton.upenn.edu/faculty/heniszpolcon/polcondataset/>.
- Henisz, Witold J. 2003. "The Institutional Environment for Economic Growth." *Economics & Politics* 12 (1): 1–31. <https://doi.org/10.1111/1468-0343.00066>.
- Herbst, Jeffrey. 1990. "War and the State in Africa." *International Security* 14 (4): 117–39.
- Herrera, Geoffrey L. 2006. *Technology and International Transformation: The Railroad, the Atom Bomb, and the Politics of Technological Change*. Albany, NY: SUNY Press.
- Higley, John. 2016. "Elites." *Encyclopedia Britannica*. Published November 30, 2016. <https://www.britannica.com/topic/elite-sociology>.
- Hobbes, Thomas. 1651. *Leviathan: Or the Matter, Forme and Power of a Commonwealth, Ecclesiasticall and Civil*. (n.p.)
- Hobkirk Michael D. 1992. *Land, Sea or Air? Military Priorities – Historic Choices*. London, UK: Palgrave Macmillan.
- Hopf, Ted. 1998. "The Promise of Constructivism in International Relations Theory." *International Security* 23 (1): 171–200.
- Horowitz, Michael C. 2010. *The Diffusion of Military Power: Causes and Consequences for International Politics*. Princeton, NJ: Princeton University Press.

- Hoyt, Timothy D. 2003. "Technology and Security." In *Grave New World: Security Challenges in the 21st Century*, edited by Michael E. Brown, 17–37. Washington, DC: Georgetown University Press.
- Hughes, Thomas P. 2004. *Human-Built World: How To Think About Technology And Culture*. Chicago, IL: University of Chicago Press.
- Human Rights Watch. 2007. "Civilians under Assault: Hezbollah's Rocket Attacks on Israel in the 2006 War." *Human Rights Watch*, August 28, 2007.
- Hume, David. 1742. "On the Rise and Progress of the Arts and Science." *Essays, Moral and Political*, Vol.1, Part 4, 14.
- Ikenberry, G. John. 2005. *Liberal Order and Imperial Ambition: American Power and International Order*. Malden, MA: Polity Press.
- Ikenberry, G. John. 2009. "Liberalism in the Realist World." *International Studies* 46 (1-2): 203–19. <https://doi.org/10.1177/002088171004600213>.
- Innis, Harold. 1950. *Communication and Empire*. Oxford: Oxford University Press.
- International Futures Forum. 2017. "Transformative Innovation." <https://www.iffpraxis.com/transformational-innovation>.
- Jaffe, Adam B., and Manuel Trajtenberg. 2002. *Patents, Citations, and Innovations: A Window on the Knowledge Economy*. Cambridge, MA: MIT Press.
- Jaffe, Adam B., Manuel Trajtenberg, and Michael S. Fogarty. 2000. "Knowledge Spillovers and Patent Citations: Evidence from a Survey of Inventors." *American Economic Review* 90 (2): 215–18. <http://doi.org/10.1257/aer.90.2.215>.
- Jervis, Robert. 1978. "Cooperation Under Security Dilemma." *World Politics* 30 (2): 167–214.
- Johnson, Bjorn. 1992. "Institutional Learning." In *National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning*, edited by Bengt-Ake Lundvall, 23–44. London, UK: Pinter.
- Johnson, Jesse C. 2017. "External Threat and Alliance Formation." *International Studies Quarterly* 61 (3): 736–45.
- Jones, Charles I., and Dietrich Vollrath. 2013. *Introduction To Economic Growth*. New York, NY: W. W. Norton, Incorporated.
- Jones, Daniel M., Stuart A. Bremer and J. David Singer. 1996. "Military Interstate Disputes, 1816-1992: Rationale, Coding Rules, and Empirical Patterns." *Conflict Management and Peace Science* 15:163-213.
- Jones, Eric. 1987. *The European Miracle: Environments, Economies, and Geopolitics in the History of Europe and Asia*. Cambridge, UK: Cambridge University Press.
- Kaag, John, and Sarah Kreps. 2014. *War and Conflict in the Modern World: Drone Warfare*. Cambridge, UK: Polity.
- Kalyvias, Stathis N., and Laia Balcells. 2010. "International System and Technologies of Rebellion: How the End of the Cold War Shaped Internal Conflict." *American Political Science Review* 104 (3): 415–29. <https://doi.org/10.1017/S0003055410000286>.
- Kang, David C. 2002. *Crony Capitalism: Corruption and Development in South Korea and the Philippines*. Cambridge, UK: Cambridge University Press.
- Kaplan, Robert. 2001. *The Coming Anarchy: Shattering the Dreams of the Post Cold War*. New York, NY: Vintage Books.

- Katzenstein, Peter J. 1996. "Introduction: Alternative Perspectives on National Security." In *The Culture of National Security: Norms and Identity in World Politics*, edited by Peter Katzenstein, 1–32. New York, NY: Columbia University Press.
- Katzenstein, Peter J. 2003. "Same War—Different Views: Germany, Japan, and Counterterrorism." *International Organization* 57 (4): 731–80. <https://doi.org/10.1017/S0020818303574033>.
- Kaufman, Stuart J. 1994. "Organizational Politics and Change In Soviet Military Policy." *World Politics* 46 (3): 355–82. <http://doi.org/10.2307/2950686>.
- Kell, Douglas B, and Elena Lurie-Luke. 2015. "The Virtue of Innovation: Innovation Through the Lenses of Biological Evolution." *Journal of The Royal Society Interface* 12 (103): 20141183. <https://doi.org/10.1098/rsif.2014.1183>.
