



Korea-U.S. Policy Dialogue

“Trade Protectionism: How Will It Change Our World?”

Date: January 10, 2020

Venue: City View Room, Elliott School of International Affairs



Institute for
Korean Studies
THE GEORGE WASHINGTON UNIVERSITY

Institute for
International
Economic Policy
THE GEORGE WASHINGTON UNIVERSITY



Seminar Program

| Time | Program |
|-------------|--|
| 09:00-09:30 | Registration and meet-and greet |
| 09:30-09:45 | Opening Remarks by <i>Dean Jong-Il You (KDI School)</i> |
| 10:00-12:00 | <p>Session I: Trade Protectionism and Global Value Chains Moderator: <i>Prof. Jin Hyung Kim (George Washington Univ.)</i></p> <p>Policy uncertainty and GVCs—Do PTAs Make a Difference? <i>Dr. Michele Ruta (World Bank)</i></p> <p>Digital Trade Restrictions and Trade in Services—Where are the Spillovers Calling for Global Rules? <i>Dr. Erik van der Marel (ECIPE)</i></p> <p>How Large is the Impact of Trade on Growth? The Korean Case <i>Prof. Siwook Lee (KDI School)</i></p> <p>Discussant: <i>Mr. Troy Stangarone (KEI)</i></p> |
| 12:00-12:30 | Keynote Speech by Dr. Caroline Freund (World Bank) |
| 12:30-13:30 | Lunch |
| 13:30-15:00 | <p>Session II: Global Spillovers and National Policies Moderator: <i>Prof. Wonhyuk Lim (KDI School)</i></p> <p>Dealing with Subsidies and SOEs — (How) Can it be done in WTO? <i>Prof. Doug Nelson (Tulane University) and Prof. Bernard Hoekman (EUI)</i></p> <p>Climate Change: Lessons for Plurilateral Cooperation <i>Prof. Charles Sabel (Columbia Law School)</i></p> <p>Consumer Nationalism and Multilateral Trade Cooperation <i>Prof. Chrysostomos Tabakis (KDI School)</i></p> <p>Discussant: <i>Mary Lovely (Peterson Institute)</i></p> |
| 15:00-15:30 | Coffee Break |
| 15:30-16:30 | <p>Session III: The Devil is in the Detail – Rules of Origin Moderator: <i>Prof. Young Hoon Kwak (George Washington Univ.)</i></p> <p>Rules of Origin and Economic Costs <i>Dr. Chul Chung (Senior Vice President, Korea Institute for Int'l Economic Policy)</i></p> <p>Modeling Rules of Origin <i>Dr. William Powers (ITC)</i></p> <p>Discussant: <i>Dr. Mauricio Mesquita Moreira (Sector Economic Advisor, INT, IDB)</i></p> |
| 16:30-17:45 | <p>Session IV: Round Table Discussion on Current Challenges in World Trade and the Future of Global Trading System Moderator: <i>Prof. Bernard Hoekman (European University Institute)</i></p> <p>Discussants: All Participants</p> |
| 17:45-18:00 | Closing and Wrap-up |



Korea-U.S. Policy Dialogue
“Trade Protectionism: How Will It Change Our World?”

Opening Remarks

Dean Jong-Il You (KDI School)





JONG-IL YOU

Dean

KDI School of Public Policy and Management

Dean Jong-Il You graduated from Seoul National University and received his Ph. D in Economics from Harvard University. He taught at University of Cambridge, University of Notre Dame and Ritsumeikan University before taking Professorship at KDI School of Public Policy and Management. He also had Visiting Professor position at University of California, San Diego and University of Beijing. Dr. You is widely published in such areas as economic growth and income distribution, macroeconomic and development policies, and labor issues. He has been active as a policy advisor and served as a member of the Presidential Committee on Northeast Asia Economic Hub and chaired the Special Committee on Economic Democracy of the Democratic Party. He also served as a member of the Public Funds Management Committee, the Advisory Committee for the Constitutional Revision Committee of the National Assembly, and the Commission on Financial Administration Reform. As a leader in civic movement, he is currently the Head of Knowledge Cooperative for Good Governance, a network of researchers, and the President of Jubilee Bank, an NGO working to help debt-stricken low-income individuals.

Session I

Trade Protectionism and Global Value Chains

Discussant: Mr. Troy Stangarone (KEI)

Policy Uncertainty and GVCs—Do PTAs Make a Difference?

Dr. Michele Ruta (World Bank)

Digital Trade Restrictions and Trade in Services—Where are
the Spillovers Calling for Global Rules?

Dr. Erik van der Marel (ECIPE)

How Large is the Impact of Trade on Growth?

The Korean Case

Prof. Siwook Lee (KDI School)



JIN HYUNG KIM

Professor of International Business
George Washington University

Jin Hyung Kim is an assistant professor of International Business at George Washington University School of Business (GWSB).

His research interests include non-market strategy, particularly 1) corporate lobbying strategy and foreign multinational enterprises (MNEs), 2) country and societal institutions and corporate lobbying, and 3) regulatory change and business-government relations. Professor Kim explores what non-market strategies firms implement to influence the non-market environment to achieve better outcomes in a global strategy context and what types of institutions drive their nonmarket behaviors. Also, Professor Kim studies the implications of non-market environments and its interactions with firms such as regulatory change and business-government relations.

Professor Kim did his undergraduate study in management and international business at Yonsei University in Korea, and then served a company commander role as a commissioned officer in the Republic of Korea Air Force (ROKAF). Following military service, he joined Oliver Wyman as a management consultant and was involved in multiple corporate and global strategy projects. He left Oliver Wyman to pursue a Master's degree at the School of International and Public Affairs (SIPA) at Columbia University and then earned his doctorate degree from Harvard Business School (HBS).



MICHELE RUTA

Lead Economist
World Bank

Michele Ruta is Lead Economist in the Macroeconomics, Trade & Investment Global Practice of the World Bank Group, where he leads the work program on regional integration. He had previous appointments as Economic Advisor to the Senior Director of the Trade & Competitiveness Global Practice (2015-2018), Senior Economist at the IMF (2013-2015), Counsellor at the WTO (2007-2013) and Marie Curie Fellow at the European University Institute (2004-2007).

Michele’s research interests are in international economics, and particularly on issues concerning international/regional integration. He has published in refereed journals such as the Journal of International Economics, the Journal of Public Economics, and the Journal of the European Economic Association. He was a lead author of the World Trade Report of the WTO between 2008 and 2013, and contributed to many policy reports, including the Global Economic Prospects of the World Bank, and the World Economic Outlook of the IMF.

He holds a PhD in economics from Columbia University (2004) and an undergraduate degree from the University of Rome “La Sapienza” (1998).



ERIK LEENDERT VAN DER MAREL

Senior Economist
European Center for International Political Economy

Erik van der Marel is Senior Economist at the European Center for International Political Economy (ECIPE) and is also Associate Professor (Maître de Conference) at the Solvay Brussels School of Economics and Management. At the same time, he is also a Consultant Economist for the World Bank in Washington DC.

His area of specialization is international trade, in particular in emerging and intangible trade, such as trade in services, digital trade, as well as cross-border data flows. He analyzes all of these trade fields and provides policy recommendations on the basis of his own research. He also teaches targeted capacity building classes for Ministries and policy makers for both developed and developing countries.

He received a PhD in International Economics from Sciences-Po Paris and has previously lectured as a full-time Fellow Lecturer at the London School of Economics.

He gained his professional experience as a consultant for the European Commission (DG Internal Market and Financial Services), the OECD, APEC and Asian Development Bank. His writings range from papers to peer-reviewed journal articles (also review articles for journals), as well as book chapters and country reports on international trade. He is currently managing ECIPE's Digital Trade Restrictiveness Index (DTRI).



SIWOOK LEE

Professor
KDI School of Public Policy and Management

Siwook Lee is Professor at KDI School of Public Policy and Management.

He began his career as Economic Staff at Korean Presidential Office (1995-1996) and went to work as Senior Researcher at the Korea Institute for International Economic Policy (KIEP), Center for International Economic Studies (1992-1997).

He has been quite an active policy consultant to the Korean government, especially in the area of international economic issues. He was involved in many government policy initiatives like Free Trade agreements (FTA) with the United States and the European Union, FDI promotion and service sector enhancement among many others. He also participated in the Knowledge Sharing Program (KSP) for Azerbaijan, Uzbekistan, Sri Lanka, Ecuador and Mongolia for about 2 years for each country..

Prior to joining KDI School, he worked diligently with Korea Development Institute (KDI). He was director at Research Division at the KDI Center for Regulatory Studies (2014); Executive Director at the Center for International Development (2015-2016).

Professor Lee is a graduate of Yonsei University; University of Paris-IX, France where he studied applied economics for his master's degree. He had earned his Ph.D. in Economics at the University of Michigan, USA.



TROY STANGARONE

Senior Director
Korean Economic Institute

Troy Stangarone is Senior Director and Fellow at the Korea Economic Institute (KEI). He oversees KEI's trade and economic related initiatives, as well as the Institute's relations with Capitol Hill and the Washington, DC trade community. As part of his broader portfolio he serves as the editor for KEI's flagship publication, Korea's Economy, and oversees KEI's blog, The Peninsula.

Mr. Stangarone has written extensively and has been widely quoted on U.S.-Korea relations, South Korean trade and foreign policy, and North Korea. His work has appeared in publications such as Foreign Policy, CNBC, CNN, China-US Focus, the JoongAng Ilbo, and the Korea Herald. His comments have appeared in The New York Times, The Wall Street Journal, The Washington Post, Bloomberg News, CNN, Politico, Chosun Ilbo, Donga Ilbo, JoongAng Daily, and Yonhap News Service. He has also appeared on TV and radio for outlets such as Bloomberg News, CNBC Asia, and BBC Radio.

In addition to his work at KEI, Mr. Stangarone is a member of the George Mason University | Korea President's Advisory Board, the International Council of Korean Studies Board, and the Korea-America Student Conference's National Advisory Committee. He is a columnist for the Korea Times and a regular contributor to The Diplomat. He was also a 2012-2013 Council on Foreign Relations International Affairs Fellow in South Korea, sponsored by the Asan Institute for Policy Studies.

Prior to joining KEI, Mr. Stangarone worked on Capitol Hill for Senator Robert Torricelli on issues relating to foreign affairs and trade. He also served as an aide to Governor James McGreevey of New Jersey. He holds a MSc. in International Relations from the London School of Economics and Political Science and a B.A. in Political Science and Economics from the University of Memphis.



Korea-U.S. Policy Dialogue

“Trade Protectionism: How Will It Change Our World?”

Keynote Speech

Dr. Caroline Freund (World Bank)





CAROLINE FREUND

Global Director of Trade, Investment and Competitiveness
World Bank

Caroline Freund is Global Director of Trade, Investment and Competitiveness. Previously she was a Senior Fellow at the Peterson Institute for International Economics. She has also worked as Chief Economist for the Middle East and North Africa at the World Bank, after working for nearly a decade in the international trade unit of the research department.

Furthermore, Dr. Freund is serving as a advisory board member to Export-Import Bank of the United States and also an editorial board member to Economics and Politics. She is also a scientific committee member of CEPPI at Paris and of Economic Research Forum at Cairo.

Freund began her career in the international finance division of the Federal Reserve Board and spent a year visiting the research department of the IMF. She has published extensively in academic journals and is the author of Rich People Poor Countries: The Rise of Emerging Market Tycoons and their Mega Firms. She received a PhD in economics from Columbia University.



Session II

Global Spillovers and National Policies

Discussant: Mary Lovely (Peterson Institute)

Dealing with Subsidies and SOEs

— (How) Can it be done in WTO?

Prof. Doug Nelson (Tulane) and Prof. Bernard Hoekman (EUI)

Climate Change: Lessons for Plurilateral Cooperation

Prof. Charles Sabel (Columbia Law School)

Consumer Nationalism and Multilateral Trade Cooperation

Prof. Chrysostomos Tabakis (KDI School)





WONHYUK LIM

Professor
KDI School of Public Policy and Management

Professor Wonhyuk Lim teaches at KDI School of Public Policy and Management. Since he joined KDI in 1996, his research has focused on state-owned enterprises and family-based business groups (chaebol). He has also written extensively on development issues, in conjunction with policy consultation projects under Korea’s Knowledge Sharing Program (KSP). After the 2002 Presidential Election in Korea, he worked for the Presidential Transition Committee and the Presidential Committee on Northeast Asia and helped to set policy directions for the restructuring of the electricity and gas sector and for Northeast Asian energy cooperation. Dr. Lim was at Brookings as a CNAPS Fellow in 2005-06. After returning to KDI in 2007, he became Director of the Office of Economic Development Cooperation, precursor to the Center for International Development. He received a Presidential order from the Dominican Republic for his KSP consultation work. In 2010, Dr. Lim helped to formulate the G20 Seoul Development Consensus for Shared Growth. In 2013, he became Vice President and Director of Department of Competition Policy at KDI. In 2014-15, he served as the inaugural Executive Director of the Center for Regulatory Studies. He received a B.A.S. in Physics and History and a Ph.D. in Economics from Stanford University.



DOUGLAS RUSSELL NELSON

Professor of Economics
Tulane University

Douglas Nelson is Professor of Economics in the Murphy Institute and the Department of Economics at Tulane University. He is currently an external fellow of the Leverhulme Centre for Research on Globalisation and Economic Policy at the University of Nottingham.

Previously, he has held regular faculty positions at Rutgers University, University of Texas-Dallas, and Syracuse University, and has held visiting positions at Washington University in St. Louis, the Australian National University, the University of Nottingham, and Karl-Franzens-Universität Graz, in addition to positions with the U.S. Treasury and The World Bank,

His primary research interests lie in the areas of political economy of trade policy, the empirical link between globalisation and wages, and trade and trade policy under increasing returns to scale.

He received his Ph.D. from the University of North Carolina at Chapel Hill in 1981.



BERNARD M. HOEKMAN

Professor
European University Institute

Bernard Hoekman is Professor and Director, Global Economics at the Robert Schuman Centre for Advanced Studies at European University Institute in Florence, Italy. Prior positions include Director of the International Trade Department and Research Manager in the Development Research Group of the World Bank. He has been an economist in the GATT Secretariat and held visiting positions at Sciences Po, Paris.

A graduate of the Erasmus University Rotterdam, he obtained his Ph.D. in economics from the University of Michigan. He is a CEPR Research Fellow, where he also co-directs the Trade Policy Research Network; a Senior Associate of the Economic Research Forum for the Arab countries, Turkey and Iran; and a member of the World Economic Forum Global Action Council on Logistics and Supply Chains.

Recent publications include *Supply Chains, Mega-Regionals and Multilateralism: A Road Map for the WTO* (London: CEPR Press, 2014); *Structural Issues at the WTO* (with Joe Francois), a special symposium issue of the *World Trade Review* (January 2015); and *The Global Trade Slowdown: A New Normal?* (London: CEPR Press, 2015).



CHARLES F. SABEL

Professor
Columbia Law School

Charles Sabel is the Maurice T. Moore Professor of Law at Columbia Law School. His research centers on public innovations, European Union governance, labor standards and economic development.

Before joining the Law School faculty, Sabel was a professor in several capacities at Massachusetts Institute of Technology. This included serving as the Ford International Professor of Social Science in the Department of Political Science from 1990 to 1995; a professor of social and political science from 1987 to 1990; an associate professor of social and political science in the Program in Science, Technology, and Society from 1984 to 1987, and the Ford International Assistant Professor of Social Science in the Program in Science, Technology, and Society from 1977 to 1984.

His most recent publications include *Contract and Innovation: The Limited Role of Generalist Courts in the Evolution of Novel Contractual Forms*, with Ronald J. Gilson and Robert E. Scott (*New York University Law Review*), *New Modes of Pluralist Global Governance*, with Gráinne de Búrca and Robert O. Keohane (*Journal of International Law and Politics*), *Rethinking the Street-Level Bureaucrat: Tacit and Deliberate Ways Organizations Can Learn* (*Economy in Society: essays in honor of Michael J. Piore*, MIT Press: 113-142), *Dewey, Democracy and Democratic Experimentalism* (*Contemporary Pragmatism*, Vol. 9, No. 2, 2012), and *Experimentalism in the EU: Common ground and persistent differences*, with Jonathan Zeitlin, (*Regulation & Governance*, Vol. 6, 2012, pp. 410-426).

Sabel was also a MacArthur Prize Fellow from 1982 to 1987. He received his PhD from Harvard University.



CHRYSOSTOMOS TABAKIS

Professor
KDI School of Public Policy and Management

Professor Chrysostomos Tabakis is currently an Associate Professor and the Ph.D. Program Chair at the KDI School of Public Policy and Management. He is also the Leader of KDI School's Conflict and Development Lab (CaDLab). In the past, he held faculty positions at the Nova School of Business and Economics, the University of Cyprus, and Hunter College of the City University of New York. In addition, he was an International Faculty Fellow at the MIT Sloan School of Management. His research focuses mainly on international trade policy. His work has been published in leading international journals such as *Journal of International Economics*, *Journal of Comparative Economics*, *Economic Inquiry*, *Canadian Journal of Economics*, and *The B.E. Journal of Economic Analysis & Policy*. He holds a Ph.D. in Economics from Columbia University.



MARY E. LOVELY

Professor of Economics
Syracuse University

Mary E. Lovely is a Professor of Economics at Syracuse University's Maxwell School of Citizenship and Public Affairs, where she combines interests in international economics and public economics. She has taught at Syracuse University since 1988. From 2011-2017 she directed SU's International Relations Program and from 2015-2017 she served as Faculty Representative to the University's Board of Trustees. She was also a co-editor of the China Economic Review from 2011-2015. Dr. Lovely is a nonresident senior fellow of the Peterson Institute for International Economics.

Her current research projects investigate the pollution content of Chinese exports, market access and cross-city wage variation, the effect of tariff reductions on labor shares of value in Chinese manufacturing firms, and the nature of Chinese trade flows. She has recently completed work on the relationship between employment at American manufacturing firms and outsourcing to low-income countries, and the roles of provincial differences in environmental policy and labor conditions in directing foreign direct investment flows to Chinese provinces. Dr. Lovely's earlier work considered the measurement of labor market effects of increased international trade, the distributional effects of industrial policy, the geographic concentration of exporting firms, and the welfare effects of smuggling.

Dr. Lovely earned her Ph.D. in Economics at the University of Michigan, Ann Arbor and a master's degree in City and Regional Planning from Harvard University.



Session III

The Devil is in the Detail – Rules of Origin

Dr. Mauricio Mesquita Moreira (Sector Economic Advisor, INT, IDB)

Rules of Origin and Economic Costs

Dr. Chul Chung

(Senior Vice President, Korea Institute for Int'l Economic Policy)

Modeling Rules of Origin

Dr. William Powers (ITC)





YOUNG HOON KWAK

Professor
George Washington University

Young Hoon Kwak is Associate Professor in the Department of Decision Sciences at The George Washington University School of Business in Washington, D.C. He earned his M.S. and Ph.D. in Engineering and Project Management as well as Management of Technology (MOT) Certificate, all from the University of California at Berkeley. He worked as a visiting engineer at the Massachusetts Institute of Technology, a visiting professor at the Florida International University, a visiting scholar at the IPA Institute, and currently holds a visiting professor position at the department of business informatics and operations management in Faculty of Economics and Business Administration at Ghent University in Belgium.

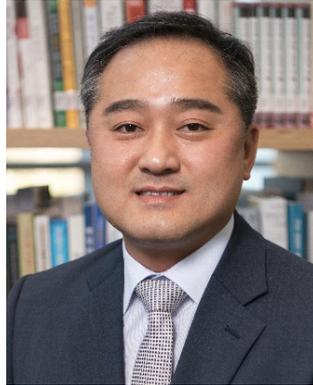
Dr. Kwak is currently the Editor-in-Chief of Journal of Management in Engineering and a Specialty Editor (associate editor) for the case studies section of Journal of Construction Engineering and Management both published from the American Society of Civil Engineers (ASCE). He also serves on the editorial board for IEEE Transactions on Engineering Management (IEEE), International Journal of Project Management (Elsevier), International Journal of Managing Projects in Business (Emerald) and Journal of Construction Engineering and Project Management (KICEM).