- Kennedy, Paul. 1987. *The Rise and Fall of the Great Powers*. New York, NY: Random House.
- Keohane, Robert O. 1984. *After Hegemony: Cooperation and Discord in the World Political Economy*. Princeton, NJ: Princeton University Press.
- Keohane, Robert O. 1988. "International Institutions: Two Approaches." *International Studies Quarterly* 32 (4): 379–96. <https://doi.org/10.2307/2600589>.
- Keohane, Robert O., and Lisa L. Martin. 1995. "The Promise of Institutional Theory." *International Security* 20 (1): 39–51. <http://doi.org/10.2307/2539214>.
- Keohane, Robert O. and Joseph S. Nye. 1977. *Power and Interdependence: World Politics in Transition*. Boston, MA: Little, Brown, and Co.
- Kier, Elizabeth. 1997. *Imagining War: French and British Military Doctrine between the Wars*. Princeton, NJ: Princeton University Press.
- Kimball, Anessa L. 2010. "Political Survival, Policy Distribution, and Alliance Formation." *Journal of Peace Research* 47 (4): 407–19. <https://doi.org/10.1177/0022343310368346>.
- Kleinknecht, Alfred. 1987. *Innovation Patterns in Crisis and Prosperity*. London, UK: Palgrave Macmillan.
- Kober, Avi. 2013. *Iron Dome: Has the euphoria been justified?* (Perspectives Paper No. 199). Washington, DC: Center for Strategic Studies.
- Kondratieff, Nikolai. 1935. "The Long Waves in Economic Life." *The Review of Economic Statistics* 17 (6): 105–15.
- Koubi, Vally. 2005. "War and Economic Performance." *Journal of Peace Research* 42(1): 67–82.
- Krasner, Stephen D., ed. 1983. *International Regimes*. Ithaca, NY: Cornell University Press.
- Krishna-Hensel Sai F. 2010. *Technology and International Relations*. New York, NY: Oxford University Press.
- Kroenig, Matthew. 2009. "Importing the Bomb: Sensitive Nuclear Assistance and Nuclear Proliferation." *Journal of Conflict Resolution* 53 (2): 161–80. <https://doi.org/10.1177/0022002708330287>.
- Kroenig, Matthew. 2013. "Nuclear Superiority and the Balance of Resolve: Explaining Nuclear Crisis Outcomes." *International Organization* 67 (1): 141–71. <https://doi.org/10.1017/S0020818312000367>.
- Krugman, Paul, ed. 1986. *Strategic Trade Policy and the New International Economics*. Cambridge, MA: MIT Press.
- Krugman, Paul. 1991. *Geography and Trade*. Cambridge, MA: MIT Press.

- Kubovich, Yaniv. "Mortars, Rockets and Drones: A Look at Hamas' Arsenal." *Haaretz Online*, 5 May 2019, Haaretz.com.
- Kugler, Jacek. 1984. "Terror without Deterrence: Reassessing the Role of Nuclear Weapons." *Journal of Conflict Resolution* 28 (3): 470–506. <https://doi.org/10.1177/0022002784028003005>.
- Kuhn, Thomas S. 1962. *The Structure of Scientific Revolutions*. Chicago, IL: The University of Chicago Press.
- Lai, Brian, and Reiter, Dan. 2000. "Democracy, Political Similarity, and International Alliances, 1816–1992." *Journal of Conflict Resolution* 44 (2): 203–27. <https://doi.org/10.1177/0022002700044002003>.
- Landes, David S. 1999. *The Wealth and Poverty of Nations: Why Some are So Rich and Some So Poor*. New York, NY: W. W. Norton & Company.
- Langlois, Richard N. 2001. "Knowledge, Consumption, and Endogenous Growth." *Journal of Evolutionary Economics* 11 (1): 77–93.
- Lanjouw, Jean O., and Mark Schankerman. 1997. *Stylized Facts of Patent Litigation: Value, Scope and Ownership* (Working Paper No. 6297). Cambridge, MA: National Bureau of Economic Research.
- Lanjouw, Jean O., and Mark Schankerman. 1999. *The Quality Of Ideas: Measuring Innovation With Multiple Indicators* (Working Paper No. 7345). Cambridge, MA: National Bureau of Economic Research.
- Leeds, Brett, Jeffrey Ritter, Sara Mitchell, and Andrew Long. 2002. "Alliance Treaty Obligations and Provisions, 1815–1944." *International Interactions* 28 (3): 237–60. <https://doi.org/10.1080/03050620213653>.
- Leeds, Brett A., and Burcu Savun. 2007. "Terminating Alliances: Why Do States Abrogate Agreements?" *Journal of Politics* 69 (4): 1118–32. <https://doi.org/10.1111/j.1468-2508.2007.00612.x>.
- Levi, Margaret. 1981. "The Predatory Theory of Rule." *Politics & Society* 10 (4): 431–65.
- Levy, Jack. 1981. "Alliance Formation and War Behavior: An Analysis of the Great Powers, 1495–1975." *Journal of Conflict Resolution* 25 (4): 581–613.
- Li, Quan, and Tatiana Vashchilko. 2010. "Dyadic Military Conflict, Security Alliances, And Bilateral FDI Flows." *Journal of International Business Studies* 41 (5): 765–82. <http://doi.org/10.1057/jibs.2009.91>.
- Lind, Michael. 2019. "The Return of Geoeconomics." *The National Interest*, October 13, 2019. <https://nationalinterest.org/feature/return-geoeconomics-87826>.
- Lipson, Charles. 1984. "International Cooperation in Economic and Security Affairs." *World Politics* 37 (1): 1–23. <https://doi.org/10.2307/2010304>.
- Liska, George. 1968. *Nations in Alliance: The Limits of Interdependence*. Baltimore, MD: The John Hopkins Press.
- Loewe, Laurence. 2008. "Genetic Mutation." *Nature Education* 1(1): 113.
- Lü, Junchang, and Stephen L. Brusatte. 2015. "A Large, Short-Armed, Winged Dromaeosaurid (Dinosauria: Theropoda) from the Early Cretaceous of China and its Implications for Feather Evolution." *Scientific Reports* 5: 11775.
- Lundvall, Bengt-Ake, ed. 1992. *National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning*. New York, NY: Pinter Publisher.

- Lundvall, Bengt-Ake, Jan Vang, K. J. Joseph, and Cristina Chaminade. 2009. "Introduction." In *Handbook of Innovation Systems and Developing Countries*, edited by Bengt-Ake Lundvall, K. J. Joseph, Cristina Chaminade, and Jan Vang, 1–32. Cheltenham, UK: Edward Elgar.
- Ma, Zhenzhong, and Yender Lee. 2008. "Patent Application and Technological Collaboration in Inventive Activities: 1980–2005." *Technovation* 28 (6): 379–90.
<http://doi.org/10.1016/j.technovation.2007.07.011>.
- MacDonald, Stuart. 1990. *Technology and the Tyranny of Export Controls*. London, UK: Palgrave Macmillan.
- MacKenzie, Donald A. 1990. *Inventing Accuracy: A Historical Sociology of Nuclear Missile Guidance*. Cambridge, MA: MIT Press.
- Mansfield, Edward D. 1988. "The Distribution of Wars Over Time." *World Politics* 41 (1): 21–51.
- Mansfield, Edward D., and Rachel Bronson. 1997. "Alliances, Preferential Trading Arrangements, And International Trade." *American Political Science Review* 91 (1): 94–107.
<http://doi.org/10.2307/2952261>.
- Maoz, Zeev. 1996. *Domestic Sources of Global Change*. Ann Arbor, MI: University of Michigan Press.
- Marshall, Monty G., Keith Jagers, and Ted R. Gurr. 2011. *Polity IV Project: Dataset Users' Manual*. Arlington, MA: Polity IV Project.
- Mayer, Maximilian, Mariana Carpes, and Ruth Knoblich. 2014. *The Global Politics of Science and Technology*. Berlin, Germany: Springer-Verlag.
- McDonald, Sarah M., Martha I. Nelson, Paul E. Turner, and John T. Patton. 2016. "Reassortment in Segmented RNA Viruses: Mechanisms and Outcomes." *Nature Reviews Microbiology* 14: 448–60.
- McLuhan, Marshall. 1964. *Understanding Media*. New York, NY: McGraw-Hill.
- McLuhan, Marshall, and Bruce R. Powers. 1992. *The Global Village: Transformations in World, Life and Media in the 21st Century*. New York: Oxford University Press.
- McNeill, William H. 1982. *The Pursuit Of Power: Technology, Armed Force, and Society since A.D. 1000*. Chicago, IL: Chicago University Press.
- Mearsheimer, John J. 1995. "The False Promise of International Institutions." *International Security* 19 (3): 5–49.
- Mearsheimer, John J., and Stephen M. Walt. 2013. "Leaving Theory Behind: Why Simplistic Hypothesis Testing is Bad for International Relations." *European Journal of International Relations* 19 (3): 427–57.
- Metcalf, Stan. 1995. "The Economic Foundations of Technology Policy: Equilibrium and Evolutionary Perspectives." In *Handbook of the Economics of Innovation and Technological Change*, edited by Paul Stoneman, 409–512. Cambridge, MA: Blackwell Publishers.
- Mills, C. Wright. 1956. *The power elite*. Oxford, UK: Oxford University Press.
- Mineiro, Michael C. 2011. *Space Technology Export Controls and International Cooperation in Outer Space*. Berlin, Germany: Springer Science & Business Media.
- Modelski, George, and William R. Thompson. 1996. *Leading Sectors and World Powers: The Coevolution of Global Economics and Politics*. Columbia, SC: University of South Carolina Press.
- Mokyr, Joel. 1990. *The Lever of Riches: Technological Creativity and Economic Progress*. New York, NY: Oxford University Press.

- Mokyr, Joel. 1992. "Technological Inertia in Economic History." *The Journal of Economic History* 52 (2): 325–38.
- Mokyr, Joel. 1994. "Cardwell's Law and the Political Economy of Technological Progress." *Research Policy* 23 (5): 561–74. [http://doi.org/10.1016/0048-7333\(94\)01006-4](http://doi.org/10.1016/0048-7333(94)01006-4).
- Mokyr, Joel. 1998. "The Political Economy of Technological Change: Resistance and Innovation in Economic History." In *Technological Revolutions in Europe: Historical Perspectives*, edited by Maxine Berg and Kristine Bruland, 39–64. Cheltenham, UK: Edward Elgar Publishers.
- Mokyr, Joel. 2000. "The Industrial Revolution and the Netherlands: Why Did It Not Happen?" *De Economist* 148 (4): 503–20. <https://doi.org/10.1023/A:1004134217178>.
- Mokyr, Joel. 2002. *The Gifts of Athena: Historical Origins of the Knowledge Economy*. Princeton, NJ: Princeton University Press.
- Moravcsik, Andrew. 1997. "Taking Preferences Seriously: A Liberal Theory of International Politics." *International Organization* 51 (4): 513–53. <https://doi.org/10.1162/002081897550447>.