Dr. Kwak is a four-time recipient of research grants sponsored by the Project Management Institute (PMI), and a three-time recipient of the IBM Center for The Business of Government's research stipend. His research that was partially funded by PMI titled "Impact on Project Management of Allied Disciplines" received the 2008 International Project Management Association (IPMA) Outstanding Research Contributions Award. He recently published a new book (2014) titled "Challenges and Best Practices of Managing Government Projects and Programs" (PMI Publications).

Dr. Kwak has consulted and lectured worldwide with various organizations and presented and published over hundred articles in journals, books, book chapters, magazines, and conference proceedings. His scholarly

works appear in California Management Review, IEEE Transactions on Engineering Management, Journal of the Operational Research Society, IEEE Engineering Management Review, Technovation: The International Journal of Technological Innovation, Entrepreneurship and Technology Management, Technological and Economic Development of Economy, Government Information Quarterly, International Journal of Project Management, Project Management Journal, International Journal of Managing Projects in Business, Engineering Project Organization Journal, Risk Management: An International Journal, Journal of Construction Engineering and Management, Journal of Management in Engineering, Journal of Computing in Civil Engineering, Automation in Construction, Korean Management Review and other prestigious academic outlets.

Dr. Kwak's primary research interests include strategic issues of project management; project control; project performance evaluation and improvement; management of technology; and engineering, construction, and infrastructure project management.



CHUL CHUNG

Senior Vice President
KIEP

Chul Chung is senior vice president of the Korea Institute for International Economic Policy (KIEP), and vice chair of the Korea National Committee for Pacific Economic Cooperation (KOPEC). Dr. Chung served as trade advisor to the Minister of Trade, Industry, and Energy of the Korean government as well as a member of the Long Term Strategy Committee chaired by Deputy Prime Minister, and Policy Advisory Committee member of the Ministry of Foreign Affairs.

Dr. Chung is serving as the editor-in-chief of the East Asian Economic Review. He is vice president of the Korean Association of Trade and Industry Studies. Prior to joining KIEP, he taught international economics as professor in the School of Economics at Georgia Tech in the United States. He also held an adjunct professorship in the Graduate School of International Studies at Seoul National University.

While on leave from KIEP (2009–2012), Dr. Chung worked on the ratification of the Korea-US FTA as chief economist of the Korea International Trade Association (KITA) in Washington D.C. He has published numerous academic articles and policy research papers on international trade, economic geography, and regional integration issues including APEC. He received Ph.D. in Economics from the University of Michigan, Ann Arbor.



WILLIAM M. POWERS

Chief Economist

U.S. International Trade Commission

William M. Powers is Chief Economist and Director, Office of Economics, at the United States International Trade Commission (USITC). Powers serve as the Commission’s chief economic adviser; direct the agency’s professional economists; and support the Commission in its role as adviser to Congress and the President on international trade matters. Prior to his appointment as Chief Economist and Director, Powers served as the Acting Director of the USITC Office of Economics. He was also Chief of the Office of Economics Research Division. He joined the USITC as an International Economist in 2005, and in that role he contributed to numerous USITC general factfinding and probable economic effect investigations, served as a project leader or reviewer on such studies, and led the Commission’s global value chain research portfolio.

He has published on empirical trade topics including trade agreements, trade financing, and global value chains. He worked with the President’s Council of Economic Advisors in the White House from 2008-2009.

Prior to his USITC employment, Powers was an adjunct lecturer in the Department of Economics and Management at Albion College in Albion, MI. He taught English in Osaka, Japan, from 1992-1995, and he worked as a computer engineer at IBM in Poughkeepsie, NY, from 1990-1992.

Powers received his Ph.D. in Economics from the University of Michigan.



MAURICIO MESQUITA MOREIRA

Chief Economist of the Integration and Trade Sector
Inter-American Development Bank

Mauricio Mesquita Moreira is Chief Economist of the Integration and Trade Sector of the Inter-American Development Bank (IDB). He received a PhD in Economics from the University College London. Prior to joining the Bank, Mr. Mesquita Moreira held a position at the Research Department of the Development Bank of Brazil (BNDES), and taught at the Federal University of Rio de Janeiro, Brazil.

He is the lead author of, among other studies, *Trading Promises for Results: What Global Integration Can Do for Latin America and the Caribbean*. IDB 2019; *Connecting the Dots. A Road Map for a Better Integration of Latin America and the Caribbean*. IDB 2018; *Uncovering the Barriers of the China-Latin America and the Caribbean Trade*. IDB, 2016; *Too Far to Export: Domestic Transport Costs and Regional Export Disparities in Latin America*. IDB, 2013; *India: Latin America's Next Big Thing?* IDB, 2010; and *Unclogging the Arteries: A Report on the Impact of Transport Costs on Latin American Trade*. IDB and Harvard University Press 2008.



Korea-U.S. Policy Dialogue
“Trade Protectionism: How Will It Change Our World?”

Session IV

Round Table Discussion on Current Challenges in World Trade and the Future of Global Trading System

*Moderator: Prof. Bernard Hoekman
Discussants: All Participants*



Session I: Trade Protectionism and Global Value Chains

Policy Uncertainty and GVCs —Do PTAs Make a Difference?

Michele Ruta (World Bank)



Policy uncertainty, trade, and global value chains

Some facts, many questions

Cristina Constantinescu, Aaditya Mattoo, Michele Ruta



Korea-US Policy Dialogue
Elliott School of International Affairs
January, 2020

Roadmap

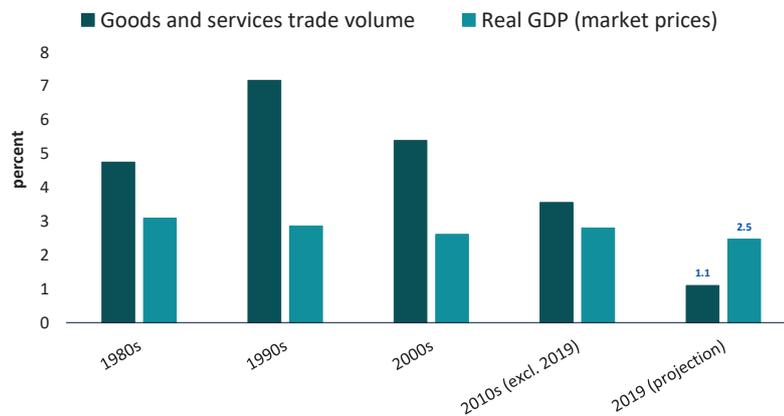
- I. Questions and motivation
- II. Economic policy uncertainty and trade
- III. Trade policy uncertainty and trade
- IV. Policy uncertainty and trade agreements
- V. Conclusions

I. Questions and motivation

3



Global trade has grown slowly since the Great Recession, with 2019 showing the weakest performance



Sources: IMF World Economic Outlook Oct. 2019.
Note: Trade growth is the average of import and export growth rates.

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Global trade has grown slowly since the Great Recession, with 2019 showing the weakest performance

- A number of factors explain the global trade slowdown (Constantinescu et al. 2018; Hoekman 2015; Haugh et al. 2016; IMF 2016)
 - A slowing pace of global value chains growth;
 - Changes in composition of economic activity away from import-intensive investment;
 - Slower trade liberalization and re-emergence of protectionism.

- Key questions:
 - Can policy uncertainty contribute to explain the global trade slowdown?
 - What are the main economic mechanisms at play? Role of global value chains?
 - What role for trade policy and preferential trade agreements?

5



Related literature

- Economic and policy uncertainty and economic activity
 - Bernanke (1983); Pastor and Veronesi (2013); Caldara et al. (2019)

- New measures of policy uncertainty
 - Economic Policy Uncertainty (EPU) index (Baker et al. 2016); World Uncertainty (WU) index (Ahir et al. 2018)
 - World Trade Uncertainty (WTU) index (Ahir et al. 2019); Trade Policy Uncertainty (TPU) index (Caldara et al. 2019)

- Uncertainty and trade
 - Handley (2014); Handley and Limao (2015; 2017); Crowley et al. (2018)

- For a survey of the literature, see Castelnovo (2019)

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II. Economic policy uncertainty and trade

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Prima facie evidence: world trade growth is negatively associated with economic policy uncertainty



Source: CPB Netherlands Bureau of Economic Policy Analysis, www.PolicyUncertainty.com, Baker et al. (2016).

6



How economic policy uncertainty may affect trade

- Effects of economic policy uncertainty on overall trade
 - Indirect effects: firms reduce investment, consumer lower spending, banks increase the cost of finance... reducing GDP growth and trade
 - Direct effects: firms reduce investment to serve foreign markets or to source inputs internationally
- Is there a differential effect on global value chains (GVCs)?
 - GVCs require relation-specific investment which makes trade “stickier”
 - But they are concentrated in capital intensive sectors and investment is itself affected by policy uncertainty

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Empirical strategy

- $$\Delta \ln M_{c,t} = \alpha + \beta * \Delta \ln GDP_{c,t} + \gamma * \Delta \ln REER_{c,t} + \delta * \ln EPU_{c,t} + FE_c + FE_t + \varepsilon_{c,t}$$
 - $M_{c,t}$ denotes import volumes of country c in year t
 - $EPU_{c,t}$ is the log of the Economic Policy Uncertainty index (contemporaneous and lagged)
 - Control for real gross domestic product ($GDP_{c,t}$), real effective exchange rate ($REER_{c,t}$), country and time fixed effects
- The panel estimation covers 18 countries over 24 years starting in 1995

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Results 1: Economic policy uncertainty reduces trade growth

| Dependent variables: | Growth in goods and services import volume | | Growth in goods import volume | |
|--|--|------------------------|-------------------------------|------------------------|
| | (1a) | (1b) | (2a) | (2b) |
| | Log of Economic Policy Uncertainty (EPU) index | -0.0223** (0.00800) | -0.0242*** (0.00831) | -0.0228** (0.00904) |
| Growth in Real GDP | 1.429*** (0.201) | 1.429*** (0.202) | 1.409*** (0.273) | 1.409*** (0.274) |
| Growth in Real effective exchange rate | 0.155 (0.1000) | 0.153 (0.0996) | 0.164* (0.0876) | 0.162* (0.0872) |
| Constant | 0.171*** (0.0432) | 0.178*** (0.0440) | 0.178*** (0.0501) | 0.186*** (0.0505) |
| Country fixed effects | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes |
| R-squared | 0.701 | 0.702 | 0.684 | 0.686 |
| Number of observations | 407 | 407 | 407 | 407 |

Notes: Heteroscedasticity-robust standard errors corrected for clustering at country level are reported in parentheses. * p<0.10; ** p<0.05; *** p<0.01. A lag effect is allowed in specifications 1b and 2b.

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Results 2: Economic policy uncertainty negatively affects imports of capital goods, non-durable consumer goods and imports used to export

| Dependent variable: growth in the import volume of | A. Relative prices: REER | | | B. Relative prices: ratio of import deflator to GDP deflator | | |
|--|--------------------------|------------------------------------|------------------------------------|--|------------------------------------|------------------------------------|
| | log of EPU index | log of EPU index - lagged 2 months | log of EPU index - lagged 6 months | log of EPU index | log of EPU index - lagged 2 months | log of EPU index - lagged 6 months |
| | (1) Goods | -0.0228** | -0.0248** | -0.0179** | -0.0270** | -0.0279** |
| (2) Capital goods (excl. transport equipment) | -0.0430* | -0.0497** | -0.0389* | -0.0465* | -0.0516** | -0.0385* |
| (3) Capital goods (transp. equipment) | -0.0318 | -0.0278 | -0.0394 | -0.0402 | -0.0296 | -0.0369 |
| (4) Durable consumer goods | -0.00777 | -0.0150 | -0.0136 | -0.0170 | -0.0217 | -0.0156 |
| (5) Non-durable consumer goods | -0.0258* | -0.0309** | -0.0225** | -0.0359** | -0.0397*** | -0.0277** |
| (6) Backward GVC participation (intermediate goods and services embodied in exports) | -0.0244 | -0.0386** | -0.0398* | -0.0228 | -0.0370* | -0.0381 |

Notes: Heteroscedasticity-robust standard errors corrected for clustering at country level. * p<0.10; ** p<0.05; *** p<0.01. The number reported in each cell comes from a specific regression and represents the coefficient of log of EPU index, either contemporaneous or lagged, depending on the specification. All regressions include country and time fixed effects as well as controls for growth in absorption and in relative prices.

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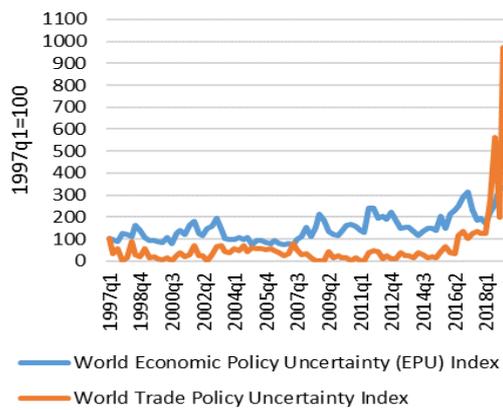


III. Trade policy uncertainty

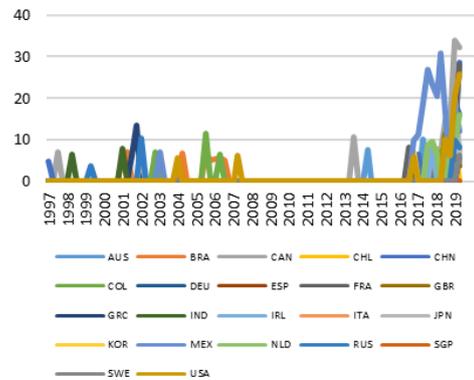
13



Trade policy uncertainty escalated in the post-2017 –corresponding to the build up of the US-China trade tensions



Trade Policy Uncertainty Index, selected countries



14



Results 3: Trade policy uncertainty has both negative and positive effects at the country level, but no significant effect on overall trade growth

| Coefficient of Log(Trade Uncertainty index+1) | Growth in goods and services import volume | | | |
|---|--|-------------------------|-------------------------|-------------------------|
| | contemporaneous (1a) | | lagged 2 months (2a) | |
| Average | -0.00338 (0.00714) | | -0.000337 (0.00762) | |
| Brazil (BRA) | | 0.0208*** (0.00490) | | 0.0248*** (0.00417) |
| Canada (CAN) | | 0.00694** (0.00317) | | 0.00826* (0.00465) |
| China (CHN) | | -0.0138** (0.00597) | | -0.00425 (0.00896) |
| United Kingdom (GBR) | | -0.0160*** (0.00501) | | -0.0138*** (0.00475) |
| Ireland (IRL) | | -0.148*** (0.00739) | | -0.0443*** (0.00585) |
| United States (USA) | | 0.00380 (0.00397) | | 0.0109 (0.00777) |
| Country fixed effects | Yes | Yes | Yes | Yes |
| Year fixed effects | Yes | Yes | Yes | Yes |
| R-squared | 0.695 | 0.713 | 0.694 | 0.707 |
| Number of observations | 458 | 458 | 458 | 458 |

Notes: Heteroscedasticity-robust standard errors corrected for clustering at country level. * p<0.10; ** p<0.05; *** p<0.01. All regressions include country and time fixed effects as well as controls for growth in absorption and in relative prices.

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Trade policy uncertainty and trade: Some issues

- Issues:
 - The limited (in some cases no) variability of the WTU index pre 2018 may reflect a combination of lower uncertainty and lower attention to trade policy in the media
 - The index does not distinguish between positive and negative trade policy uncertainty (threats of tariffs differ from uncertainty on a new trade agreement)
 - The index also fails to distinguish own-trade policy and third country policy uncertainty (US-China tensions affect US, China and third countries differently)

- Regression results are likely affected by these data and conceptual issues: Addressing them will require more work

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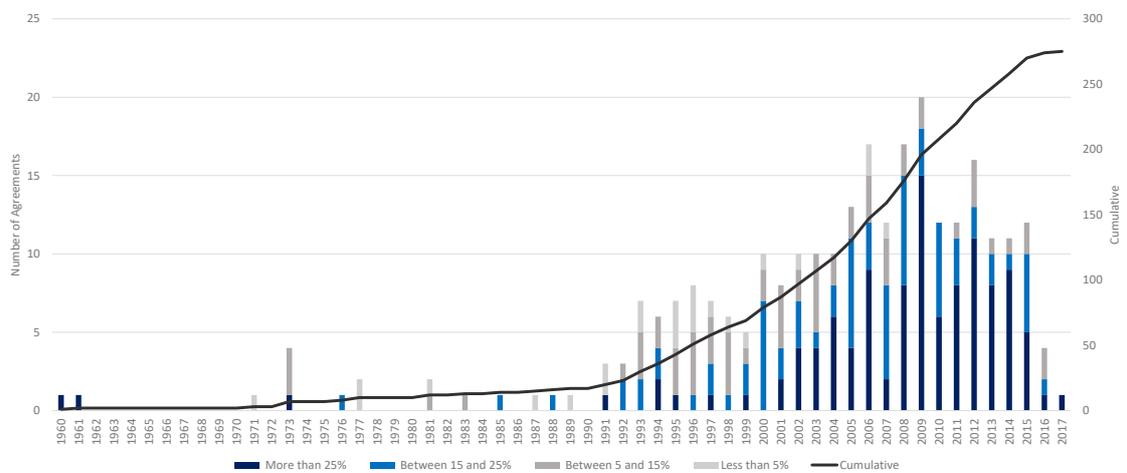


IV. Trade agreements and policy uncertainty

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Preferential trade agreements are a more and more important feature of the trade system: Their number and “depth” has increased over time



Source: Mattoo, Rocha and Ruta (2020). Note: Coverage ratio refers to the share of provisions for a policy area contained in a given agreement relative to the maximum number of provisions in that policy area. Years refer to entry into force date.

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How trade agreements might affect policy uncertainty

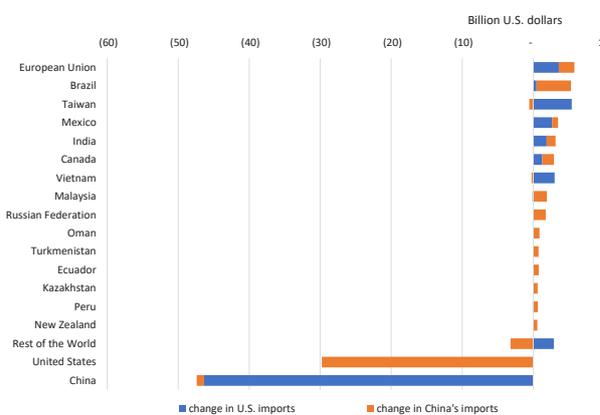
- Trade agreements are expected to reduce the negative effects of trade policy uncertainty on trade
 - Reductions in trade policy uncertainty through WTO commitments encourage firms to invest to enter new markets and expand exports (Handley, 2014)
 - Entry into trade agreements can also further strengthen policy commitments, reducing trade policy uncertainty and increasing exports (Handley and Limão, 2015)
 - Uncertainty about foreign income, trade protection and their interaction dampens export investment. This can be mitigated by trade agreements (Caballero, Handley and Limão, 2015)

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Some evidence that countries with PTAs with the US and China gained in the respective markets as a result of the US-China tariffs

Change in U.S. and China's imports of tariff-affected products - top origins



Source: U.S. Census Bureau, China Customs statistics. Notes: For products on the July and August lists (\$34 and \$16 billion), the periods compared are Aug 2018 - Jul 2019 and Aug 2017 - Jul 2018, while for products on the September lists (\$200 bn and \$60 billion), the periods compared are Jan-Jul 2019 and Jan-Jul 2018.

- China has free trade agreements with Vietnam and Malaysia (ASEAN), India (APTA), Peru, New Zealand
- US has free trade agreements with Mexico and Canada (NAFTA), and Peru and a bilateral agreement with Vietnam



IV. Conclusions

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Policy uncertainty matters for trade

- World trade in 2019 is expected to grow slightly above 1%. Policy uncertainty might account for almost half of the slowdown of world trade growth in 2019
- The impact of policy uncertainty on trade linked to global value chains appears to be similar to overall trade
 - Difficult to disentangle opposing forces: relation-specific investments are sensitive to policy uncertainty, but also make trade patterns sticky
- Trade policy uncertainty has both negative and positive effects at the country level, but no significant effect on overall trade growth
 - Although there are both data and conceptual issues when measuring trade policy uncertainty in a cross-country setting
- Speculative evidence that countries with PTAs with the US and China gained in the respective markets as a result of the US-China tariffs

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But more research is needed...