- Morgenthau, Hans J. 1948. *Politics Among Nations: The Struggle for Power and Peace*. New York: McGraw-Hill.
- Morgenthau, Hans J. 1964. "Modern Science And Political Power." *Columbia Law Review* 64: 1386–409.
- Morgenthau, Hans J. 1985. *Politics Among Nations: The Struggle for Peace and Power*, 6th ed. New York, NY: Knopf.
- Morgenthau, Hans J., and Kenneth W. Thompson. 1948. *Politics Among Nations*. New York, NY: McGraw-Hill.
- Morrow, James D. 1994. "Alliances, Credibility, and Peacetime Costs." *The Journal of Conflict Resolution* 38 (2): 270–97.
- Morrow, James D. 2000. "Alliances: Why Write Them Down?" *Annual Review of Political Science* 3: 63–83. <https://doi.org/10.1146/annurev.polisci.3.1.63>.
- Moul, William B. 1988. "Balances of Power and the Escalation to War of Serious Disputes among the European Great Powers, 1815-1939: Some Evidence." *American Journal of Political Science* 32 (2): 241–75.
- Mowery, David C., and Nathan Rosenberg. 1991. *Technology and the Pursuit of Economic Growth*. Cambridge, UK: Cambridge University Press.
- Mukunda, Gautam. 2010. "We Cannot Go On: Disruptive Innovation and the First World War Royal Navy." *Security Studies* 19 (1): 124–59. <http://doi.org/10.1080/09636410903546731>.
- Mumford, Lewis. 1966. *The Myth of the Machine: Technics and Human Development*. New York: Harcourt Brace.
- Nelson, Richard R., ed. 1993. *National Innovation Systems: A Comparative Analysis*. New York, NY: Oxford University Press.
- Nelson, Richard R. 2005. *Technology, Institutions and Economic Growth*. Cambridge, MA: Harvard University Press.
- Nelson, Richard R., and Nathan Rosenberg. 1993. "Technical Innovation and National Systems." In *National Innovation Systems: A Comparative Analysis*, edited by Richard R. Nelson, 1–18. Oxford: Oxford University Press.
- Nelson, Richard R., and Sidney G. Winter. 1977. "In Search of Useful Theory of Innovation." *Research Policy* 6 (1): 36–76.

- Nelson, Richard R., and Sidney G. Winter. 1982. *An Evolutionary Theory of Economic Change*. Cambridge, MA: Belkap Press.
- Niou, Emerson M. S., Peter C. Ordeshook, and Gregory G. Rose. 1989. *The Balance of Power: Stability in International Systems*. New York, NY: Cambridge University Press.
- Noble, David F. 1979. *America By Design: Science, Technology, and the Rise of Corporate Capitalism*. Oxford: Oxford University Press.
- Nonaka, Ikujiro. 1994. "A Dynamic Theory of Organizational Knowledge Creation." *Organization Science* 5 (1): 14–37.
- North, Douglass C. 1981. *Structure and Change in Economic History*. New York, NY: W.W. Norton & Company.
- North, Douglass C. 1990. *Institutions, Institutional Change and Economic Performance*. New York, NY: Cambridge University Press.
- Oberdorfer, Donald. 2001. *The Two Koreas: A Contemporary History*. New York, NY: Basic Books.
- Odasso, Cristina, Giuseppe Scellato, and Elisa Ughetto. 2015. "Selling Patents at Auction: An Empirical Analysis of Patent Value." *Industrial and Corporate Change* 24 (2): 417–38.
- Ohmae, Kenichi. 1990. *The Borderless World: Power and Strategy in the Interlinked Economy*. New York, NY: Harper Business.
- Olson, Mancur. 1982. *The Rise and Decline of Nations*. New Haven, CT: Yale University Press.
- Oren, Eitan, & Brummer, Matthew. (2020). Threat Perception, Government Centralization, and Political Instrumentality in Abe Shinzo's Japan. *Australian Journal of International Affairs*.
- Oren, Eitan., & Brummer, Matthew. (2020). States Don't Perceive Threat, People Do: Reexamining Threat Perception in Early Cold-War Japan. *Journal of Cold War Studies*. 22(3).
- Oren, Eitan. (2019). Japan's evolving threat perception: data from diet deliberations 1946-2017, *International Relations of the Asia-Pacific*, doi.org/10.1093/irap/lcz016
- Organisation for Economic Co-operation and Development. 1997. *National Innovation Systems*. Paris, France: OECD Publications.
- Organski, Abramo F.K., and Jacek Kugler. 1980. *The War Ledger*. Chicago, IL: The University of Chicago Press.
- Oscpchuk, John M. 1984. "A History of Microwave Heating Applications." *IEEE Transactions on Microwave Theory and Techniques* 39 (4): 1200–24.
- Page, Roderic D., and Edward C. Holmes. 1998. *Molecular Evolution: A Phylogenetic Approach*. Hoboken, NJ: Blackwell Publishing.
- Palmer, Glenn, Vito D'Orazio, Michael Kenwick, and Matthew Lane. 2015. "The MID4 Data Set: Procedures, Coding Rules, and Description." *Conflict Management and Peace Science* 32 (2): 222–42.
- Parker, George. 1996. *The Military Revolution: Military Innovation and the Rise of the West, 1500-1800*. New York, NY: Cambridge University Press.
- Piore, Michael J. & Charles F. Sabel 1984. *The Second Industrial Divide*. New York, NY: Basic Books.
- Poggi, Gianfranco. 1990. *The State: Its Nature, Development, and Prospects*. Stanford, CA: Stanford University Press.

- Polanyi, Michael. 1958. *Personal Knowledge: Towards a Post-Critical Philosophy*. Chicago, IL: University of Chicago Press.
- Pollins, Brian G. 2008. "Globalization and Armed Conflict Among Nations." *Conflict Management and Peace Science* 25 (3): 191–205. <https://doi.org/10.1080/07388940802218903>.
- Porter, Michael. E. 1990. *The Competitive Advantage of Nations*. New York, NY: Free Press.
- Posen, Barry R. 1986. *The Sources of Military Doctrine: France, Britain, and Germany between the World Wars*. Ithaca, NY: Cornell University Press.
- Posen, Barry R. 1993. "The Security Dilemma and Ethnic Conflict." *Survival* 35 (1): 27–47. <https://doi.org/10.1080/00396339308442672>.
- Powell, Walter W. 1990. "Neither Market nor Hierarchy; Network Forms of Organization." In *Research in Organizational Behavior*, Vol. 12, edited by Barry M. Staw, & L. L. Cummings, 295–336. Greenwich, CT: JAI Press.
- Powell, Walter W., and Stine Grodal. 2005. "Networks of Innovators." In *The Oxford Handbook of Innovation*, edited by Jan Fagerberg, David Mowery, and Richard Nelson, 56–85. Oxford, UK: Oxford University Press.
- Pye, Lucian. 1990. "Political Science and the Crisis of Authoritarianism." *The American Political Science Review* 84 (1), 3–19.
- Rabirotff, Jon. 2010. "Experts Assess Merit, Risks of U.S.–South Korea Exercise." *Stars and Stripes*, July 23, 2010. <https://www.stripes.com/news/experts-assess-merit-risks-of-u-s-south-korea-exercise-1.112071>.
- Ranke, Leopold. 1850. *A Dialogue on Politics*. Translated by Theodore H. Von Laue. Princeton, NJ: Princeton University Press.
- Rauchhaus, Robert. 2009. "Evaluating the Nuclear Peace Hypothesis." *The Journal of Conflict Resolution* 53 (2): 258–77.
- Ricardo, David. 1817/1821. *On the Principles of Political Economy and Taxation*. London, UK: John Murray, Albemarle-Street.
- Rogers, Everett M. 1962. *Diffusion of Innovations*. New York: NY: Macmillan Co.
- Romer, Paul M. 1986. "Increasing Returns and Long-Run Growth." *The Journal of Political Economy* 94 (5): 1002–37.
- Rosen, Stephen P. 1991. *Winning the Next War: Innovation and the Modern Military*. Ithaca, NY: Cornell University Press.
- Rosen, Stephen P. 2010. "The Impact of the Office of Net Assessment on the American Military in the Matter of the Revolution in Military Affairs." *Journal of Strategic Affairs* 33 (4): 469–82. <https://doi.org/10.1080/01402390.2010.489704>.
- Rosenberg, Nathan. 1982. *Inside the Black Box: Technology and Economics*. Cambridge, UK: Cambridge University Press.
- Rosenberg, Nathan, and L. E. Birdzell. 1985. *How the West Grew Rich: The Economic Transformation of the Industrial World*. New York, NY: Basic Books.
- Rosenkopf, Lori, and Michael L. Tushman. 1998. "The Coevolution Of Community Networks And Technology: Lessons From The Flight Simulation Industry." *Industrial and Corporate Change* 7 (2): 311–46.
- Ross, Michael L. 1999. "The Political Economy of the Resource Curse." *World Politics* 51 (2): 297–322.

- Ruble, Maria R. 2009. *Nonproliferation Norms: Why States Choose Nuclear Restraint*. Athens, GA: University of Georgia Press.
- Russett, Bruce, and John R. Oneal. 2001. *Triangulating Peace: Democracy, Interdependence, and International Organizations*. New York, NY: W. W. Norton & Company.
- Rutton, Vernon W. 2006. *Is War Necessary for Economic Growth?* New York, NY: Oxford University Press.
- Sachs, Jeffrey D., and Andrew M. Warner. 1995. *Natural Resource Abundance and Economic Growth* Working Paper 5398. Cambridge, MA: National Bureau of Economic Research.
- Sagan, Scott D. 1994. "The Perils of Proliferation: Organization Theory, Deterrence Theory, and the Spread of Nuclear Weapons." *International Security* 18 (4): 66–107.
- Sagan, Scott D. 1997. "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb." *International Security* 21 (3): 54–86.
- Sala-I-Martin, Xavier, Jennifer Blanke, Margareta Drzeniek Hanouz, Thierry Geiger, and Irene Mia. 2011. *The Global Competitiveness Index 2010–2011: Looking Beyond the Global Economic Crisis*. Geneva, Switzerland: World Economic Forum.
- Sampat, Bhavan. 2011. "USPTO Patent and Citation Data." *Harvard Dataverse*. Retrieved from <http://hdl.handle.net/1902.1/16412>.
- Samuels, Richard J. 1994. *Rich Nation, Strong Army: National Security and the Technological Transformation of Japan*. New York, NY: Cornell University Press.
- Sapolsky, Harvey M. 1972. *The Polaris System Development: Bureaucratic and Programmatic Success in Government*. Cambridge, MA: Harvard University Press.
- Schelling, Thomas. 1960. *The Strategy of Conflict*. Cambridge, MA: Harvard University Press.
- Schelling, Thomas. 1966. *Arms and Influence*. New Haven, CT: Yale University Press.
- Scheve, Kenneth, and David Stasavage. 2010. "The Conscription of Wealth: Mass Warfare and the Demand for Progressive Taxation." *International Organization* 64 (4): 529–61.