■ A Few ideas:

- Hard to infer a causal relationship between policy uncertainty and trade because policy itself responds to economic circumstances and is likely to be forward-looking
- Difficult to disentangle the contrasting forces that affect how uncertainty interacts with firms' choices to structure production across different countries
- Need to separate the impact of trade policy uncertainty from that of economic policy uncertainty more broadly, as well as the impact of domestic policy uncertainty from that of foreign policy uncertainty

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THANK YOU!

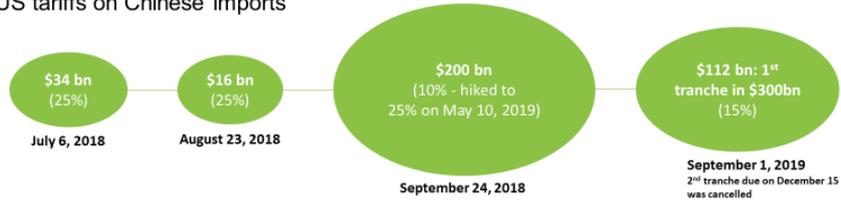
For more information, visit:

<https://www.worldbank.org/en/topic/regional-integration>



US-China trade tensions

US tariffs on Chinese imports



Chinese tariffs on US imports



Session I: Trade Protectionism and Global Value Chains

Digital Trade Restrictions and Trade in Services—Where are the Spillovers Calling for Global Rules?

Dr. Erik van der Marel (ECIPE)



Data Restrictiveness and Economic Impacts

2019-20 Korea-US Policy Dialogue
10 January, Washington DC, GWIKS
Erik van der Marel

Senior Economist at ECIPE
Université Libre de Bruxelles (ULB) - Solvay Brussels School

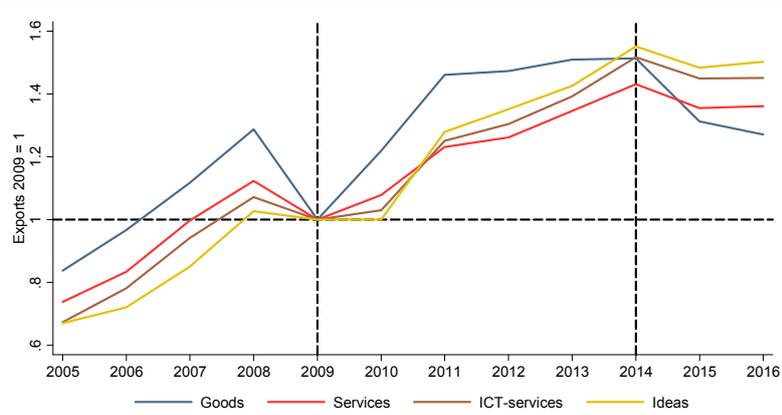
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Content

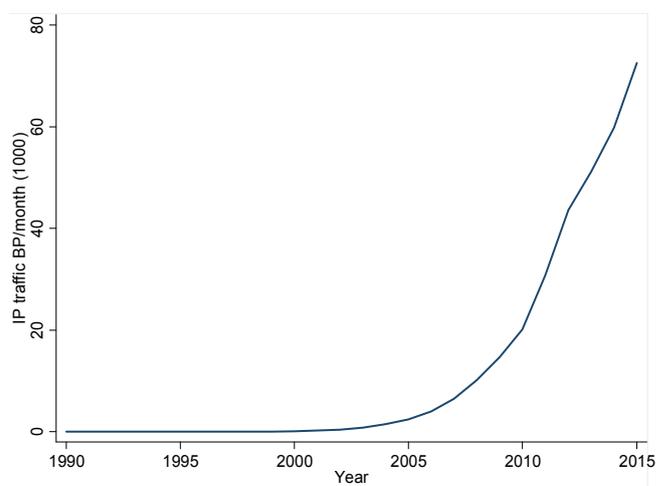
- **Restrictions** data, technologies & digital trade
- **Economic impacts** of these digital restrictions

E

Technology ideas as a flow



Global data traffic grows

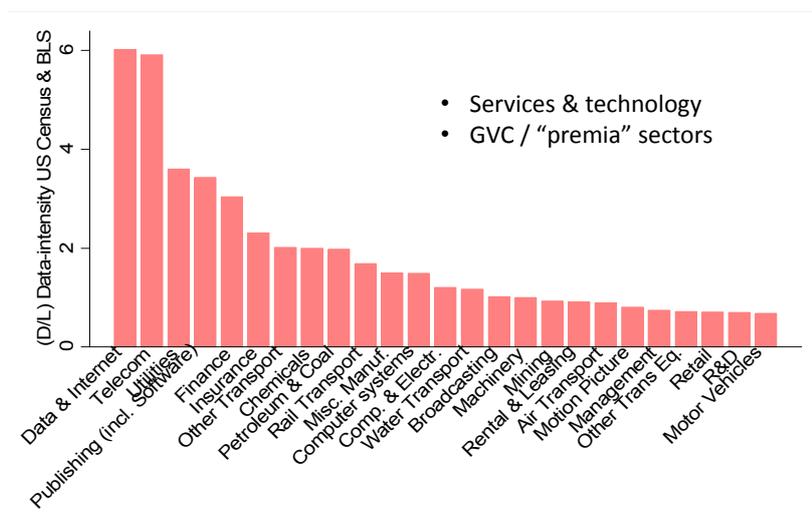


The role of data in globalization

- Contribution of data to GDP > goods (McKinsey)
- Particularly great role in Artificial Intelligence (Goldfarb and Trefler, 2018)



Where are data in the economy?



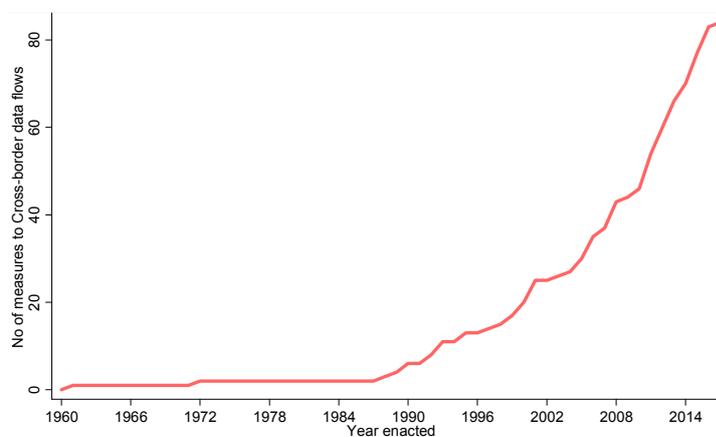
What policies are problematic?

| | Internet com services | Cloud-based data processing | Digital content | E-commerce | IoT |
|-------------------------------|--------------------------|-----------------------------------|--------------------|------------|-----|
| Data measures | | | | | |
| Data protection and privacy | x | x | x | x | x |
| Data localization | x | x | | x | x |
| Cybersecurity measures | | | | | |
| Disclosing source codes | | x | x | x | x |
| Restrictions on cryptography | x | x | x | x | x |
| Censorship | | | | | |
| IPR measures | | | | | |
| Intermediate liability | x | | x | x | |
| Ancillary copyrights | x | | x | x | |

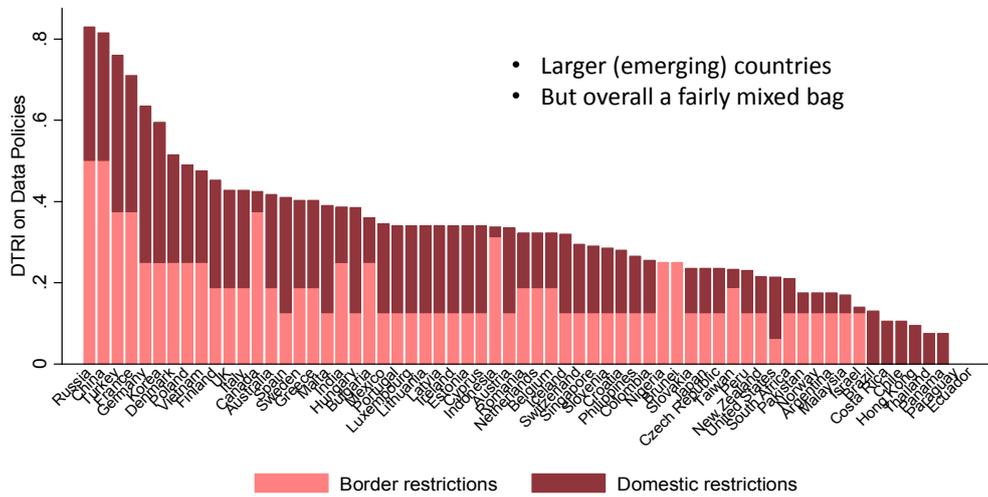
USITC (2017)



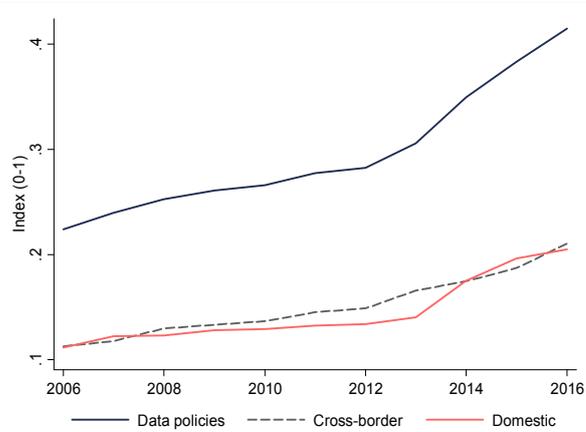
Number of data-related restrictions



Restrictions in data



Global trend in data policies



Economic impacts

- On productivity (of local firms)
- On trade in services (over the internet)
- On digital innovation (in East Asia)



On productivity

| | (1) | (2) | (3) | (4) | (5) | (6) |
|----------------------------------|----------------------|----------------------|----------------------|-------------------|----------------------|----------------------|
| | ACF | L&P | O&P | TFPR | TFPQ | LabPr |
| ln(D/L) * Data policy CB | -0.305*** (0.000) | -0.311*** (0.000) | 0.139 (0.270) | 0.047 (0.115) | -0.240*** (0.000) | -0.039 (0.262) |
| ln(D/L) * Data policy DOM | -0.340*** (0.000) | -0.506*** (0.000) | -0.385*** (0.000) | -0.015 (0.158) | -0.100*** (0.000) | -0.149*** (0.000) |
| FE Country-Year | Yes | Yes | Yes | Yes | Yes | Yes |
| FE Sector-Year | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 3516012 | 3521289 | 3521289 | 3521289 | 3521289 | 3521724 |
| R2A | 0.866 | 0.702 | 0.615 | 0.131 | 0.322 | 0.569 |
| R2W | 0.023 | 0.191 | 0.008 | 0.010 | 0.242 | 0.022 |
| RMSE | 0.444 | 0.702 | 1.017 | 0.776 | 1.014 | 0.670 |

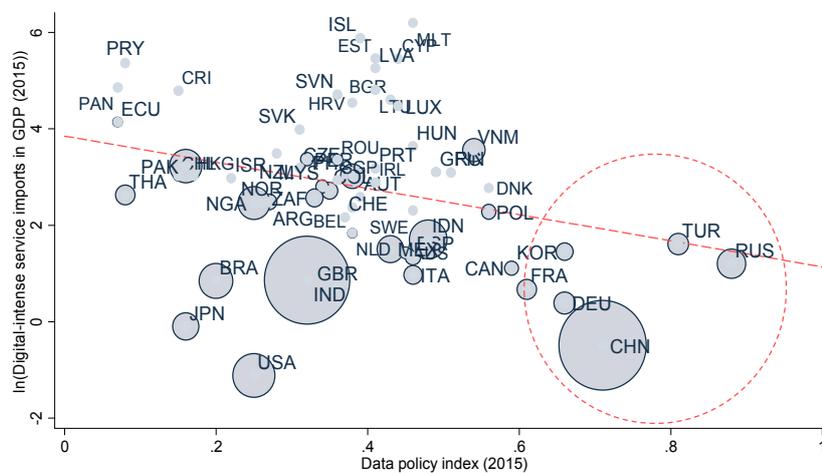


On productivity

- Especially w.r.t. policies for **domestic use of data**
- Especially on local small and medium sized firms (**SMEs**)

E

On trade in services



E

On trade in services

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---------------------------------|----------------------|---------------------|---------------------|----------------------|----------------------|----------------------|
| | ln(SM) | ln(SM) | ln(SM) | ln(SM) | ln(SM) | ln(SM) |
| ln(D/L) * Data policy CB | -2.078*** (0.007) | | -1.803** (0.019) | -1.082*** (0.003) | -1.058*** (0.003) | -1.067*** (0.003) |
| ln(D/L) * Data policy DR | | -1.614** (0.028) | -1.066 (0.155) | -0.481 (0.236) | -0.546 (0.183) | -0.543 (0.185) |
| STRI | -2.967 (0.536) | -3.662 (0.448) | -3.097 (0.520) | -0.942** (0.020) | -1.050** (0.030) | -1.095** (0.026) |
| FE year-country | Yes | Yes | Yes | Yes | Yes | Yes |
| FE year-sector | Yes | Yes | Yes | Yes | Yes | Yes |
| STRI classification | M1 | M1 | M1 | ENTIRE | MA&NT | DISCR |
| Observations | 430 | 430 | 430 | 950 | 886 | 886 |
| R2A | 0.755 | 0.752 | 0.756 | 0.763 | 0.753 | 0.753 |
| R2W | 0.026 | 0.014 | 0.031 | 0.026 | 0.027 | 0.027 |
| RMSE | 0.968 | 0.974 | 0.967 | 0.951 | 0.949 | 0.948 |

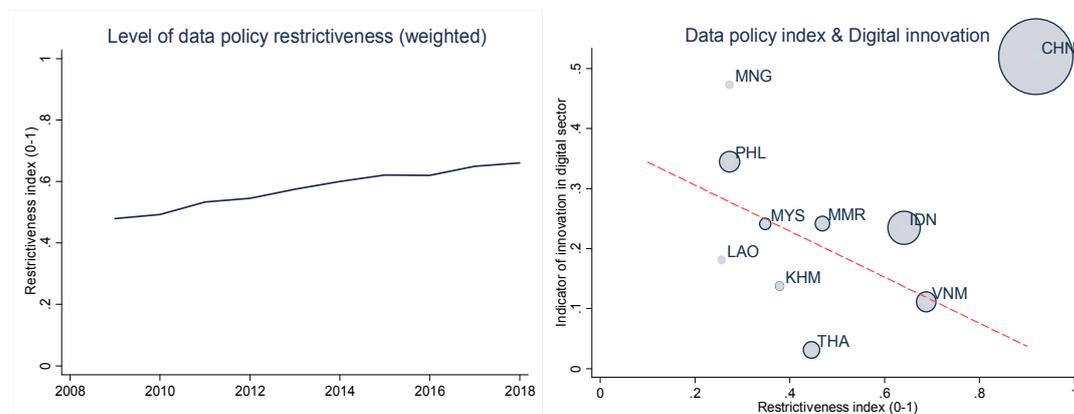


On trade in services

- Especially w.r.t. **cross-border** data policies
- Especially on **imports** over the **internet**



On digital innovation (in East Asia)



On digital innovation (in East Asia)

| | (1) New products introduced | (2) New processes introduced | (3) Foreign licensing of technology | (4) Spent on innovation |
|-----------------|-----------------------------------|------------------------------------|---|-------------------------------|
| Index * ln(D/L) | -0.014 (0.887) | 0.121 (0.283) | -0.336*** (0.001) | -0.122 (0.297) |
| Observations | 9988 | 8855 | 9276 | 8933 |
| LR chi2(10) | 1193.96 | 1072.52 | 215.74 | 947.12 |
| No. groups | 32 | 32 | 24 | 12 |
| Log likelihood | -4690.1 | -5207.8 | -4045.7 | -3475.1 |



On digital innovation (in East Asia)

- Especially w.r.t. acquiring licenses for **foreign technology**
- Especially on local firms in **East Asian countries**

E

Conclusions

- Digital restrictions matter, especially for **intangible trade**
- Larger manufacturing-based (middle-income) countries ↑
- However, **enabling environment** matters too (example EU)
 - How to institutionalize **trust** and **security**?

E

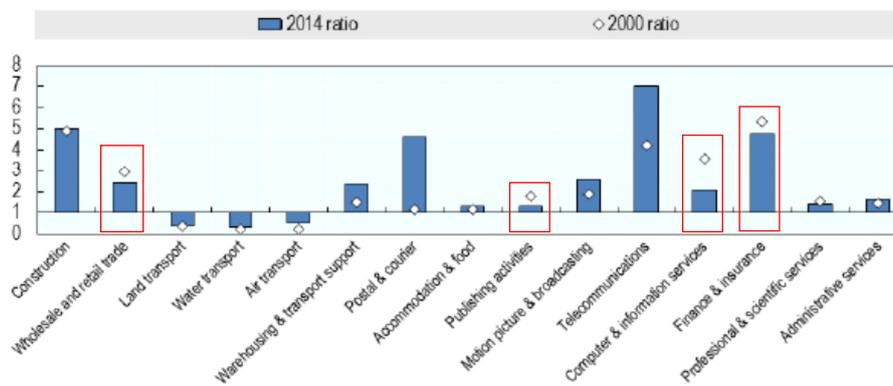
Optional slide

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Data-intensive services (Mode 3 / Mode 1; gross terms)

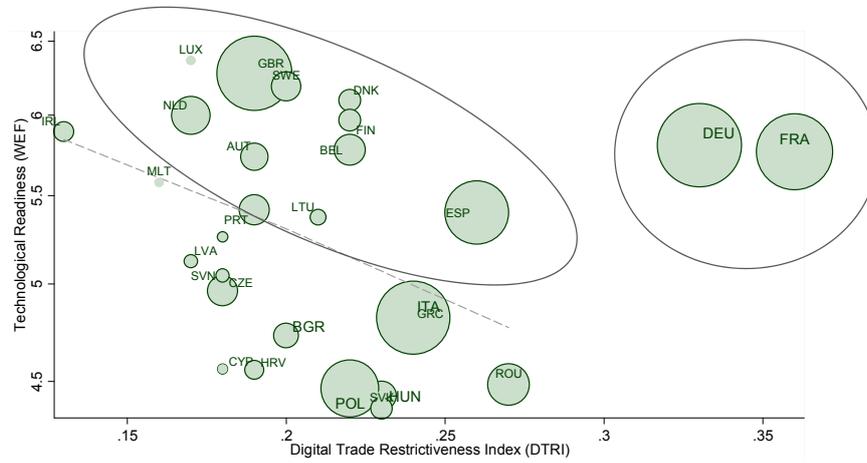
Figure 11. Ratio of mode 3 to cross-border trade in services, by industry, 2000 and 2014



Source: Andrenelli et al (2018); using analytical AMNE database.



Digital enabling environment



Session I: Trade Protectionism and Global Value Chains

How Large is the Impact of Trade on Growth? The Korean Case

Prof. Siwook Lee (KDI School)



2019-20 Korea-U.S. Policy Dialogue

How Large is the Impact of Exports on Economic Growth?

Evidence from GDP Decomposition Approach

Siwook LEE (KDI School)
Seungju KIM (KDI)

January 2020

Table of Contents

1. Motivation
2. Literature Survey
3. Empirics
4. Concluding Remarks

Part 01: Motivation

Motivation

The positive association between exports and economic growth has been regarded as a stylized fact in the economic growth literature.

An extensive body of existing research provides empirical evidence supporting for the positive relationship between exports - more generally international trade - and economic growth.

However, the existing empirical studies tend to have emphasized statistical significance of the trade-growth nexus, but they have paid less attention to [the actual size of trade's impact on economic growth](#).

Motivation

Is exports' impact sufficiently large to justify the widespread pro-trade prescriptions to attain the long-term growth and cross-country convergence?

| | GDP per Capita (2017) | Gap | Growth (1990-2017) |
|------------------------------------|-----------------------|------|--------------------|
| High-income (<12,055) | 42,346 | - | 2.2% |
| Upper middle income (3,896-12,055) | 8,663 | 4.9 | 4.4% |
| Lower middle income (996-3,895) | 2,187 | 19.4 | 4.8% |
| Low income (<996) | 767 | 55.2 | 3.7% |

- Number of Years for Convergence to High-income Countries

| | 3% | 4% | 5% | 6% | 7% | 8% | 9% | 10% |
|---------------------|-----|-----|-----|-----|----|----|----|-----|
| Upper middle income | 192 | 89 | 58 | 43 | 34 | 29 | 24 | 21 |
| lower middle income | 358 | 165 | 108 | 80 | 64 | 53 | 46 | 40 |
| Low income | 484 | 223 | 146 | 108 | 86 | 72 | 62 | 54 |

Motivation

It is widely recognized that export-oriented industrialization is one of the most salient features for the Korean economic development.