- Scheve, Kenneth, and David Stasavage. 2012. "Democracy, War, and Wealth: Lessons from Two Centuries of Inheritance Taxation." *American Political Science Review* 106 (1): 81–102. <https://doi.org/10.1017/S0003055411000517>.
- Schmid, Jon. 2017. "The Diffusion Of Military Technologies." *Defence and Peace Economics* 29 (6): 595–613. <http://doi.org/10.1080/10242694.2017.1292203>.
- Schmid, Jon. 2018. "The Determinants of Military Technology and Diffusion." PhD diss., Georgia Institute of Technology.
- Schmid, Jon, Matthew Brummer, and Mark Z. Taylor. 2017. "Innovation and Alliances." *Review of Policy Research* 34 (5): 588–616.
- Schmid, Jon, and Fei-Ling Wang. 2017. "Beyond National Innovation Systems: Incentives And China's Innovation Performance." *Journal of Contemporary China* 26 (104): 280–96. <http://doi.org/10.1080/10670564.2016.1223108>.
- Schrodt, Philip A. 2013. "Seven Deadly Sins Of Contemporary Quantitative Political Analysis." *Journal of Peace Research* 51 (2): 287–300. doi:10.1177/0022343313499597
- Schumpeter, Joseph A. 1939. *Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Process*. New York, NY: McGraw-Hill.

- Schumpeter, Joseph A. 1942/1975. *Capitalism, Socialism and Democracy*. New York, NY: Harper Collins.
- Schwab, Klaus. 2017. *The Fourth Industrial Revolution*. New York, NY: Crown Business Publishing.
- Scotchmer, Suzanne. 2006. *Innovation and Incentives*. Cambridge, MA: MIT Press.
- Selinger, Marc. 2013. "The Road to Iron Dome." *Aerospace America* 51 (4): 26–32.
- Senese, Paul D. 2005. "Territory, Contiguity, and International Conflict: Assessing a New Joint Explanation." *American Journal of Political Science* 49 (4): 769–79.
<https://doi.org/10.1111/j.1540-5907.2005.00154.x>.
- Sharif, Naubahar. 2006. "Emergence and Development of the National Innovation Systems Concept." *Research Policy* 35 (5): 745–66. <https://doi.org/10.1016/j.respol.2006.04.001>.
- Signorino, Curtis S., and Jeffrey M. Ritter. 1999. "Tau-b or Not Tau-b: Measuring the Similarity of Foreign Policy Positions." *International Studies Quarterly* 43 (1): 115–44.
<https://doi.org/10.1111/0020-8833.00113>.
- Simon, Craig. 1988. "Internet Governance Goes Global." In *International Relations in a Constructed World*, edited by Nicholas Onuf. New York, NY: Oxford University Press.
- Singer, J. David. 1958. "Threat-Perception and the Armament-Tension Dilemma." *Journal of Conflict Resolution* 2 (1): 90–105.
- Singer, J. David, and Melvin Small. 1966. "Formal Alliances, 1815-1939: A Quantitative Description." *Journal of Peace Research* 3 (1): 1–32.
- Skocpol, Theda. 1973. "A Critical Review of Barrington Moore's Social Origins of Dictatorship and Democracy." *Politics & Society* 4 (1): 1–34.
- Skocpol, Theda. 1979. *States and Social Revolutions: A Comparative Analysis of France, Russia and China*. Cambridge, UK: Cambridge University Press.
- Skocpol, Theda. 1999. "Did the Civil War Further American Democracy? A Reflection on the Expansion of Benefits for Union Veterans." In *Democracy, Revolution, and History*, edited by Theda Skocpol, 73–101. Ithaca, NY: Cornell University Press.
- Skolnikoff, Eugene B. 1994. *The Elusive Transformation: Science, Technology, and the Evolution of International Politics*. Princeton, NJ: Princeton University Press.
- Smith, Adam. 1776. *The Wealth of Nations*. London, UK: W. Strahan and T. Cadell.
- Smith, Alastair. 1995. "Alliance Formation and War." *International Studies Quarterly* 39 (4): 405–25.
- Smith, Alastair. 1998. "Extended Deterrence and Alliance Formation." *International Interactions* 24 (4): 315–43.
- Smith, Merritt Roe. 1985. *Military Enterprise and Technological Change: Perspectives on the American Experience*. Cambridge, MA: MIT Press.
- Smith, Roger K. 1987. "Explaining the Non-Proliferation Regime: Anomalies for Contemporary International Relations Theory." *International Organization* 41 (2): 253–81.
- Smith, T. Alexander. 1979. "Political Man, Economic Man, and the Problem of Time Preference." *Social Science* 54 (1): 16-27.
- Smyth, Michael, and Jan Martin. "x Ray Crystallography." *Molecular Pathology* 53 (1): 8–14.
- Snyder, Glenn H. 1965. "The Balance of Power and the Balance of Terror." In *Balance of Power*, edited by Paul Seabury. San Francisco, CA: Chandler.

- Snyder, Glenn H., and Paul Diesing. 1977. *Conflict Among Nations: Bargaining, Decision Making, and System Structure in International Crises*. Princeton, NJ: Princeton University Press.
- Solé, Ricard V., Sergi Valverde, Marti R. Casals, Stuart A. Kauffman, Doyne Farmer, and Niles Eldredge. 2013. "The Evolutionary Ecology of Technological Innovations." *Complexity* 18 (4): 15–27.
- Solingen, Etel. 1994. "The Political Economy of Nuclear Restraint." *International Security* 19 (2): 126–69.
- Solingen, Etel. 2007. *Nuclear Logistics: Contrasting Paths in East Asia and the Middle East*. Princeton, NJ: Princeton University Press.
- Solow, Robert M. 1957. "Technical Change and the Aggregate Production Function." *Review of Economics and Statistics* 39 (3): 312–20.
- Spencer, Herbert. 1851. *Social Statics: The Conditions Essential to Happiness Specified and the First of Them Developed*. London, UK: John Chapman.
- Sprecher, Christopher, and Volker Krause. 2006. "Alliances, Armed Conflict, and Cooperation: Theoretical Approaches and Empirical Evidence." *Journal of Peace Research* 43 (4): 363–9.
- Stephan, Paula E., and Ronald G. Ehrenberg, eds. 2010. *Science and the University*. Madison, WI: University of Wisconsin Press.
- Stowsky, Jay. 2004. "Secrets To Shield Or Share? New Dilemmas for Military R&D Policy in the Digital Age." *Research Policy* 33 (2): 257–69.
- Strange, Susan. 1986. *Casino Capitalism*. Oxford, UK: Basil Blackwell.
- Stulberg, Adam N. 2005. "Managing Military Transformations: Agency, Culture, and the U.S. Carrier Revolution." *Security Studies* 14 (3): 489–528.
- Sundahl, Mark J. 2010. "Space Tourism and Export Controls: A Prayer for Relief." *Journal of Air Law and Commerce* 75 (3): 581–615.
- Talbot, David. 2012. "Why Israel's 'Iron Dome' Missile-Defense System Actually Works." *MIT Technology Review*, November 26, 2012.
- Tanaka, Akihiko, 2002. *The New Middle Ages: The World System in the 21st Century*. Translated by Jean Connell Hoff. Tokyo, Japan: International House of Japan.
- Tannenwald, Nina. 1999. "The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use." *International Organization* 53 (3): 433–68.
- Tarrow, Sidney. 2018. "The Contributions of Charles Tilly to the Social Sciences." *Contemporary Sociology* 47 (5): 513–24. <https://doi.org/10.1177/0094306118792214>.
- Taylor, Mark Z. 2004. "Empirical Evidence Against Varieties Of Capitalism's Theory Of Technological Innovation." *International Organization* 58 (3): 601–31.
- Taylor, Mark Z. 2005. *The Politics of Technological Change: International Relations versus Domestic Institutions*. Cambridge, MA: MIT Press.
- Taylor, Mark Z. 2009. "International Linkages and National Innovation Rates: An Exploratory Probe." *Review of Policy Research* 26 (1–2): 127–49.
- Taylor, Mark Z. 2012. "Toward an International Relations Theory of National Innovation Rates." *Security Studies* 21 (1): 113–52.
- Taylor, Mark Z. 2016. *The Politics of Innovation: Why Some Countries are Better Than Others at Science and Technology*. New York, NY: Oxford University Press.

- Tëmkin, Ilya, and Niles Eldredge. 2007. "Phylogenetics and Material Cultural Evolution." *Current Anthropology* 48 (1): 146–53.
- Thies, Cameron G., and David Sobek. 2010. "War, Economic Development, and Political Development in the Contemporary International System." *International Studies Quarterly* 54 (1): 267–87. <https://doi.org/10.1111/j.1468-2478.2009.00586.x>.
- Thompson, William R., and L. Gary Zuk. 1982. "War, Inflation, and the Kondratieff Long Wave." *Journal of Conflict Resolution* 26 (4): 621–44.
- Tilly, Charles. 1985. "War Making and State Making as Organized Crime." In *Bringing the State Back In*, edited by Peter Evans, Dietrich Rueschemeyer, and Theda Skocpol, 169–87. Cambridge, UK: Cambridge University Press.
- Tilly, Charles, ed. 1975. *The Formation of National States in Western Europe*. Princeton, NJ: Princeton University Press.
- Tilly, Charles. 1990. *Coercion, Capital, and European States, AD 990–1992*. Cambridge, MA.: Basil Blackwell. 1990.
- Tilly, Charles. 1999a. "Where Do Rights Come From?" In *Democracy, Revolution and History*, edited by Theda Skocpol, 55–72. Ithaca, NY: Cornell University Press.
- Tilly, Charles. 1999b. *Durable Inequality*. Oakland, CA: University of California Press.
- Trajtenberg, Manuel. 1990. "A Penny for Your Quotes—Patent Citations and the Value of Innovations." *RAND Journal of Economics* 21 (1): 172–87. <http://doi.org/10.2307/2555502>.
- Tsebelis, George. 2002. *Veto Players: How Political Institutions Work*. Princeton, NJ: Princeton University Press.
- United Nations. 2012. *Big Data for Development: Challenges and Opportunities*. New York, NY: UN Publishing.
- Van Evera, Stephen. 1999. *Causes of War: Power and the Roots of Conflict*. Ithaca, NY: Cornell University Press.
- van Wyk Jo-Ansie, Linda Kinghorn, Hollie Hepburn, Clarence Payne, and Chris Sham. 2007. "The International Politics of Nuclear Weapons: A Constructivist Analysis." *Scientia Militaria: South African Journal of Military Studies* 35 (1): 23–45.
- Varsakelis, Nikos C. 2006. "Education, Political Institutions And Innovative Activity: A Cross-Country Empirical Investigation." *Research Policy* 35 (7): 1083–90.
- Vasquez, John A. 1993. *The War Puzzle*. New York, NY: Cambridge University Press.
- Vasquez, John A. 1995. "Why Do Neighbors Fight? Proximity, Interaction, or Territoriality." *Journal of Peace Research* 32 (3): 277–93.