The importance of exports to the Korean economy still remains undiminished even today, as globalization has been unprecedentedly accelerated until recently, although the Korean economy already entered into its mature stage of development.

This paper intends to empirically re-examine the impact of exports in Korea's economic development since its economic take-off in 1960s.

Part 02: Literature Survey

Quantifying the trade-Growth Nexus

↳ Methodology I: [Simulation Approach](#)

- Based on General Equilibrium Models
- Typical static models generally indicate that the welfare gains from trade opening would be no larger than one percent of GDP!

↳ Methodology II: [Regression Analysis](#)

- The most common approach
- Usually under the framework of neoclassical growth theory
- Generally providing empirical evidence on the pro-trade proposition

↳ Methodology III: [GDP Decomposition Approach I](#)

- Decomposing GDP by its expenditure categories - C, I, G and NX - to identify their relative contributions to the overall GDP growth.

Quantifying the trade-Growth Nexus?

↳ Methodology IV: [GDP Decomposition Approach II](#)

- Chenery (1960), Chenery and Syrquin (1980), and Kubo et al. (1986)
- Combining expenditure components with production changes
- Decomposing into the following factors
 - ① Domestic demand expansion (C, I and G)
 - ② Export expansion
 - ③ Import substitution for final goods
 - ④ Import substitution for intermediate goods
 - ⑤ Technological change
 - ⑥ Value-added share change

Major Criticisms on Regression Analysis

↳ Modelling and data issues

- Rodriguez & Rodrik, 2001; Rodrik, Subramanian & Trebbi, 2002, etc.
- The appropriateness of trade openness measures, possible reverse causality between trade and growth, omitted variable bias, and data quality issues for developing countries, among many others.

↳ Estimated size of trade's impact on economic growth

- Most of the existing studies focus on statistical significance rather than quantitative significance
- Lewer and Van der Berg (2003) pursues an extensive survey analysis on the existing studies, showing that 1% point increase in export is associated with a 0.2 % point increase in economic growth.

Part 03: Empirics

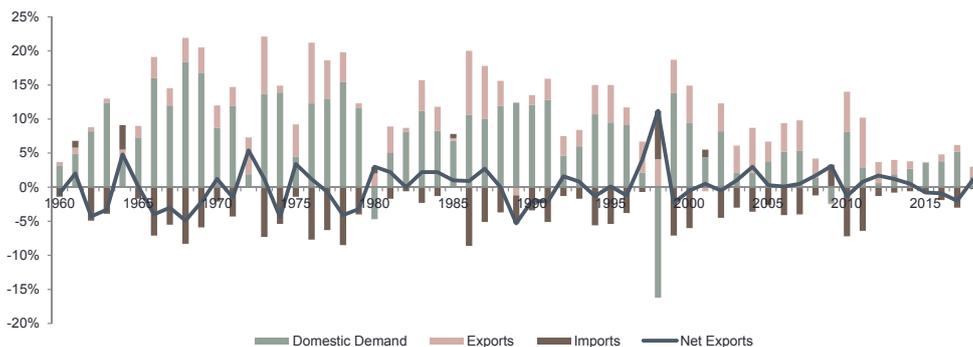
Empirical Strategy I

👉 Conventional (Expenditure-based) GDP Decomposition

- This conventional approach attributes all the intermediate and final imports to net exports.

$$GDP_t \equiv C_t + I_t + G_t + EX_t - IM_t$$

Sources of the Korean GDP Growth: 1960-2018



Source: Bank of Korea Database

Empirical Strategy I

☞ Kranendonk and Verbruggen (2008)

- The conventional approach would result in the possible overestimation of domestic demand's contribution to growth, because it is based on gross domestic demand, but not net domestic demand for domestically-produced goods. .

$$GDP_t \equiv C_t + I_t + G_t + EX_t - IM_t$$

$$\text{where } IM_t \equiv IM_{C_t} + IM_{I_t} + IM_{G_t} + IM_{EX_t}$$

- Suppose that an investment boom for an economy is driven solely by massive imports of capital goods. In this case, the overall GDP remains the same because the increase of domestic investment ΔI_t is exactly canceled out by the increase of ΔIM_{I_t} .

Empirical Strategy I

☞ Adopting the Import-adjusted method of GDP decomposition (Kranendonk and Verbruggen, (2008)

$$GDP_t = (C_t - IM_{C_t}) + (I_t - IM_{I_t}) + (G_t - IM_{G_t}) + (EX_t - IM_{EX_t})$$

Let a_c, a_i, a_g, a_{ex} denote the import intensities of each category. Then

$$IM_t \equiv a_c C_t + a_i I_t + a_g G_t + a_{ex} EX_t \dots\dots\dots (1)$$

where the terms to the right of Equation (1) represents imports directly and indirectly generated by consumption, investment and exports.

Let $R_y, R_c, R_i, R_g, R_{ex}, R_m$ are real growth rates of GDP and each components. Then

$$R_y \equiv (R_c - R_m a_c) \left(\frac{C}{Y} \right)_{-1} + (R_i - R_m a_i) \left(\frac{I}{Y} \right)_{-1} + (R_g - R_m a_g) \left(\frac{G}{Y} \right)_{-1} + (R_x - R_m a_x) \left(\frac{EX}{Y} \right)_{-1}$$

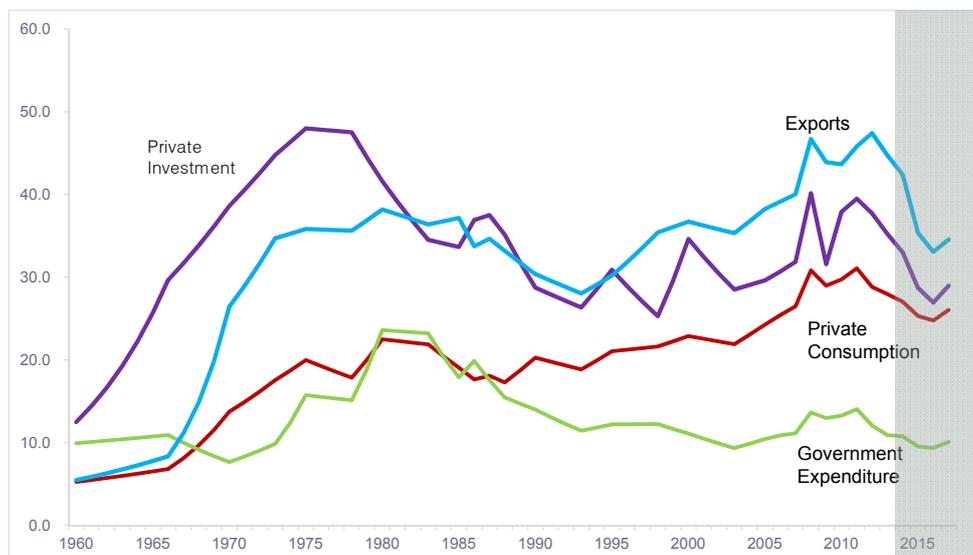
Data Description

👉 The Korean case for the period of 1960-2017

- Data requirement; GDP by expenditure categories, Input/Output tables
- Availability of I/O Tables: 1960, 1963, 1966, 1968, 1970, 1973, 1975, 1978, 1980, 1983, 1985-88, 1990, 1993, 1995, 1998, 2000, 2003, and 2005-17.

Empirical Results I

Import Intensity by Expenditure Category



Empirical Results I

- Growing the importance of import demand for exports over time
 - For private consumption, intermediate demands tend to be larger!

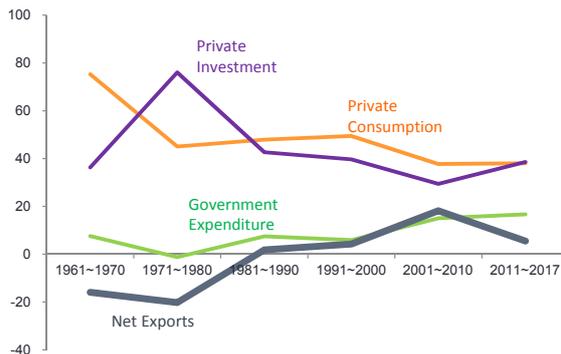
Detailed Composition of Import Demands

| | Private Consumption | | Government Expenditure | | Private Investment | | Export |
|------|---------------------|--------------|------------------------|--------------|--------------------|--------------|--------------|
| | Final | Intermediate | Final | Intermediate | Final | Intermediate | Intermediate |
| 1960 | 18.66 | 47.78 | 7.37 | 4.38 | 4.43 | 13.80 | 3.57 |
| 1970 | 9.83 | 29.90 | 0.73 | 2.45 | 21.62 | 21.05 | 14.42 |
| 1980 | 3.95 | 30.38 | 0.02 | 6.42 | 13.92 | 15.99 | 29.32 |
| 1990 | 7.53 | 26.31 | 0.00 | 4.39 | 14.85 | 19.04 | 27.88 |
| 2000 | 9.92 | 23.71 | 0.00 | 2.85 | 13.94 | 13.28 | 36.30 |
| 2010 | 9.64 | 20.49 | 0.00 | 3.88 | 8.57 | 13.07 | 44.35 |
| 2015 | 13.59 | 19.18 | 0.00 | 3.84 | 9.67 | 12.95 | 40.28 |
| 2017 | 14.95 | 18.04 | 0.00 | 4.14 | 10.93 | 14.00 | 37.94 |

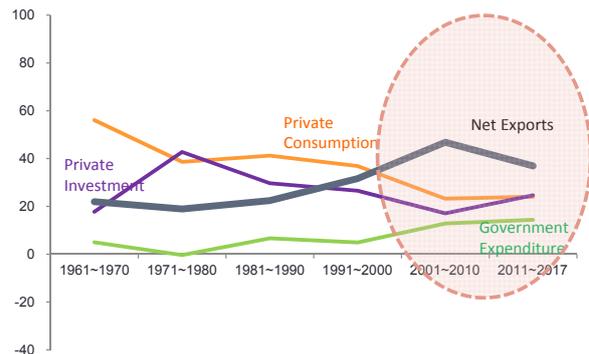
Empirical Results I

- According to the conventional approach, the relative contribution of net exports was recorded as negative until 1970s.
 - On the other hand, the analytic results from the import-adjusted approach indicate that net exports accounted for around one-fifth of GDP growth even at the early stage of development.

Conventional method



Import-adjusted method



Empirical Results I

- ☞ The average contribution of net exports over the whole period is 29.1%
 - The relative contribution of net exports to GDP growth reaches at 46.8 percent in 2000s, as the expansion of domestic demand is getting slowing down.
 - The contribution of net exports decreased after the global financial crisis.

Relative Contribution to GDP Growth (%)

| | 1961~70 | 1971~80 | 1981~90 | 1991~00 | 2001~10 | 2011~17 | 1961~2017 |
|--------------------------|---------|---------|---------|---------|---------|---------|-----------|
| Domestic Demand (A) | 78.2 | 81.1 | 77.6 | 68.4 | 53.2 | 63.0 | 71.0 |
| - Private Consumption | 55.6 | 38.7 | 41.3 | 36.9 | 23.2 | 24.1 | 37.6 |
| - Government Expenditure | 5.0 | -0.4 | 6.6 | 4.9 | 12.8 | 14.3 | 6.8 |
| - Private Investment | 17.6 | 42.8 | 29.7 | 26.6 | 17.1 | 24.6 | 26.7 |
| Net Exports (B) | 21.8 | 18.9 | 22.4 | 31.6 | 46.8 | 37.0 | 29.0 |

Empirical Results I

- ☞ The average contribution of net exports over the whole period accounts for 2.3% point per annum of GDP growth.
 - It is truly remarkable, taking into account that the average growth rates of developed and developing countries were 3.17% and 3.37% over the last five decades, respectively.

| | GDP per capita (1962) | Gap | GDP per capita (2018) | Gap | Growth Rate (1962-2018) | Years to converge | |
|-------------|-----------------------|------|-----------------------|------|-------------------------|-------------------|----------------|
| High income | 1,546 | | 44,706 | | 2.22% | Actual | Counterfactual |
| Korea | 106 | 14.6 | 31,363 | 1.43 | 6.13% | 71.2 years | 170.6 years |

Empirical Strategy II

- ↳ Chenery (1960), Chenery and Syrquin (1980), and Kubo et al. (1986)
- Decadal data for the Korean case (1975-2005)

Total gross output X for an economy can be written as the sum of the following four components:

$$X_t \equiv W_t + D_t + EX_t - IM_t \dots\dots\dots (8)$$

where the $(n \times 1)$ vectors W_t , D_t , EX_t and IM_t represent domestic intermediate demand, domestic final demand, exports, and imports at year t , respectively. The A matrix represents the technology of interindustry relations, and has a domestic component and an imported one: $A_t = A_t^d + A_t^m$. If we plug it into Equation (8), we have

$$X_t \equiv A_t^d X_t + A_t^m X_t + D_t + EX_t - IM_t \dots\dots\dots (9)$$

Empirical Strategy II

Let \hat{m}_t the share of import in total supply, i.e. $IM_t = \hat{m}_t(W_t + D_t)$. In addition, let $R_t^d = (I - A_t^d)^{-1}$, which is the inverse of the identity matrix minus the matrix of domestic input-output coefficients. Then we get

$$\begin{aligned} X_t &\equiv A_t^d X_t + (I - \hat{m}_t)D_t + EX_t \\ &\equiv (I - A_t^d)^{-1} [(I - \hat{m}_t)D_t + EX_t] \\ &\equiv R_t^d [(I - \hat{m}_t)D_t + EX_t] \dots\dots\dots (10) \end{aligned}$$

Between two periods, a change in output ΔX_t depends on changes not only in domestic and external demand, but also in production technology and import intensity. After some algebraic manipulation, the change in outputs can be given by:

$$\begin{aligned} \Delta X_t &= R_{t+1}^d [(I - \hat{m}_{t+1})D_{t+1} + EX_{t+1}] - R_t^d [(I - \hat{m}_t)D_t + EX_t] \\ &= R_{t+1}^d (I - \hat{m}_{t+1})\Delta D_t + R_{t+1}^d \Delta EX_t + R_{t+1}^d (\hat{m}_{t+1} - \hat{m}_t)D_t \\ &\quad - R_{t+1}^d (\overline{A_{t+1}^m} - A_t^m)X_t + R_{t+1}^d [\Delta A_t - (A_{t+1}^m - \overline{A_{t+1}^m})]X_t \dots\dots\dots (11) \end{aligned}$$

where $\overline{A_{t+1}^m} = \left[\begin{matrix} A_{t+1}^m \\ A_{t+1} \end{matrix} \right] A_t$.

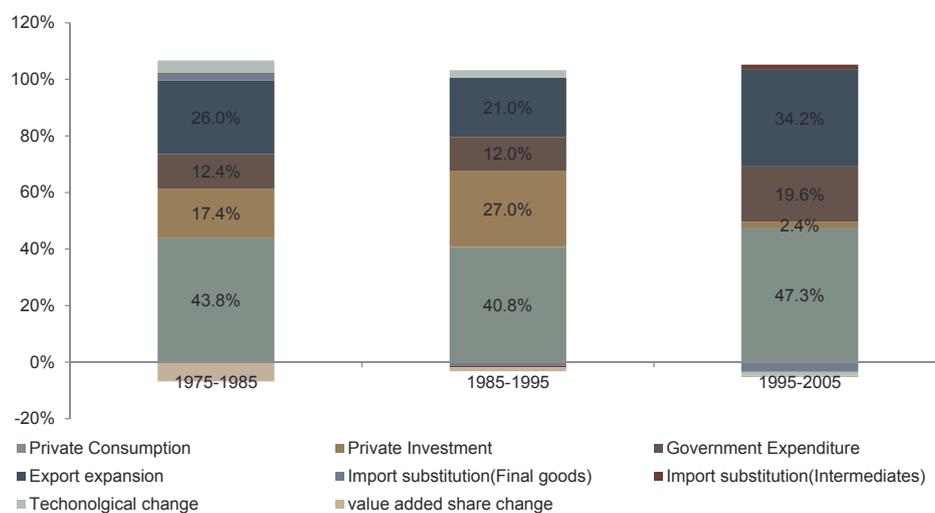
Empirical Strategy II

Factor Decomposition and Determinants of Value-added Growth

| Component | Equation |
|--|--|
| Domestic demand expansion | $\widehat{A}_{t+1}^v R_{t+1}^d (1 - \widehat{m}_{t+1}) \Delta D_t$ |
| Export expansion | $\widehat{A}_{t+1}^v R_{t+1}^d \Delta EX_t$ |
| Import substitution (Final goods) | $\widehat{A}_{t+1}^v R_{t+1}^d (\widehat{m}_{t+1} - \widehat{m}_t) D_t$ |
| Import substitution (Intermediate goods) | $-\widehat{A}_{t+1}^v R_{t+1}^d (\widehat{A}_{t+1}^m - A_t^m) X_t$ |
| Technological change | $\widehat{A}_{t+1}^v R_{t+1}^d [\Delta A_t - (A_{t+1}^m - \widehat{A}_{t+1}^m)] X_t$ |
| Value-added share change | $(\widehat{A}_{t+1}^v - \widehat{A}_t^v) X_t$ |

Empirical Results II

Factor Decomposition Result: Value-added Decomposition



Empirical Results II

Relative Contributions of Sectoral Export Expansion to Growth

| | Output (%) | | | Value added (%) | | |
|---------------------|------------|---------|---------|-----------------|---------|---------|
| | 1975-85 | 1985-95 | 1995-05 | 1975-85 | 1985-95 | 1995-05 |
| Agriculture/Mining | 1.2% | 1.5% | 0.4% | 2.5% | 3.1% | 1.0% |
| Manufacturing | 74.2% | 72.6% | 76.5% | 53.6% | 54.7% | 54.8% |
| Light Manufacturing | 24.2% | 13.7% | 3.9% | 19.3% | 11.7% | 5.0% |
| Heavy & Chemicals | 50.0% | 58.9% | 72.6% | 34.3% | 43.0% | 50.0% |
| Services | 20.0% | 19.9% | 19.4% | 39.9% | 39.1% | 41.5% |
| Others | 4.8% | 5.8% | 3.7% | 4.0% | 3.1% | 2.8% |

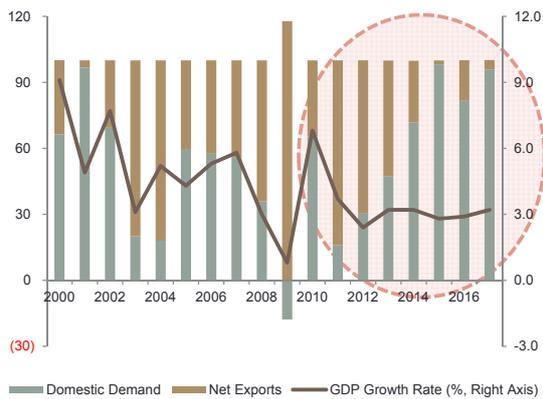
♣ Digression: GVCs and the Export-Growth Nexus

GVCs and the Export-Growth Nexus

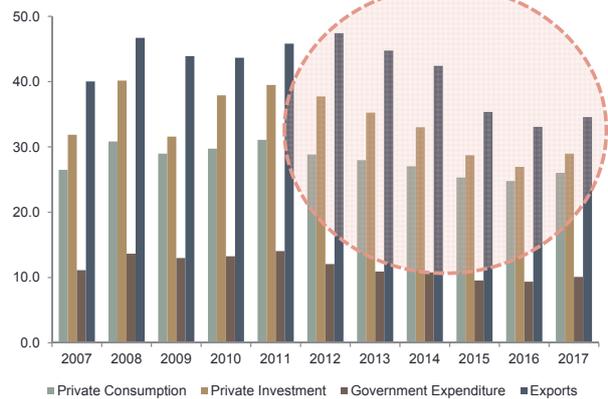
☞ Since 2011, the contribution of net exports to GDP growth has gradually declined in Korea.

- Is it connected to the slow-down of global value chain?

Relative Contribution to GDP Growth (%)



Import Intensity by Component (%)



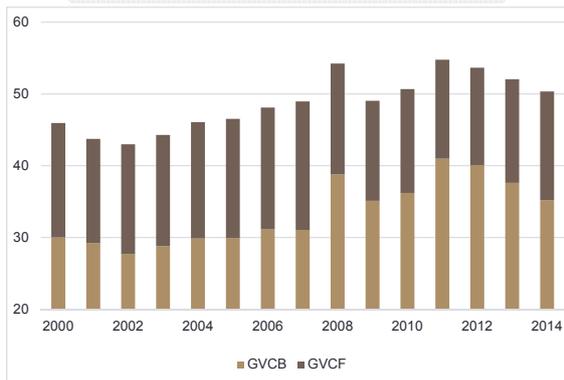
GVCs and the Export-Growth Nexus

☞ The GVC participation rate of Korea is still higher than 2000s, although it has recently decreased.

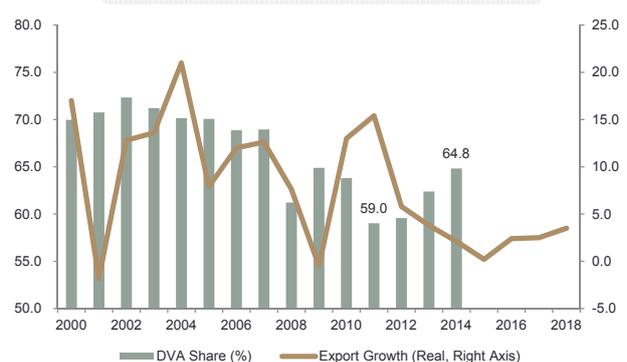
- Its recent decline comes mainly from the slow-down in backward GVC participation.

☞ The share of domestic value-added (DVA) in gross exports has increased from 59.0% in 2011 to 64.8% in 2014.

GVC-related Trade (% of total)



Share of Domestic Value-added (%)



Part 04: Concluding Remarks

Summary

- ↳ We adopt two GDP decomposition methods to quantify the contributions of export to GDP growth both in the short term and in the medium term.
- ↳ We find that export's contribution to GDP growth has been substantial.
 - According to the import-adjusted GDP decomposition analysis, net exports accounts for 2.3 % point per annum of Korea's GDP growth.
 - We find the similar results from the factor decomposition analysis à la Kubo et al. (1986).

Concluding Remarks

- ↳ It would be definitely interesting to apply similar analytic approaches to other countries and compare the results with the Korean case.
 - Tregenna (2012) report relatively a small role of export expansion in South African economic growth since 2000s.
 - Albala-Bertrand (2016) suggest that export demand and heavy industry appear to be the main engines of China for 1995-2010.

- ↳ Further investigation for a larger set of countries would be needed in order to answer the important policy question whether trade openness or exports really matters for achieving sustainable economic growth.

Session II: Global Spillovers and National Policies

Dealing with Subsidies and SOEs — (How) Can It be done in WTO?

Prof. Doug Nelson (Tulane) and Prof. Bernard Hoekman (EUI)



Rethinking International Subsidy Rules

Bernard Hoekman

Robert Schuman Centre, European University Institute

Douglas Nelson

Murphy Institute, Tulane University



THE MURPHY INSTITUTE
TULANE UNIVERSITY

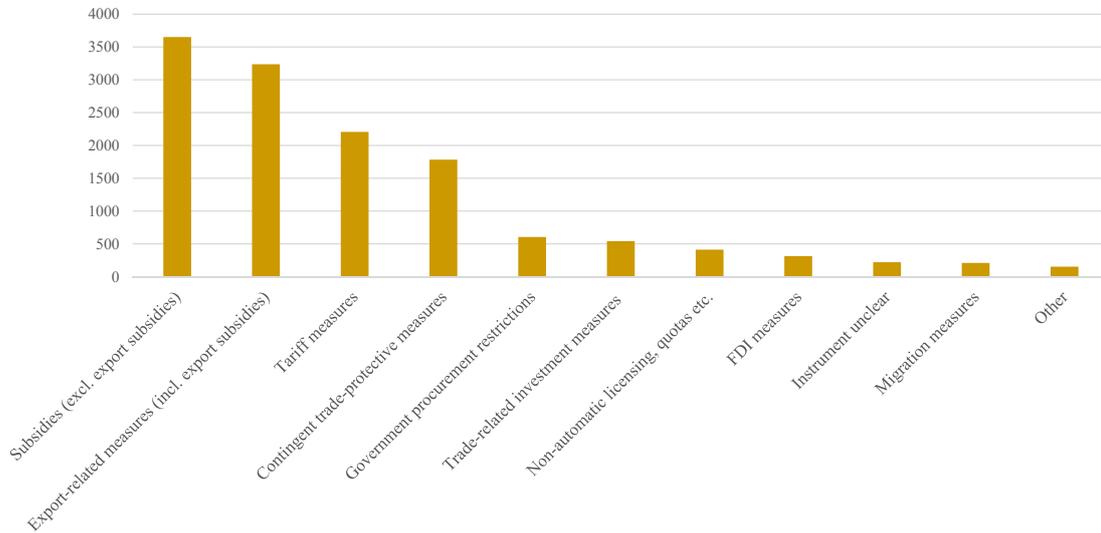


Subsidies are a big deal

- Government assistance to “national” firms is an issue of first-rate importance in trade conflict and governance.
 - Boeing-Airbus is an ongoing source of tension between the US and the EU that turns on issues of what constitutes a WTO-consistent subsidy.
 - State-owned enterprises (SOEs) apparently fall outside WTO rules, but are clearly a source of conflict between WTO members and China.
 - Apparently, “everybody’s doin’ it”, and will probably keep on doin’ it, so there should be some room for cooperation on new rules.
-

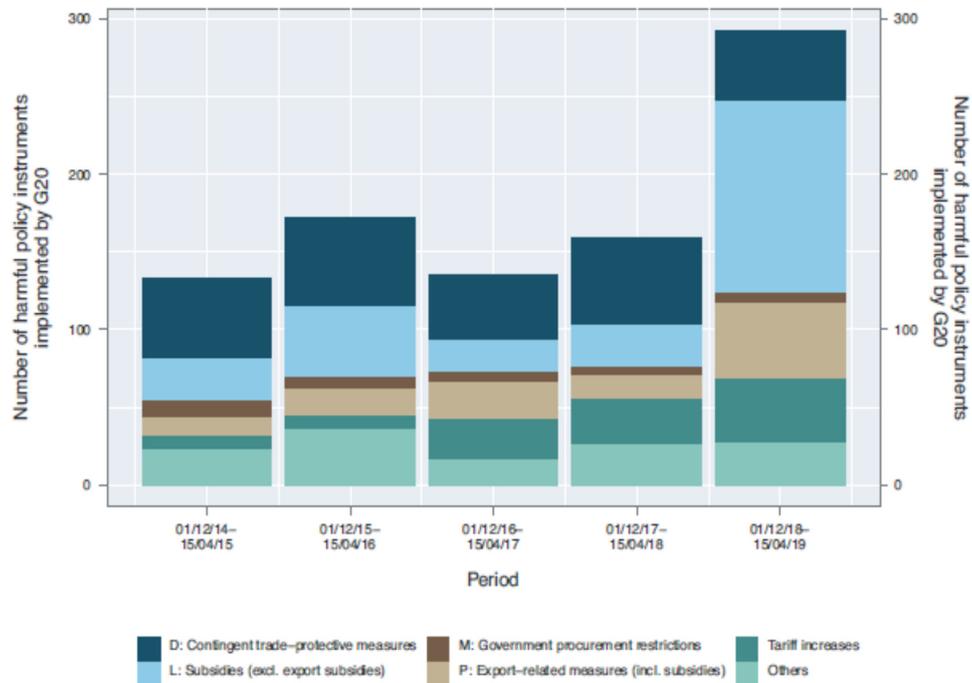
Subsidies are a big deal

Global Use of Trade Distorting Measures (Numbers, 2009-2018)



Source: Global Trade Alert

Resort to trade-distorting subsidies and tariff increases rose sharply since the last G20 Leaders' Summit

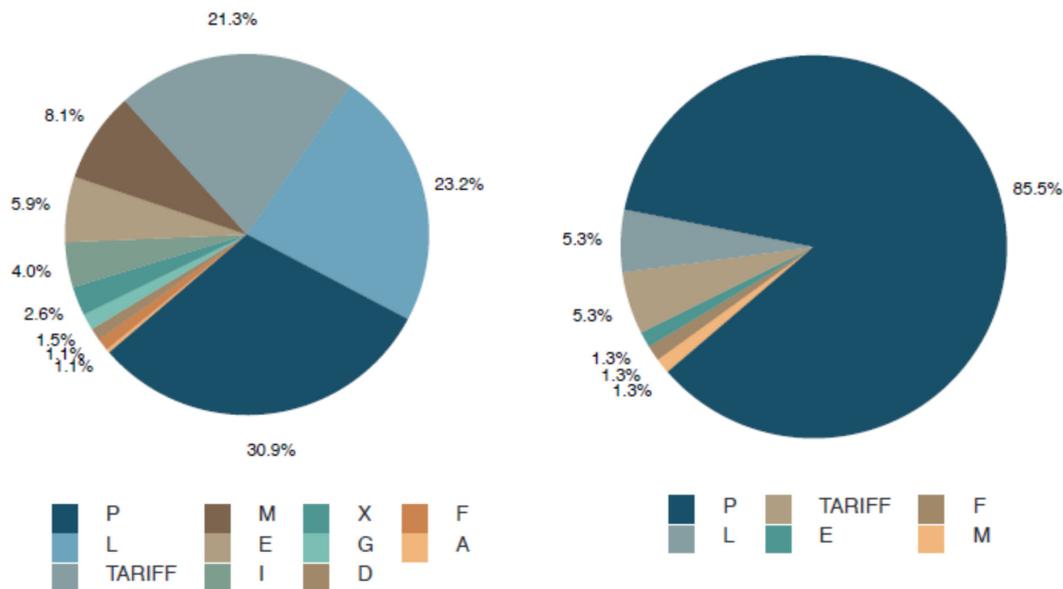


Note: The letter before a policy instrument in the legend refers to the chapter in the United Nations' MAST classification of non-tariff measures.

Subsidies—for import-competing firms and exporters—make up the lion's share of jumbo protectionism implemented over the past 10 years

Jumbo measures implicating \$10-\$100 billion of trade

Jumbo measures implicating more than \$100 billion of trade



Note: The legends to these pie charts refer to the chapters in the UN MAST classification system for non-tariff measures. In that system "A" refers to a health standard, "D" to contingent protection measures, "E" to non-automatic licenses and quotas, "F" to price control measures, "G" to finance measures, "I" to trade-related investment measures, "L" to subsidies except export subsidies, "M" to government procurement-related measures, "P" to export subsidies and incentives, "X" to policy instrument unclear/not otherwise classified, and "TARIFF" to import tariff measures.

Subsidy policy is nationally distinctive

- On varieties of capitalism (VoC) and subsidies
 - There are a lot of ways of doin' capitalism and, so, a lot of ways of doin' subsidies (even with common goals).
 - Market-oriented economies face a number of common problems, but they face them in the context of very different legal, political and economic institutions.
 - These different institutions will often mean that the modalities for dealing with problems will themselves be different, and
 - Because we are talking about significant problems, different responses will have general equilibrium effects (including wrt international trade)
 - Recognition of the commonality of the problems *should* create a basis for cooperation.

What I Want To Do In This Lecture

- Review the economic theory of subsidies as an application of the theory of economic policy
 - I'm going to skip this today in the interest of time
 - Most people in this audience will know and understand key distinctions:
 - Positive v. normative analysis
 - Economic v. non-economic objectives
 - First-best v. second-best intervention (and implications)
 - Discuss potential arrangements for dealing with conflicts over subsidy
 - Argue for a leadership role for China
-

Elements of the theory of economic policy

- There is a framework, growing out of the general theory of second-best, that provides a very helpful way of thinking about economic policy.
 - It is very general (not mathematically, but in application) and very robust.
 - It is widely taught and used across much of economics, but with particular application in public economics and international economics.
 - It is fully consistent, and continuous, with both legal and political analysis.
-

Elements of the theory of economic policy

- The first step is very simple: distinguish clearly between normative and positive analysis
 - *Normative analysis* is about identifying the *best* (technically and politically) feasible policy.
 - This is the job of policy-makers and citizens, not the job of analysts.
 - All significant policies will redistribute income (power, prestige, success, influence, ...), so notions like “Pareto optimality” are of no use.
 - Dealing with such situations require application of an explicit normative framework
 - There are many of these and they yield very different recommendations in any given policy situation.
 - Reasonable people will differ in their normative commitments
 - As a policy-maker or citizen the essential first step is to be very clear about exactly what your normative commitments are.
-

Elements of the theory of economic policy

- *Positive analysis* is about identifying the effects of policy.
 - This is the job of analysts and advisors.
 - There is no such thing as model-free, or even model-independent, positive analysis.
 - Data do not speak for themselves
 - This is especially true of “large” policy changes
 - Any change that is going to affect many sectors, regions, countries, etc. is large in this way.
 - Thus, essentially all significant policies are large in this way.
 - This also means that the more explicit we are about the models we are using, the better.
 - This is one of the areas where formal theory is our friend.
 - Unlike for Marshall, I don’t think we should “burn the math”, we should keep it handy in case we need it, but it need not be part of the essential presentation of our policy work.
-

Elements of the theory of economic policy

- I firmly believe that this kind of policy analysis should be based fundamentally on general equilibrium reasoning.
 - GE tools are not magic, they are simply
 - Maximally clear; and
 - Inherently about market interdependence.
 - It is almost impossible to keep such interdependence straight in one's head, thus the need for math.
 - Precisely because GE requires detailed attention to assumptions, it is easy for critics to find things to criticize. Thus, we must:
 - Understand why we make the assumptions that we do;
 - Understand the costs of making those assumptions; and
 - Be willing to discuss how alternative assumptions could be deployed and the consequences of those alternative assumptions.
-

Elements of the theory of economic policy

- A simplified version of the theory of economic policy involves answering three questions:
 - What is the policy problem?
 - How can we evaluate (i.e. rank) possible responses in terms of policy objectives and costs?
 - What is the best option among the candidates, taking into account constraints on policy choice specific to the case at hand?
 - Note that this whole exercise is normative.
 - As advisors, or citizens, we must fill in the normative part before we can report the results of positive analysis.
-

Elements of the theory of economic policy

- One more handy distinction: economic v. non-economic objectives
 - The economy is both the source of problems to which policy might apply as well as the source of instruments for responding to problems.
 - *Non-economic objectives* are policy goals that are not themselves inherently economic, but which can be pursued via economic policies:
 - Income distribution goals
 - Goals requiring government revenue (e.g. security, health care, etc.)
 - Industrial policy goals (agricultural policy, transportation policy, education policy, etc.)
-

Elements of the theory of economic policy

- *Economic objectives* are policy goals related to deviations from the perfectly competitive norm.
 - Economists call such deviations “distortions”.
 - This is one of those Tolstoy distinctions: all happy economies are alike, each unhappy economy is unhappy in its own way.
 - We gain considerable clarity by characterizing distorted economies relative to an (ideal) undistorted economy.
 - Many standard justifications for some form of government intervention can be rendered into a particular class of such distortions, e.g.:
 - Production externalities
 - Negative—pollution;
 - Positive—knowledge spillovers
-

Elements of the theory of economic policy

- ❑ Consumption externalities
 - Negative—criminal activities derived from consumption of banned goods;
 - Positive—demonstration effects from pro-social activity.
 - ❑ Factor-market distortions
 - Unions, minimum wages, etc.
 - ❑ Product market distortions
 - Monopoly, oligopoly, scale economies, etc.
 - A warning: knowing that there is a distortion in the economy need not imply that it should be “fixed”.
 - ❑ First, it is a standard result of the theory of second-best that, in a multiply distorted economy, reducing a single distortion may actually make the economy worse off.
 - That said, there will always be a package of policy reforms that raises national income.
-

Elements of the theory of economic policy

- ❑ Perhaps more importantly, because income distribution will be changed, it need not be the case that welfare is raised by “fixing” the distortion.
 - For this to be true, any required redistribution must be carried out.
 - Consider the case of action against a subsidy discussed in Mavroidis (2016, pg. 193).
 - The argument, commonly made, is that, as long as the home market is undistorted, a country getting subsidized imports cannot lose in welfare terms.
 - The idea is that an improvement in ToT (the consequence of the subsidy) raises national income at world prices, so
 - As long as the appropriate redistribution is carried out, that increase in national income implies an increase in welfare.
 - The problem, of course, is that if the redistribution is not carried out, the argument doesn’t go through.
 - ❑ Finally, if the country has a genuine goal related to this size of the importable sector, welfare falls via that channel as well.
-

Elements of the theory of economic policy

- Following up on the last point, non-economic objectives are quite common in economic policy.
 - Consider the closely related case of anti-trust
 - For much of the early history of antitrust legislation and enforcement, the goal of antitrust was explicitly not improvement in efficiency. In fact, it was political, not economic.
 - The goal was to reduce the power of large firms.
 - This led to a policy of reducing firm (or trust) size
 - Interestingly, anti-trust authorities found the dominant school of industrial organization (IO) thought (the structure-conduct-performance, or SCP, school) to yield convenient decision rules of this sort.
 - This led economists to have credibility and value within the antitrust community.
-

Elements of the theory of economic policy

- By the late 1960s, economists working in IO had begun to shift away from the SCP framework to a more efficiency-based framework (sometimes called the “Chicago school” approach).
 - This efficiency-based approach had also become the dominant strain in law and economics and several prominent judges were actively involved in this literature (Posner, Bork, Easterbrook).
 - This was also the period of a Polanyian shift toward liberalization—i.e. the deregulation movement.
 - Exactly what the driver of these shifts was is unclear, but it is clear that, in the area of antitrust, efficiency-based arguments became a central part of both the law and economics of antitrust.
 - The point here is that efficiency has no natural, or central, attraction as a goal. Economists need to be careful not to attribute this goal to policy makers because its analysis is easy for us.
-

Subsidies in the Theory of Economic Policy

- One way of thinking about the theory of economic policy is that it is about finding the best policy for achieving a given goal.
 - This is why the first step is getting clarity on what the goal *is* (e.g. economic v. non-economic, and then more detail under either category)
 - Then choose the best response
 - Identify a relatively exhaustive list of possible responses;
 - Rank them in terms of cost to achieve goal;
 - Consider constraints on choosing from the list; and
 - Pick the top feasible candidate.
-

Subsidies in the Theory of Economic Policy

- One key implication of the analysis is, perhaps not surprisingly, that the cost of an intervention will be lower cost in achieving a goal if it responds most directly to that goal.
 - The logic is that:
 - the more indirect is the intervention, the more distortions that will be created in the pursuit of the goal.
 - Each of those distortions carry costs that must be counted against whatever gains flow from achieving the goal.
 - Therefore, the optimal policy will only be able to achieve less of the goal.
-

Subsidies in the Theory of Economic Policy

- One example is the choice between a tariff and a production subsidy in stimulating production in a sector.
 - We start by supposing that it is a goal to increase the size of a given sector.
 - Why this is a goal plays a key role in identifying the specific details of the policy intervention.
 - Here we just assume that the goal is to increase output.
 - The next step is to recognize that a tariff has the same effect as the simultaneous imposition, at the same rate, of
 - A production tax-cum-subsidy (“production tcs”); and
 - A consumption tax-cum subsidy (“consumption tcs”).
-

Subsidies in the Theory of Economic Policy

- Since each of these has independent welfare costs, if the goal is to stimulate production we can rank:
 - Production tcs (has lowest cost, so can achieve most increase in output at the optimum level of intervention);
 - Tariff (has higher cost since there is a consumption distortion as well as the production distortion, so the optimal policy involves less increase in output)
 - Consumption tcs has no effect for a small economy, since it will not support a change in output and will have the highest cost for a large economy.
 - Other than the rare case of an optimal tariff policy, this implies a general preference for subsidies over trade intervention (with the same logic applying *mutatis mutandis* to consumption goals).
-