- Vasquez, John A., and Colin Elman. 2003. *Realism and the Balance Power: A New Debate*. London, UK: Pearson.
- Vasquez, John A., and Marie T. Henehan. 2001. "Territorial Disputes and the Probability of War, 1816-1992." *Journal of Peace Research* 38 (2): 123–38. <https://doi.org/10.1177/0022343301038002001>.
- Vasquez, John A., and Ashlea Rundlett. 2016. "Alliances as a Necessary Condition of Multiparty Wars." *Journal of Conflict Resolution* 60 (8): 1395–418. <https://doi.org/10.1177/0022002715569770>.
- Vest, Charles M. 2007. *The American Research University from World War II to World Wide Web*. Berkeley, CA: University of California Press.

- Von Clausewitz, Carl. 1976. *On War*. Princeton, NJ: Princeton University Press.
- Von Hippel, Eric. 1994. "Sticky Information and the Locus of Problem-Solving: Implications for Innovation." *Management Science* 40 (4): 429–39.
- Wagner, Andreas, and Rosen William. 2014. Spaces of the Possible: Universal Darwinism and the Wall between Technological and Biological Innovation." *Journal of the Royal Society Interface* 11 (97): 20131190. <https://doi.org/10.1098/rsif.2013.1190>.
- Wallerstein, Immanuel M. 1974. *The Modern World-System*. New York, NY: Academic Press.
- Walt, Stephen M. 1985. "Alliance Formation and the Balance of World Power." *International Security* 9 (4): 3–43.
- Walt, Stephen M. 1987. *The Origins of Alliance*. Ithaca, NY: Cornell University Press.
- Walt, Stephen M. 1990. *The Origins Of Alliance*, 2nd edition. Ithaca, NY: Cornell University Press.
- Waltz, Kenneth N. 1959. *Man, the State, and War*. New York, NY: University of Columbia Press.
- Waltz, Kenneth N. 1964. "The Stability of a Bipolar World." *Daedalus* 93 (3): 881–909.
- Waltz, Kenneth N. 1979. *Theory of International Politics*. New York, NY: McGraw Hill.
- Waltz, Kenneth N. 1981. "The Spread of Nuclear Weapons: More May Be Better." *The Adelphi Papers* 21 (171): 1–32.
- Webb, Kieran. 2007. "The Continued Importance of Geographic Distance and Boulding's Loss of Strength Gradient." *Comparative Strategy* 26 (4): 295–310.
- Weiss, Charles. 2005. "Science, Technology, and International Relations." *Technology in Society* 27: 295–313.
- Weiss, Linda. 2014. *America Inc.? Innovation and enterprise in the National Security State*. Ithaca, NY: Cornell University Press.
- Wendt, Alexander. 1992. "Anarchy is What States Make of It: The Social Construction of Power Politics." *International Organization* 46 (2): 391–425.
- Wendt, Alexander. 1999. *Social Theory of International Politics*. New York, NY: Cambridge University Press.
- Wendt, Alexander. 2003. "Why a World State is Inevitable: Teleology and the Logic of Anarchy." *European Journal of International Relations* 9 (4), 1–77.
- Whetten, David A. 1989. "What Constitutes a Contribution to Theory?" *The Academy of Management Review* 14 (4): 490–5.
- White, Lynn T. 1966. *Medieval Technology and Social Change*. New York, NY: Oxford University Press.
- Williams, Heidi L. 2013. "Intellectual Property Rights and Innovation: Evidence from the Human Genome." *Journal of Political Economy* 121 (1): 1–27.
- Wilson, James Q., and John J. DiIulio. 2006. *American Government: Institutions and Policies*, 10th ed. Boston, MA: Houghton Mifflin.
- Woo-Cumings, Meredith. 1998. "National Security and the Rise of the Developmental State in South Korea and Taiwan." In *Behind East Asian Growth*, edited by Henry Rowen, 319–40. New York, NY: Routledge.

- Wooldridge, Jeffrey. 2006. *Introductory Econometrics: A Modern Approach*. Boston, MA: Cengage Learning.
- Yang, Daqing. 2011. *Technology Of Empire: Telecommunications And Japanese Expansion In Asia, 1883–1945*. Cambridge, MA: Harvard University Asia Center.
- Youn, Hyejin, Deborah Strumsky, Luis MA Bettencourt, and José Lobo. 2015. “Invention as a Combinatorial Process: Evidence from US Patents.” *Journal of The Royal Society Interface* 12 (106), 20150272. <https://doi.org/10.1098/rsif.2015.0272>.
- Zaheer, Baber. 1996. *The Science Of Empire: Scientific Knowledge, Civilization, and Colonial Rule in India*. Albany, NY: SUNY Press.
- Zarzecki, Thomas. 2002. *Arms Diffusion: The Spread of Military Innovation in the International System*. New York, NY: Routledge.
- Zellner, Arnold, and H. Theil. 1962. “Three-Stage Least Squares: Simultaneous Estimation of Simultaneous Equations.” *Econometrica* 30: 54-78. <http://dx.doi.org/10.2307/1911287>.
- Zhu, Tianbiao. 2002. “Developmental State and Threat Perceptions in Northeast Asia.” *Conflict, Security & Development* 2 (1): 5–29.
- Ziman, John. 2000. *Real Science: What It Is and What It Means*. New York, NY: Cambridge University Press.
- Zimmer, Carl. 2011. “The Evolution of Feathers: Their Origin May Have Had Nothing To Do with Flight.” *National Geographic* 219 (2): 32.
- Zysman, John. 1983. *Governments, Markets, and Growth*. Ithaca, NY: Cornell University Press.