Subsidies in the Theory of Economic Policy

- ❑ There is also a general preference for price interventions over quantity interventions.
 - The core logic here is that price interventions (like taxes, subsidies or tariffs) don't interfere fundamentally with the price mechanism, while quantity interventions (quotas of various sorts) do.
 - ❑ Allowing prices to signal scarcity plays a major role in allocation (a point recognized even by proponents of socialist planning such as Oskar Lange and Abba Lerner);
 - ❑ The dynamic implication is that prices signal opportunities for new goods and technologies.
 - This latter is also the reason why subsidies should be general, rather than targeted, since market entry and exit is particularly important in stimulating new goods and technologies.
-

Subsidies in the Theory of Economic Policy

- To summarize, the theory of economic policy tells us that:
 - ❑ There are a variety of cases for government intervention both in support of the market (economic objectives) and to pursue nonmarket goals through market interventions (noneconomic objectives).
 - ❑ Subsidies will generally be the preferred mode of intervention.
 - Thus, it is probably a good thing that governments do use subsidies of various sorts in pursuit of their goals
-

Policy Spillovers as a Policy Problem

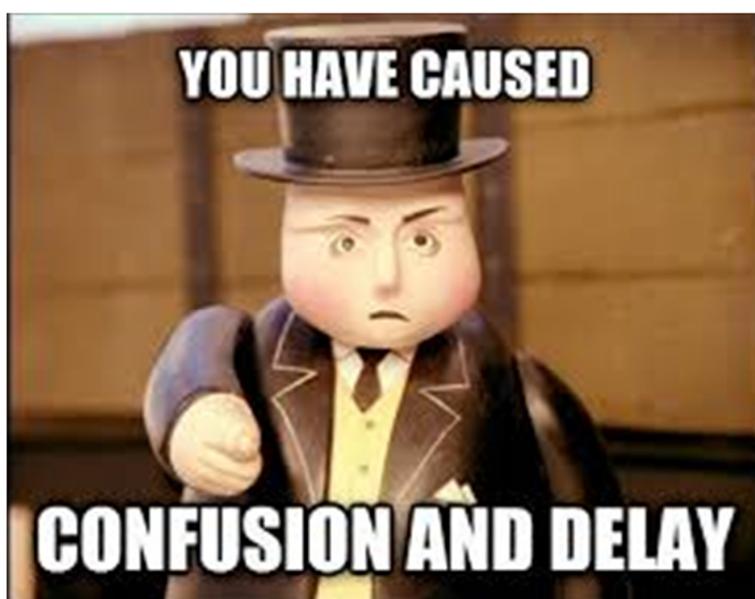
- A problem with this logic is that interventions of sufficient size to have macroeconomic effects are likely to have non-trivial spillovers.
 - Using the above framework, how should we think about policy spillovers.
 - What are they? This is easy
 - Any time one country adopts a policy that affects someone in another country, that is a policy spillover.
 - But given our brief discussion of “significant policies” above, that means pretty much every significant policy has policy spillovers.
-

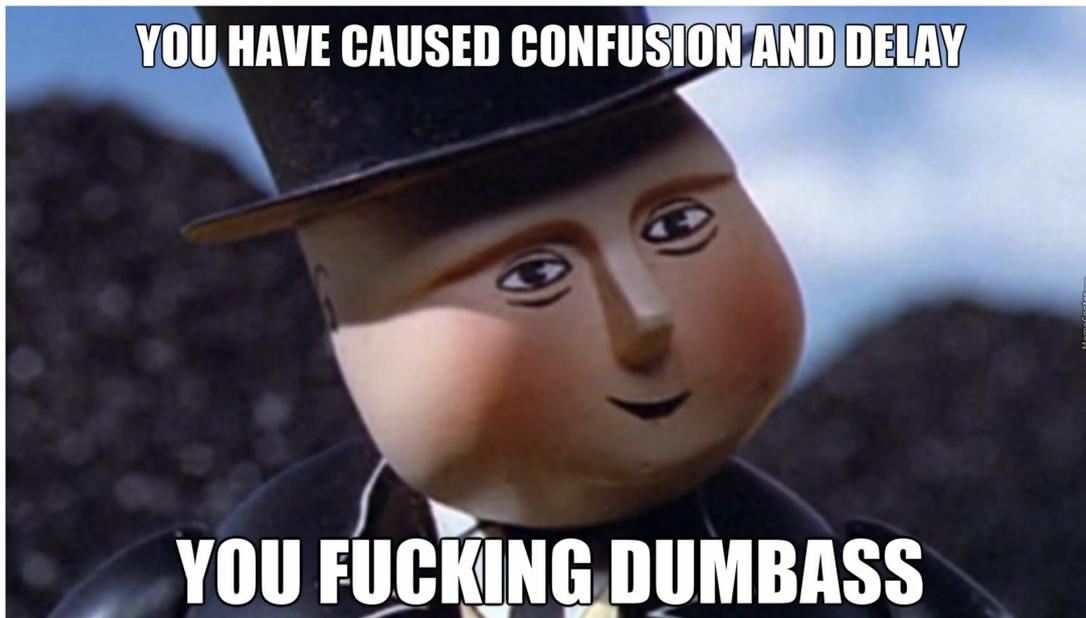
Policy Spillovers as a Policy Problem

- For whom are they a problem? There are two elements to this question:
 - Who is affected negatively?
 - This is a positive question.
 - When one country adopts a policy, what are the effects of that policy?
 - But there will be many:
 - What is the effect of the policy on aggregate income?
 - What is the effect of the policy on distribution of income among countries?
 - What is the effect on the distribution of income within a given country?
 - These are economic effects, but there are others
 - How does the policy affect the electoral prospects of some set of leaders?
 - How does the policy affect the relative power of countries?
-

Policy Spillovers as a Policy Problem

- For whom is that effect policy-relevant?
 - This is a key question because it determines what information we, as analysts, need to provide.
 - We can't talk about a best ("optimal") policy without specifying an objective function (the thing to be optimized).
 - Who does the caring about spillovers?
 - Which spillovers do they care about?
 - Why do they care about them?
 - Much of our analysis proceeds as if the answer is: the ideal (Samuelsonian) social planner (the Fat Controller).





Policy Spillovers as a Policy Problem

- Doing our analysis for the Fat Controller makes our life too easy.
 - This is just a way of making aggregate efficiency our goal without justifying that goal.
 - In fact, I think that aggregate efficiency *is* an appropriate goal of policy. But that's me, as a citizen.
 - We've already seen, in the case of antitrust, that law makers explicitly said that this was *not* a goal of antitrust policy.
 - It is also the case that, at least in the US, aggregate welfare is explicitly not an objective of anti-subsidy policy.
 - To move beyond generalities, we need to focus on specific policy.

Tariffs, Trade Wars & Spillovers

- Let's start with an easy one: large country tariffs
 - It is a standard result from trade theory that a large country has an optimal tariff (schedule).
 - This is the tariff (schedule) that just balances, at the margin, the gain from a ToT improvement against the loss from distorted choices by producers and consumers.
 - There are many tricky issues here (see Bekkers, Francois, Nelson & Rojas-Romagosa, 2019) but the key is asserting the Fat Controller's utility function as aggregate welfare.
 - Why the Fat Controller should care about aggregate welfare, instead of something else, is an open question, but
 - Once this is done, the rest is a technical exercise.

Tariffs, Trade Wars & Spillovers

- As long as other countries also have their own Fat Controllers, the spillovers are easy.
 - The gain to the tariff-imposing country produces a loss (greater in magnitude than the gain realized by the tariff-imposing country) on the rest of the world.
 - Again, as long as we are dealing with Fat Controllers, the magnitude of this spillover is in principle easy to calculate.
 - If the other countries are large, their Fat Controllers will retaliate.
 - In fact, there is a large literature on rational trade wars that works just like this.
 - Indeed, there is a literature that seeks to account for trade agreements as a response precisely to such trade wars.

Tariffs, Trade Wars & Spillovers

- ❑ Unfortunately, the gap between Fat Controllers and actual policy-makers is so large that, especially when faced with an actual trade war, this literature is of extremely limited (i.e. no) value.
 - ❑ What we learn from the current unpleasantness is that, at least when it is public policy, trade policy is driven by all kinds of things, none of them having to do with the terms-of-trade (or efficiency, in any straightforward way).
-

Tariffs, Trade Wars & Spillovers

- ❑ The 70-year period during which the major trading countries produced an increasingly liberal, rule-based trading system that permitted increasingly efficient organization of trade with wide-spread benefits.
 - This was a triumph of technocratic decision-making, away from democratic politics.
 - There were many things that could have been done better, mostly dealing with policies to deal with the more obvious losers from the liberalization process.
 - With the emergence of anti-global populism, it has become fashionable in some quarters to argue that this system, and something called neo-liberalism, was always a failure—mainly because the Fat Controller was an obvious fiction covering up difficult distributional issues.
-

Tariffs, Trade Wars & Spillovers

- ❑ As with antitrust, the increasing acceptance by elites of the logic of efficiency in economic policy in general, and trade policy in particular, does underwrite a broad claim of democratic warrant for that policy.
 - But note that this does not underwrite a claim for the technical correctness of that policy.
 - That is the kind of normative claim for which there is just no warrant.
- ❑ If we believe, as I do, that there actually is a good normative argument for liberal trade policy, then we need to make that argument, not pretend that it *just is* good economics.

Tariffs, Trade Wars & Spillovers

- ❑ If we want to extend that system we need to
 - Identify the links, if any, between liberal international economic relations and anti-global populist politics.
 - Refound the liberal trading system on democratically legitimate, but technocratic foundations.
 - This is not the time or place to pursue this in detail, but I believe that, as with the European project, there is genuine tension between broadening and deepening, and that we need to find a way forward that reflects that tension.

Instead of pursuing this in more detail, let's look at a different (though obviously related) issue.

Subsidies, SOEs and Policy Spillovers

- Subsidies are an interesting issue in terms of both broadening and deepening the liberal trading system.
 - First, as we have just seen, in the analysis of open economies, the theory of economic policy tends to prefer targeted subsidies (and taxes) to trade taxes and subsidies—except for the case of large economies with optimal tariffs.
 - Second, on deepening, as global value chains and very large firms, account for a large and increasing share of trade, the role of subsidies is changing.
 - Third, on broadening, as the system seeks to accommodate China as a true systemic power, it needs to rethink the way subsidies, and their disciplines, are understood.

Subsidies, SOEs and Policy Spillovers

- Increasing concern in many quarters about the potential for SOEs to distort competition
 - Currently, this is mainly driven by China – but also lots of other countries (if we're honest about “state owned”)
 - Views that SOEs are supported by governments through soft loans, guarantees, or preferential access to energy and other inputs, and protection from foreign competition
 - An estimated 22 percent of the world's largest 100 firms are effectively under state control (OECD, 2016).
 - Many are Chinese. In 2018 Chinese firms accounted for 22 percent of the list of largest 500 firms globally (Forbes magazine)
 - Cross-country research shows that SOEs are less profitable and less productive than private firms in their respective sectors

Subsidies, SOEs and Policy Spillovers

■ General Issues

- Compared to tariffs, measuring policy spillovers from subsidies is difficult
 - The standard approach to evaluating the effect of a tariff is via its terms-of-trade (ToT) effects.
 - As the optimal tariff argument suggests, a tariff improves the ToT of the country imposing the tariff.
 - For a small enough tariff this generally raises welfare (assuming appropriate redistribution of the gains).
 - By contrast, a subsidy will generally worsen the subsidy imposing country's ToT and improve those of the trade partner.
 - So standard analysis is not helpful here.
-

Subsidies, SOEs and Policy Spillovers

- Problems with the price measure
 - The result derives from a 2-country model where each country is the exporter of one good and the importer of the other.
 - Thus, there is only one ToT; and
 - An improvement for one country is necessarily a worsening for the other, in the same proportion.
 - Even in this environment (i.e. 2-Good \times 2-Factor \times 2-Country) a variety of “distortions” can produce multiple equilibria.
 - These equilibria will generally be Pareto-rankable, with conflicting rankings between countries.
 - This is easiest to see with increasing returns to scale.
 - In this case, a subsidy can shift the equilibrium to a Pareto-preferable equilibrium for one country.
-

Subsidies, SOEs and Policy Spillovers

- The IRS case is just a specific case of the more general logic of distortions and non-economic objectives.
 - That is, we need to know more about the underlying structure of the economy (distortions); and/or
 - We need to know more about preferences (non-economic objectives).
 - In a world with multiple countries, in particular a world where two (or more) countries are exporting the same commodity, the claim that one country's gain must be the other country's loss breaks down.
 - If two countries export to a third country, whatever its cause, a subsidy in one country will deteriorate the ToT for the common exportable, reducing welfare in the second (non policy-active) country.
 - Strategic trade theory embodies a similar logic (for the case of oligopolistic competition between national monopolies).
 - Overall, these considerations tend to fatally undermine the Sykes/Staiger argument against subsidy disciplines in trade agreements.
-

Subsidies, SOEs and Policy Spillovers

- As we discuss below, the effect, and even the perception of, a spillover will be affected by the economic, legal and political structure of a country.
 - These institutions embody preferences for certain types of political and economic outcomes that can render the effect of a subsidy more-or-less irrelevant, or highly significant.
 - A robust policy regime needs to be capable of accommodating such difference.
 - None of this renders common measures of the magnitude of subsidies useless (e.g. PSEs or simple counts) but it does mean that they will never be dispositive wrt the political-economic significance, or even the meaning, of a policy.
-

Subsidies, SOEs and Policy Spillovers

- Consider the case of a government seeking to reduce emissions associated with global warming.
 - In particular, suppose that the goal is to reduce CO₂ emissions that are associated with global warming.
 - This goal could be pursued
 - Directly by inducing reduction in the use of fossil fuels; or
 - Promoting the development and adoption of clean technologies.
-

Subsidies, SOEs and Policy Spillovers

- Direct attempts to reduce emission
 - Most economists argue that some form of market in carbon emissions permits dominates direct controls.
 - The main virtue is that this approach is most flexible in finding ways to meet the emission targets.
 - With direct controls most of the creative effort goes into evasion (i.e. legal and lobbying fees).
 - However, as in the case of the EU's Environmental Trading Scheme, there is a concern that such a policy simply shifts the location of emissions without reducing them (in fact, if the places that carry out the expanded production of polluting goods are less green, emissions will rise).
 - This has led the EU to consider carbon tariffs as a response.
 - Not surprisingly, China, among many others, oppose such schemes as inconsistent with WTO commitments.
-

Subsidies, SOEs and Policy Spillovers

- Indirect attempts to reduce emissions
 - A shift to greener technologies would obviously be a win-win approach to reducing emissions (assuming such technologies are available)
 - Unfortunately, some such technologies are still experimental, and others have not even reached the experimental stage.
 - Thus, many governments have sought to accelerate the development and adoption of such technologies via various forms of subsidy.
 - This case illustrates a fundamental difficulty
 - On the one hand, most countries (perhaps not the US at the current moment) agree on the goal of reducing emissions; but
 - The subsidies may also be used to increase competitiveness of home firms in either the home market or abroad.
-

Subsidies, SOEs and Policy Spillovers

- We would expect there to be an interest in avoiding a subsidy war, but there is also a strong interest in *winning* a subsidy war.
 - That is, we face the same prisoners' dilemma with subsidies that we do with tariffs.
 - The difficulty here is that national governments subsidize in quite different ways
 - Some more transparent than others;
 - Some more consistent with the WTO than others
-

Varieties of Capitalism and Subsidies

- As a result of different political, legal and economic structures, states will respond to similar challenges in very different ways.
 - This is the starting point of the now quite large literature on “varieties of capitalism” (VoC from here).
 - The basic idea is that political economies evolve in response to differing challenges, developing distinctive political, legal and economic responses that become institutionalized.
 - The complex bundles of such institutions survive because the parts are *complementary*, but that tends to mean that it is difficult, and often counterproductive to change parts in ways that are inconsistent with the whole.

Varieties of Capitalism and Subsidies

- Because these varieties *are* different, while remaining capitalist, they will deal with challenges differently.
 - It is a standard observation that northern Europe (“coordinated market economies” or CMEs in the VoC literature) dealt much better with inflation shocks in the 1970s than did the Liberal Market Economies (LMEs); but
 - The LMEs dealt with recession and unemployment much better than the CMEs.
 - These structures were not “chosen” to deal with inflation or unemployment, rather over time differences reflected in labor markets, corporate governance, industrial organization and political structures evolved in response to specific histories.

Varieties of Capitalism and Subsidies

- These differences mean that the globalization shocks of the early 21st Century produce common challenges but differing modal responses.
 - All these governments seek to adjust the macro-structure of the economy related to, among others,
 - Emergence of new technologies (e.g. ICT and robotics)
 - New sources of competition
 - Value chains
 - China
 - Environmental challenges
 - As we have already noted, these are common challenges, but they also offer new domains of competition between states and economies.
-

Varieties of Capitalism and Subsidies

- The current rules of the international trading system, especially as reflected in the WTO, were developed prior to any of these shocks.
 - This has meant that the modal responses of the different VoC, while responding to exactly the same pressures, are differentially consistent with WTO commitments.
 - As a wide variety of WTO disputes suggest, this gives national governments an instrument in the conflict over the rents from global competition even while they undermine state capacity to achieve common goals.
-

Varieties of Capitalism and Subsidies

- As an example, consider the lengthy history of US-EU conflicts over large passenger aircraft.
 - This is a sector for which we expect governments to have a strong incentive to engage in subsidy wars
 - These are very high fixed cost sectors
 - At present there are only two producers of large passenger aircraft
 - However, we might reasonably expect a Chinese entrant in this sector in the fullness of time.
 - Not surprisingly, the US and the EU have often been involved in trade disputes that revolve around subsidies
 - In 1992, this conflict abated with the civil aircraft agreement; but
 - New products led to reemergence of the old conflicts.

Varieties of Capitalism and Subsidies

- The current disputes relate to the period after the breakdown in the 1992 agreement.
 - This involved each filing WTO disputes in 2005
 - In 2010, the WTO determined that launch aid and loans supporting the Airbus A380 contained elements of illegal subsidy.
 - This was appealed and in May 2018 the AB ruled against the EU.
 - In Oct 2019 the WTO granted the US \$7.5 billion in damages in this case
 - In 2011, the WTO determined that Boeing received illegal subsidies from NASA and the DoD supporting R&D, and from several states (Washington, Illinois, and Kansas).
 - In March 2019, the WTO ruled in favor of the EU, but has not yet ruled on the harm.

Varieties of Capitalism and Subsidies

- The essential point here is that each government is engaged in subsidization of its large commercial aircraft industries.
 - Each does this differently, so the WTO disputes become complex and, in some ways, non-comparable.
 - Neither seems likely to forgo subsidization.
 - Obviously, finding a way to reduce tension over such policies by, at a minimum, finding a common way to understand the subsidies and their spillovers is an essential task.
- This is made even more important as China is attempting to enter this market with its own subsidies that do not work the same way as either the European or US subsidies.

Varieties of Capitalism and Subsidies

- China as a “variety of capitalism”
 - Neither the Chinese Communist Party nor most of China’s trading partners would consider it a variety of capitalism (though state-capitalism is a variety).
 - And yet, whether we want to call China “capitalist” (of some variety) or simply “market-oriented” its policies permit comparison for legal and analytical purposes with other WTO members.
 - We have already noted that LMEs and CMEs organize their political economies very differently.
 - We should also recall that China’s great economic success stems in no small measure from reforms that rendered much of the decision-making for all intents and purposes capitalist (e.g. Naughton 1995, McMillan & Naughton 1996, Lardy 2014)
 - Furthermore, China has showed itself at least as willing as the US and the EU to play by WTO rules.

Varieties of Capitalism and Subsidies

- ❑ Just as the US and the EU actively engage in conflict over their varieties of subsidy policy, China's approach to subsidies (both for support of particular firms and for sectoral promotion) produces conflict.
 - ❑ Perhaps the most difficult case here relates to state-owned enterprises (SOEs)
 - Recall, that in WTO law subsidies must be granted by a “government or public body” and that SOE status in this regard is, at best, a matter of dispute.
 - In addition, the non-transparent relationship of SOEs to customers makes identifying the magnitude of economic benefit difficult.
-

Varieties of Capitalism and Subsidies

- Key elements of the current subsidy regime
 - ❑ National policies
 - Countervailing duties
-

The Current Subsidy Regime

- Subsidies in the WTO
 - The Subsidy & Countervailing Measure (SCM) Agreement
 - Export subsidies prohibited.
 - Other subsidies actionable via countervailing duties (CVDs) or dispute settlement (to address adverse trade effects)
 - Definition: Financial contribution/revenue otherwise due that is foregone by the government or a public body and must
 - confer benefit;
 - be specific;
 - cause material injury or serious prejudice
 - Motivation for subsidies irrelevant. WTO members do not care why a govt uses a subsidy
 - Focus only on potential trade effects. Welfare effects enter only implicitly
 - E.g. income support in the green box, not because of recognition of *national* welfare objectives, but presumed lack of trade effect

The Current Subsidy Regime

- Nonviolation complaints
- Gaps in rules:
 - Trade effects only: Rules do not cover investment incentives or services;
 - No retroactive remedies or private damages
 - Limited transparency—reliance on notification requirements has not proven effective
 - WTO disciplines on SOEs very limited.
 - Unclear definitions – e.g., what is a “public body”? SOEs not covered
 - Art XVII (STEs) only requires firms granted exclusive or special privileges in trading to abide by the nondiscrimination rules.

The Current Subsidy Regime

- How green was my subsidy: Rethinking the boxes
 - We distinguish between
 - Modalities of intervention
 - Objectives of intervention
 - The problem with the current system is that it seeks to infer objective from modality
 - Thus, allocation to a green, amber or red box is determined primarily by modality.
 - The problem is that, as we have just argued, across VoCs the link between objective and modality varies in ways that lead to conflicts that do not serve the purpose of the system well.

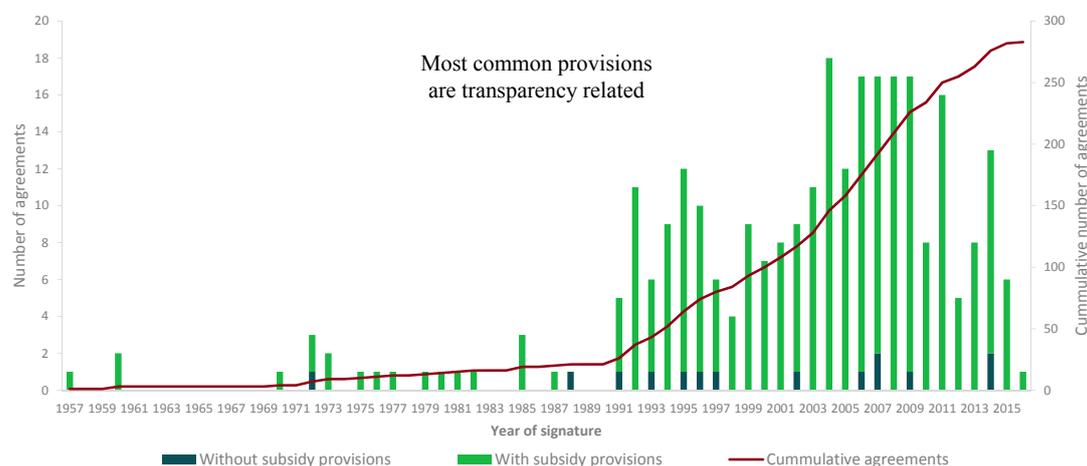
The Current Subsidy Regime

- It is precisely the unobservability of the objective of a subsidy, and the many legitimate ways that objectives can be linked to modalities necessitated by VoCs that renders a “black letter law” approach inappropriate.
 - There are, as a result, an equally wide variety of *inappropriate* objectives to be obscured.
 - The goal, then, is to construct a system that avoids the institutionalized chaos of a purely “diplomatic” approach while not attempting to construct a “judicial” approach that will surely fail.

The Current Subsidy Regime

■ PTAs, Clubs and Subsidies

- PTAs increasingly include subsidy provisions



The Current Subsidy Regime

- CPTPP: require that SOEs make purchases and sales on the basis of commercial considerations; specify that subsidies granted to SOEs, both direct fiscal transfers and indirect subsidies, are actionable and that signatories may not discriminate in favor of SOEs (i.e., they must apply the national treatment principle).
- CPTPP and other recent PTAs (e.g., USMCA) also include provisions requiring signatories to list their SOEs and publish data on measures used to assist them

The Current Subsidy Regime

- ❑ **Trilateral group discussions** (EU, Japan, US): expand the list of prohibited subsidies to include SOEs, open-ended financial guarantees, subsidies to insolvent or failing companies with no credible restructuring plan, and preferential pricing for inputs
- ❑ Questions:
 - Is this approach towards SOEs well-founded in terms of theory of economic policy?
 - Is there a solid evidence base for large negative welfare spillovers?
 - If so will it address the problem?

The Current Subsidy Regime

- ❑ **Lessons from the EU subsidy regime**
 - The EU incorporates: an archetypal LME (the UK); archetypal CMEs (Germany, Austria, Sweden); difficult mixed cases (France, Italy); as well as large countries in transition (Poland).
 - The subsidy regime in the EU needs to accommodate this wide range of systems.
 - How does it work?
 - Why does it work?

EU TFEU Art 107(2) on state aid

‘The following shall be compatible with the internal market:

- (a) aid having a social character granted to individual consumers;
- (b) aid to make good the damage caused by natural disasters or exceptional occurrences;
- (c) aid granted to the economy of certain areas of the Federal Republic of Germany affected by the division of Germany, in so far as such aid is required in order to compensate for the economic disadvantages caused by that division. Five years after the entry into force of the Treaty of Lisbon, the Council, acting on a proposal from the Commission, may adopt a decision repealing this point.’

EU TFEU Art 107(3): discretionary exemption

The following **may** be considered to be compatible with the internal market:

- (a) aid to promote the economic development of areas where the standard of living is abnormally low or where there is serious underemployment, and of the regions referred to in Article 349, in view of their structural, economic and social situation;
- (b) aid to promote the execution of an important project of common European interest or to remedy a serious disturbance in the economy of a Member State;
- (c) aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest;
- (d) aid to promote culture and heritage conservation where such aid does not affect trading conditions and competition in the Union to an extent that is contrary to the common interest;
- (e) such other categories of aid as may be specified by decision of the Council on a proposal from the Commission.

On Nationalism

- Pride in the past, current and expectations of future accomplishments of one's nation
 - Is a sign of a healthy civil society, and
 - Plays an essential role in legitimation of the policies of a government
 - The problem is that admirable nationalism of this sort is easily captured by individuals and movements whose fundamental purpose is not positive.
 - The risk of this sort of capture is greatest in times of economic transition and uncertainty.
 - The link between authoritarian populism and this sort of nationalism is a well-established fact (e.g. Eichengreen)
-

On Nationalism

- There is a currently widespread trend of this second sort
 - Economic nationalism
 - Geopolitical nationalism
 - This threatens the liberal order that has underwritten a historically unprecedented period shared peace and prosperity
 - In particular, the US and China have both reaped profound benefits in nearly all aspects of private and public life from this system.
 - And in both countries, we see unfortunate tendencies toward both nationalism and authoritarian populism.
-

On Nationalism

- It behooves all of us to remember the lessons of the 1920s and 1930s.
 - In particular, the attempt to construct a liberal order in that period failed in no small part as a result of broadly isolationist nationalism.
 - As the system crumbled, domestic liberal systems were also threatened.
 - This is understandable in the aftermath of one horrific global conflict, but
 - We need to recall that the consequence was a second, even more horrific conflict.

What a Liberal System Does

- At its core, whether internationally or domestically, a liberal system seeks to substitute rules for power.
 - Such systems, both domestically and internationally, do not eliminate asymmetries of power or the consequences of such asymmetries.
 - Instead, they seek systemic legitimation (including the presence of those asymmetries) by constraining the operation of that power.

What a Liberal System Does

- Being based on sovereign nations and thus lacking centralized enforcement, the liberal international system relies on a willingness of the powerful to be constrained by the rules of that system.
 - In exchange for such constraint, the most powerful members of the system have an asymmetric say in the creation of the rules—as constrained by the broadly shared commitment to liberal norms.

What a Liberal System Does

- A system of this sort is, in principle, able to accommodate rising powers without resort to war.
 - This is obviously a good thing.
 - However, for this to work:
 - Rising powers must be willing to assert their power in the context of the system; and
 - Incumbent powers must be willing to recognize the legitimacy of the claims of rising powers to influence.
 - Unfortunately, economic and geopolitical nationalism (to say nothing of authoritarian populism) create a strong barrier to the normal operation of a liberal system.

What Is To Be Done?

According to a Liberal Internationalist

- We need to embrace liberal nationalism
 - The nation-state is the only game in town for broadly democratic legitimation (the EU is an interesting partial exception, but too special to be a general model for current politics).
 - Nationalism plays an essential role in the legitimation of political decisions of sovereign nations.
 - We need to reject illiberal nationalism in all its forms.
-

What Is To Be Done?

According to a Liberal Internationalist

- We need to recognize that liberal internationalism is not inconsistent with liberal nationalism.
 - I can be a proud citizen of the US while being committed to the creation of an effective liberal international system.
 - Just as a liberal domestic system requires constant renegotiation of the rules (see e.g. Polanyi), so it is for a liberal international system (see e.g. Ruggie).
 - Such renegotiation involves hard bargaining.
-

What Is To Be Done?

According to a Liberal Internationalist

- At this point in time:
 - China needs to take up the mantle of leadership in the liberal international system.
 - Note that, by this, I do not mean that China must meekly accept rules as they are;
 - Rather, I mean that China must lead in creating new rules for a system that has not accommodated
 - New global production structures;
 - Planetary threats of environmental crisis; and
 - The existence of China as a *world* power.
 - China should “graduate” as a developing country
 - In fact, this is not practically a big deal since China does not have any S&D rights as a result of its accession commitments.
 - One singular area in which this leadership could be quickly felt is on the creation of new rules for subsidies.

What Is To Be Done?

According to a Liberal Internationalist

- The US and the EU, and all other active participants in the liberal international system, need to recognize China’s legitimate participation in that system as a power.
 - This means less talk about “containing” China and more talk about “engaging with” China as an equal.
 - This means recognizing that the rules of the liberal system will change in ways that, while remaining liberal, will reflect the fact that China’s system is different from that in the US and the various European nations (whose differences from one another are themselves profound).
 - More specifically, this means recognizing that reforming the current subsidy rules are in the interest of the system and all parties to that system.

Towards A New Subsidy Regime

■ Two premises

1. The unobservability of the objective of a subsidy, and the many legitimate ways that objectives can be linked to modalities necessitated by differences in economic systems of countries renders a “black letter law” approach inappropriate.
2. The goal should be to construct a system that avoids the uncertainty and arbitrariness of a purely “diplomatic” approach while not attempting to construct a “judicial” approach that seeks to change the economic system (“variety of capitalism”) of a country

Towards A New Subsidy Regime

■ Additional premises

3. China’s approach to subsidies (both for support of particular firms and for sectoral promotion) is not a new challenge.
 - Same pertains to other countries: e.g., Airbus-Boeing dispute
 - Specific rules have been negotiated before, e.g., OECD Export Credit Arrangement
 - The EU incorporates archetypal liberal, cooperative, and mixed regimes as well as large countries in transition (Poland). It accommodates this wide range of systems
4. Development creates challenges beyond those generally incorporated in the framework we have been developing with application to leading nations.

Towards A New Subsidy Regime

- Desirable elements of a new subsidy regime
 - Transparency
 - While it is certainly true that the process of rule administration (i.e. not “adjudication”) should be transparent, the point here is that national subsidy regimes need to be transparent.
 - One key element of such a regime is to agree on comparable measures of subsidy that can be notified to the members of the regime to create the basis of ongoing consultation.
 - Complement reliance on notification with technical assistance and compilation of data from IMF, OECD and use of technology, e.g., web scraping (as done by GTA).

Towards A New Subsidy Regime

- Agreement on basic principles and rules of thumb that help identify types of interventions that may give rise to significant spillovers and those that do not
 - Consider global welfare dimension, not just trade effects
 - Recognize changes in global production
 - Revisit salience of “national treatment” and WTO focus on “discrimination”
 - Example: as GVCs span firms in different countries, it may be more appropriate to focus on the effects of subsidies on both the structure and location of production relative to the GVCs as a whole
 - These rules of thumb must be clear and robust across national policy regimes and issue areas.
 - Because the global system lacks the sort of potential for legislative adjustment of rules that provide legitimation to the judicial process, this cannot involve “black letter law”.
 - That is, these rules must be flexible in the face of difference, but still permit agreement on when a violation has occurred.

Towards A New Subsidy Regime

- ❑ Deliberations that are informed by neutral technical economic analysis of effects of subsidy policies and/or behavior of entities with significant market power
 - Need to apply economics / competition policy thinking that considers issues like market power, existence of barriers to (re-) entry, welfare impacts
 - For example, in the context of SOEs, develop a competition policy informed approach:
 - ❑ behavior and effects as opposed to ownership/control.
 - ❑ Put focus on anti-competitive behavior and subsidies.
 - And needs to be dynamic – adjust to new learning and changing market structures

Towards A New Subsidy Regime

- ❑ First diagnose, then treat: when are subsidies a problem?
 - The theory of economic policy tells us that subsidies are often the preferred policy for dealing with both distortions and non-economic objectives
 - Understanding whether interventions are effective is important
 - ❑ E.g., research shows SOEs less profitable/productive than private firms in same sector
 - Also important to consider spillovers on other countries
 - ❑ Subsidies may be beneficial in addressing market failures – including at global level. Negative effects on competitors may be offset by positive welfare effects
 - ❑ Measuring spillovers is difficult
 - A subsidy may improve the terms of trade of an importing country (contra to a tariff) but adversely affect competing firms

Toward a New Subsidy Regime

- Among the prime beneficiaries of such a regime are the global producers (i.e. the very large firms engaged in fully global sourcing and sales). Buy-in involves
 - Recognition of the benefits of a global regime; and
 - Recognition of the ways they will be constrained by the regime.

Towards A New Subsidy Regime

- Building an epistemic community around subsidies
 - An epistemic community is a network of professionals that have (Haas, 1992):
 - *a shared set of normative and principled beliefs*, which provide a value-based rationale for the social action of community members;
 - *shared causal beliefs*, derived from their analysis of practices to address problems in their domain, that serve as the basis for understanding linkages between possible policy actions and desired outcomes;
 - *shared notions of validity*—criteria for weighing and validating knowledge in the domain of their expertise; and
 - *a set of common practices*—associated with the problems to which their professional competence is directed with a view to enhance welfare

Towards A New Subsidy Regime

- Such epistemic communities can aid in international cooperation among states that share (at least some) common goals. We observe this in a number of areas:
 - Central bank policy (BIS, Basel committee—Kapstein 1992)
 - Environmental policy (Speth & Haas 2006)
 - Global warming (Abbott & Snidal 2013)
 - Whaling (Peterson 1992)
 - Product safety (e.g. Codex Alimentarius, UNECE, airline safety)
 - Intellectual property (Morin 2014)
 - International security (Cross 2013)
- These can be informal organizations (e.g. Abbott & Snidal 2010, Vabulas & Snidal 2013).
- Important role for private standard setting organizations (Murphy & Yates 2009, 2019), NGOs (Willems 2010) and various combinations (Abbott & Snidal 2009)

Towards A New Subsidy Regime

- With respect to subsidy policy, there is no such community – but many professionals (primarily lawyers and economists) work on subsidy related matters in
 - National Ministries of Finance
 - National competition agencies and DG Competition in the EU Commission
 - Specialized agencies (e.g., the Australian Productivity Commission)
 - International organizations – notably IMF and OECD
- A key role such a community can play is to overcome the “lawyer—economist divide” in terms of thinking and approaches to addressing spillover effects of subsidies
 - An example where this happened is antitrust policy in the US which shifted over time to one where economic analysis is used by lawyers and judges on a routine basis
 - This case has lessons for trade policy in general and subsidy policy in particular

Towards A New Subsidy Regime

- ❑ One key output and a potential foundation for cooperation and legitimation would be the creation of commonly agreed forms of information.
 - This information sharing is the sort of cooperative enterprise that might help build a perception of common purpose.
 - Success in this sort of task tends to legitimate the overall programme (this is just functionalist integration theory at work).
 - Example: OECD Producer Support Estimates (PSEs) for agriculture
- ❑ Both data collection and analysis function needs to be adequately funded. This must be additional resources – cannot simply delegate to existing organizations through G20
 - Need Chinese leadership: in supporting collection, sharing and analysis of data; and in providing the necessary resources

Towards A New Subsidy Regime

- In addition to provision of globally comparable and agreed upon data on government support to industries, the other key component of such a regime is a set of agreed upon guidelines for application of subsidies.
 - ❑ These will not generally be “black letter law” as too much of this is more conducive to conflict than cooperation on this difficult issue.
 - ❑ One goal is to keep this as much as possible out of the WTO dispute process
- Such guidelines need to recognize both
 - ❑ The common and/or accepted legitimate goals pursued through use of subsidies &
 - ❑ A basic acceptance that these will be pursued in potentially very different ways.

Towards A New Subsidy Regime

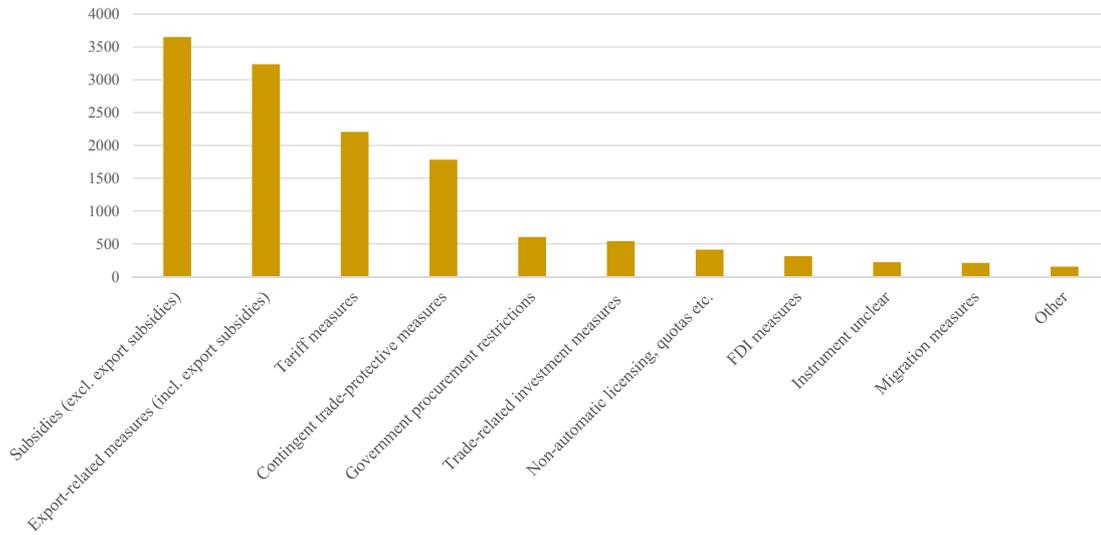
- ❑ Need an institutional focal point. WTO is the obvious candidate but lacks capacity.
 - Possible model: the International Competition Network (ICN), an informal grouping of agencies that cooperate in areas of competition policy
 - ❑ A working group that brings together interested agencies (China would need to join)?
 - Any effort should be anchored in the WTO and comprise a collective effort in terms of analytical and data inputs from organizations such as the IMF, OECD and EU
 - ❑ Bring in finance ministries as they have clear stake and are focused on the economy, not specific sectors
 - ❑ Include specialized bodies such as the GTA and links to business associations – which are an important source of information

Subsidies, SOEs and Policy Spillovers

- Background
 - ❑ More national policies generating (perceived) spillovers, with subsidies a big part of the story
 - “Make it here” as opposed to “made in the world” – China, India, and the US
 - ❑ Geopolitical/geo-economic systemic competition/conflict
 - China Inc. – systemic frictions
 - ❑ Technological change; servicification & growth of the digital economy
 - National security; privacy; consumer protection
 - ❑ Global commons – climate change
 - ❑ Basic tension: subsidies can have competition-distorting effects but may also be efficient/justified in addressing (global) market failures

Subsidies, SOEs and Policy Spillovers

Global Use of Trade Distorting Measures
(Numbers, 2009-2018)



Source: Global Trade Alert

Session II: Global Spillovers and National Policies

Climate Change: Lessons for Plurilateral Cooperation

Prof. Charles Sabel (Columbia Law School)



Session II: Global Spillovers and National Policies

Consumer Nationalism and Multilateral Trade Cooperation

Prof. Chrysostomos Tabakis (KDI School)



Consumer Nationalism and Multilateral Trade Cooperation

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Introduction

- Revival of economic nationalism in recent years.
- Prominent examples: election of Trump on platform “Make America Great Again” and outcome of Brexit referendum.
- Serious threat to liberal international order that has dominated the world since World War II. Key elements: economic openness and multilateral institutions.

- Impact of **governments'** nationalism on the multilateral trading system → standard political-economy models of trade policy.
- Impact of **consumer** nationalism on the multilateral trading system → no formal model exists.
- Aim of this paper is to explore the implications of consumer nationalism for multilateral tariff cooperation.

Consumer Nationalism/Ethnocentrism

- Phenomenon of consumer bias against foreign products and in favor of domestic ones.
- Shimp and Sharma (1987, p. 280): For ethnocentric consumers, “purchasing imported products is wrong because, in their minds, it hurts the domestic economy, causes loss of jobs, and is plainly unpatriotic,” whereas for non-ethnocentric consumers, “foreign products are objects to be evaluated on their own merits without consideration for where they are made.”
- Sharma et al. (1995, p. 27): For highly ethnocentric consumers, “[n]ot buying foreign imports is good, appropriate, desirable, and patriotic; buying them is bad, inappropriate, undesirable, and irresponsible.”

- A large number of empirical studies have demonstrated that consumer ethnocentrism has a significant impact on consumers' buying intentions and purchase behavior toward domestic and imported products (for example, Shimp and Sharma, 1987; Herche, 1992; Nielsen and Spence, 1997; Watson and Wright, 2000; Shoham and Makovec Brenčič, 2003; Nguyen et al., 2008).
- Cross-country differences in consumer ethnocentrism (for instance, Good and Huddleston, 1995; Pereira et al., 2002; Han, 2017; Han and Won, 2018).

This Paper

- Two-country, two-firm model.
- Firms produce horizontally differentiated products and engage in Bertrand price competition.
- Consumer nationalism is modeled as a demand shifter.
- Asymmetry in consumer nationalism between the two trade partners.
- Governments and firms interact in an infinitely repeated two-stage game—stage 1: tariffs; stage 2: prices.

- Self-enforcing cooperative trade agreements.

Main Results

1. The non-cooperative Nash tariff of a given country is decreasing in the degree of domestic consumer nationalism.
2. The country with the (relatively more) nationalist consumers is able to maintain more liberal trade policies than its trade partner in our repeated-game setting.
3. For a sufficiently low (high) discount factor, the most cooperative equilibrium tariff of the country with the nationalist consumers is *decreasing* (increasing) in the level of its consumers' nationalism.

4. As far as the country with the non-nationalist consumers is concerned, its most cooperative equilibrium tariff is always increasing in the degree of nationalism characterizing its trade partner's consumers.
- These results extend to the more general case in which there is a home bias in consumption or border effects on trade flows (for example, McCallum, 1995; Trefler, 1995; Chen, 2004; Brülhart and Trionfetti, 2009; Mika, 2017).

Literature Review

- Eriksson (2011) explores theoretically the ramifications of patriotic consumer preferences for agricultural policy—in the form of an import tariff or a production subsidy—in the context of a small open economy and using the median-voter approach.
- Michaels and Zhi (2010) examine empirically the deterioration of relations between the United States and France during 2002–2003 over the use of military force against Iraq, and estimate the impact of this deterioration on their bilateral trade.
- Other papers look at reverse question, i.e., how international trade affects countries' level of nationalism: Lan and Li (2015), Colantone and Stanig (forthcoming).

- A number of papers investigate the determinants of individual attitudes toward trade, including the role played (or not) by nationalist views or feelings among individuals in shaping their trade preferences: Mayda and Rodrik (2005), Mansfield and Mutz (2009), Rho and Tomz (2017).

The Model

- Two countries: Home (H) and Foreign (F).
- One firm in each country: firm h in Home and firm f in Foreign.
- Firms produce **horizontally differentiated** products.
- Segmented markets; Bertrand price competition in both markets.

- Demand for product $i \in \{h, f\}$ in country $j \in \{H, F\}$:

$$q_i^j(p_i^j, p_{-i}^j) = \alpha_i^j - \beta_i^j p_i^j + \gamma_i^j p_{-i}^j$$

- $\gamma_i^j > 0$ since goods are (imperfect) substitutes.
 - $\beta_i^j > \gamma_i^j \Rightarrow$ demand more responsive to own-price changes than cross-price changes.
- Constant marginal costs: c_h and c_f . No fixed cost of production.
 - Assumption: $\alpha_i^j > \beta_i^j c_i$.

- Two-stage game:

STAGE 1 The two governments simultaneously pick specific tariffs so as to maximize national welfare.

STAGE 2 The two firms simultaneously select their prices in both markets so as to maximize their aggregate profit.

One-Shot Game: Bertrand Competition

- τ^j : import tariff imposed by country j .

- Firms' aggregate profits:

$$\pi_h = (p_h^H - c_h) q_h^H(p_h^H, p_f^H) + (p_h^F - c_h - \tau^F) q_h^F(p_h^F, p_f^F)$$

$$\pi_f = (p_f^F - c_f) q_f^F(p_f^F, p_h^F) + (p_f^H - c_f - \tau^H) q_f^H(p_f^H, p_h^H)$$

- $\frac{\partial^2 \pi_i}{\partial p_i^j \partial p_{-i}^j} = \gamma_i^j > 0 \Rightarrow p_i^j$ and p_{-i}^j are strategic complements.

- Bertrand–Nash equilibrium prices:

$$p_{h_{Nash}}^H = \frac{2\beta_f^H (\alpha_h^H + \beta_h^H c_h) + \gamma_h^H [\alpha_f^H + \beta_f^H (c_f + \tau^H)]}{4\beta_h^H \beta_f^H - \gamma_h^H \gamma_f^H}$$

$$p_{h_{Nash}}^F = \frac{2\beta_f^F [\alpha_h^F + \beta_h^F (c_h + \tau^F)] + \gamma_h^F (\alpha_f^F + \beta_f^F c_f)}{4\beta_f^F \beta_h^F - \gamma_f^F \gamma_h^F}$$

$$p_{f_{Nash}}^F = \frac{2\beta_h^F (\alpha_f^F + \beta_f^F c_f) + \gamma_f^F [\alpha_h^F + \beta_h^F (c_h + \tau^F)]}{4\beta_f^F \beta_h^F - \gamma_f^F \gamma_h^F}$$

$$p_{f_{Nash}}^H = \frac{2\beta_h^H [\alpha_f^H + \beta_f^H (c_f + \tau^H)] + \gamma_f^H (\alpha_h^H + \beta_h^H c_h)}{4\beta_h^H \beta_f^H - \gamma_h^H \gamma_f^H}$$

- Equilibrium quantities:

$$q_{hNash}^H = \frac{\beta_h^H \{2\alpha_h^H \beta_f^H - c_h (2\beta_h^H \beta_f^H - \gamma_h^H \gamma_f^H) + \gamma_h^H [\alpha_f^H + \beta_f^H (c_f + \tau^H)]\}}{4\beta_h^H \beta_f^H - \gamma_h^H \gamma_f^H}$$

$$q_{hNash}^F = \frac{\beta_h^F [2\alpha_h^F \beta_f^F - (2\beta_f^F \beta_h^F - \gamma_f^F \gamma_h^F) (c_h + \tau^F) + \gamma_h^F (\alpha_f^F + \beta_f^F c_f)]}{4\beta_f^F \beta_h^F - \gamma_f^F \gamma_h^F}$$

$$q_{fNash}^F = \frac{\beta_f^F \{2\alpha_f^F \beta_h^F - c_f (2\beta_f^F \beta_h^F - \gamma_f^F \gamma_h^F) + \gamma_f^F [\alpha_h^F + \beta_h^F (c_h + \tau^F)]\}}{4\beta_f^F \beta_h^F - \gamma_f^F \gamma_h^F}$$

$$q_{fNash}^H = \frac{\beta_f^H [2\alpha_f^H \beta_h^H - (2\beta_h^H \beta_f^H - \gamma_h^H \gamma_f^H) (c_f + \tau^H) + \gamma_f^H (\alpha_h^H + \beta_h^H c_h)]}{4\beta_h^H \beta_f^H - \gamma_h^H \gamma_f^H}$$

- Increase in $\tau^H \Rightarrow p_{hNash}^H$ and p_{fNash}^H increase. But: $\frac{\partial p_{hNash}^H}{\partial \tau^H} < \frac{\partial p_{fNash}^H}{\partial \tau^H}$.

- $\frac{\partial q_{hNash}^H}{\partial \tau^H} > 0$ while $\frac{\partial q_{fNash}^H}{\partial \tau^H} < 0$.

One-Shot Game: Tariff Equilibrium

- Country j welfare defined as sum of consumer surplus, domestic firm's aggregate profit, and tariff revenue.

- Welfare of Home:

$$\begin{aligned}
 W^H(\tau^H, \tau^F) &= \int_{p_h^H}^{\frac{\alpha_h^H + \gamma_h^H p_f^H}{\beta_h^H}} q_h^H(p_h^H, p_f^H) dp_h^H \\
 &+ \int_{p_f^H}^{\frac{\alpha_f^H + \gamma_f^H p_h^H}{\beta_f^H}} q_f^H(p_f^H, p_h^H) dp_f^H \\
 &+ \pi_h + \tau^H q_f^H(p_f^H, p_h^H)
 \end{aligned}$$

- Welfare of Foreign:

$$\begin{aligned}
 W^F(\tau^F, \tau^H) &= \int_{p_f^F}^{\frac{\alpha_f^F + \gamma_f^F p_h^F}{\beta_f^F}} q_f^F(p_f^F, p_h^F) dp_f^F + \int_{p_h^F}^{\frac{\alpha_h^F + \gamma_h^F p_f^F}{\beta_h^F}} q_h^F(p_h^F, p_f^F) dp_h^F \\
 &+ \pi_f + \tau^F q_h^F(p_h^F, p_f^F)
 \end{aligned}$$

- Both countries have a dominant strategy \Rightarrow each country's best-response tariff independent of tariff imposed by its trade partner. **Intuition:** Segmented markets + constant marginal costs.
- Countries' best-response tariffs constitute Nash tariff equilibrium: (τ_N^H, τ_N^F) .
- In a perfectly symmetric world:

$$\tau_N^H = \tau_N^F = \frac{\beta(2\beta + \gamma)(2\beta + 3\gamma)[\alpha + c(\gamma - \beta)]}{12\beta^4 - 11\beta^2\gamma^2 + \gamma^4}$$

Nash Tariff Equilibrium and Consumer Nationalism

- Asymmetry in consumer nationalism between Home and Foreign (in line with the literature on consumer ethnocentrism).
- Nationalist consumer preferences only in Home.
- $\alpha_h^H = \tilde{\alpha}_h^H + k$ and $\alpha_f^H = \tilde{\alpha}_f^H - k$, where $k > 0$ captures the degree of consumer nationalism in Home.

- Assuming β_i^H “large” relative to γ_i^H and γ_{-i}^H (reasonable assumption to make):

$$\frac{\partial \tau_N^H}{\partial k} < 0$$

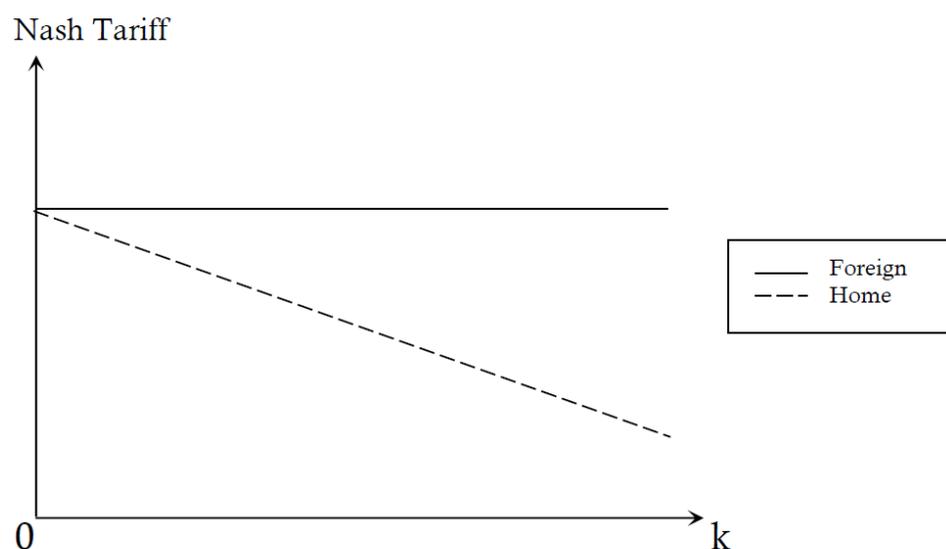
- **Dominant** force driving this: An increase in k lowers, ceteris paribus, Home import demand (to the benefit of firm h) \Rightarrow dampening effect on tariff-revenue gain for Home from marginally raising τ^H .

- By contrast:

$$\frac{\partial \tau_N^F}{\partial k} = 0$$

- **Intuition:** Segmented markets + constant marginal costs.

Nash Tariff Equilibrium



Multilateral Tariff Cooperation and Consumer Nationalism

- Infinitely repeated interaction between Home and Foreign.
- Nationalist consumer preferences only in Home.
- Tariffs chosen in each period with perfect information with respect to all past tariff choices.
- $\delta \in (0, 1)$: discount factor.

- Focus on **self-enforcing** cooperative agreements.
- Possibility of firm collusion is excluded (for tractability).
- Consider **asymmetric** cooperative equilibria (with grim-trigger strategies):
 - a) along the equilibrium path, Home and Foreign select, respectively, $\tau_C^H < \tau_N^H$ and $\tau_C^F < \tau_N^F$ in each period; and
 - b) if at any point in the game a defection occurs, then both countries revert from the following period onwards to non-cooperative Nash play.
- Focus on **most cooperative** equilibrium tariffs: $(\hat{\tau}_C^H, \hat{\tau}_C^F)$.

- No-defect conditions:

$$\text{(Home)} \quad \Omega^H(\tau_C^H, \tau_C^F) \leq \frac{\delta}{1-\delta} \omega^H(\tau_C^H, \tau_C^F) \quad (1)$$

$$\text{(Foreign)} \quad \Omega^F(\tau_C^F, \tau_C^H) \leq \frac{\delta}{1-\delta} \omega^F(\tau_C^F, \tau_C^H) \quad (2)$$

– $\Omega^j(\tau_C^j, \tau_C^{-j}) \equiv W^j(\tau_N^j, \tau_C^{-j}) - W^j(\tau_C^j, \tau_C^{-j})$: one-time welfare gains from cheating.

– $W^j(\tau_C^j, \tau_C^{-j}) - W^j(\tau_N^j, \tau_N^{-j}) \equiv \omega^j(\tau_C^j, \tau_C^{-j})$: per-period value of cooperation.

- To obtain $(\hat{\tau}_C^H, \hat{\tau}_C^F)$, solve simultaneously Equations (1)–(2) for smallest tariffs that give equalities.

- Model is rather complicated \Rightarrow numerical analysis.

- Assumptions in numerical analysis:

i) $\tilde{\alpha}_i^H = \alpha_i^F = \alpha$

ii) $\beta_i^j = \beta$

iii) $\gamma_i^j = \gamma$

iv) $c_i = c$

v) $\alpha_h^H = \tilde{\alpha}_h^H + k = \alpha + k$ and $\alpha_f^H = \tilde{\alpha}_f^H - k = \alpha - k \Rightarrow \alpha_h^H > \alpha_i^F > \alpha_f^H$

vi) $\beta > 2\gamma$

- **Result 1:** $\hat{\tau}_C^H < \hat{\tau}_C^F$ for all $k > 0 \Rightarrow$ the country with the nationalist consumers is able to sustain more liberal trade policies than its trade partner in our infinitely repeated two-stage game.

- **Intuition for result 1:**

- Consumer nationalism in Home affects **negatively** its per-period benefit from multilateral cooperation, ω^H .
- Consumer nationalism in Home affects **negatively** Foreign's per-period benefit from multilateral cooperation, ω^F .
- Consumer nationalism in Home affects **negatively** its one-time gains from defection, Ω^H .
- Consumer nationalism in Home has **no** effect on Foreign's one-time gains from defection, Ω^F .

- **Result 2:** For "low" δ , $\frac{\partial \hat{\tau}_C^H}{\partial k} < 0 \Rightarrow$ for "low" δ , the most cooperative equilibrium tariff of Home not only is lower than the one of Foreign, but also is **decreasing** in the degree of Home consumers' nationalism. Reverse holds in the case of "high" δ .

- **Intuition for result 2:**

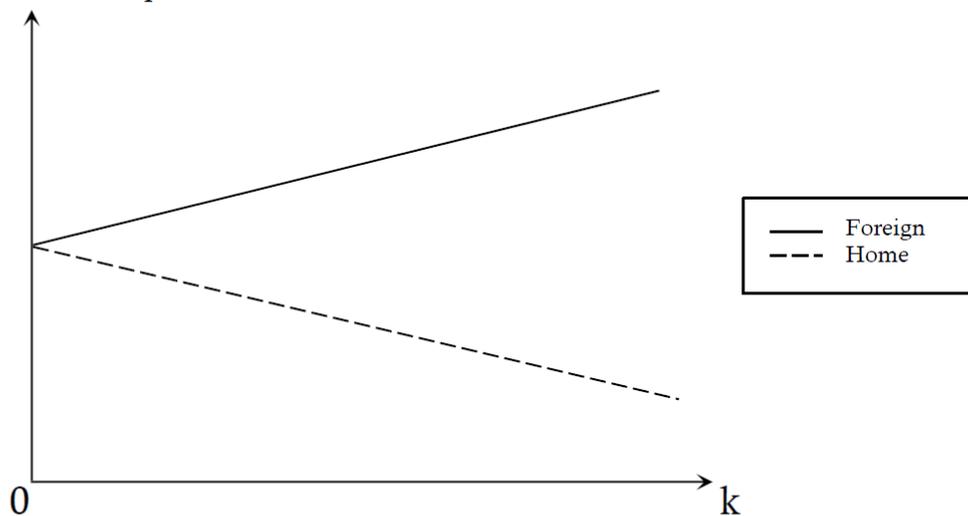
- Consumer nationalism in Home affects negatively both Ω^H and ω^H .
- Discounted value of future cooperation (right-hand side of Home's no-defect condition) is a function of **both** ω^H and δ .
- Thus, for "low" δ , negative impact of Home consumers' nationalism on Ω^H is the **dominant** force at work. But reverse holds in the case of "high" δ .

- **Result 3:** $\frac{\partial \hat{\tau}_C^F}{\partial k} > 0$ for all δ .

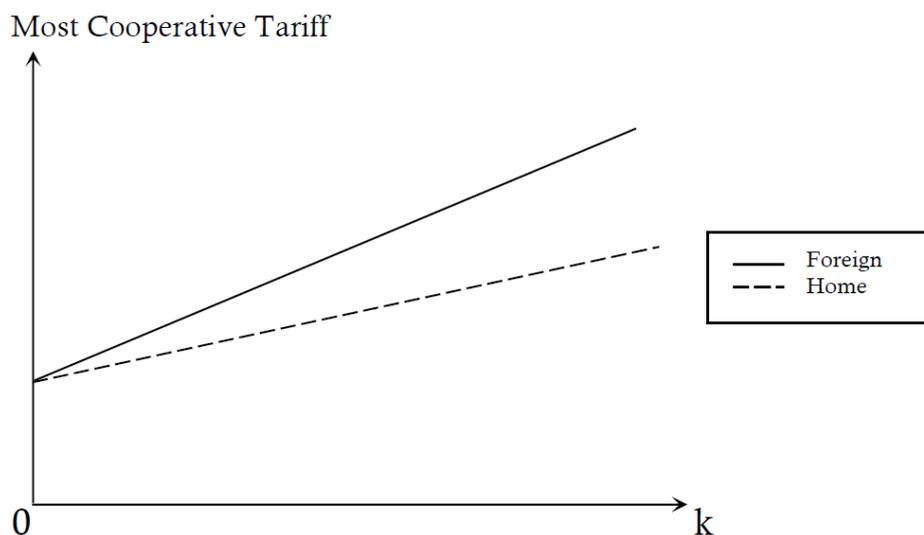
- **Intuition for result 3:** Home consumers' nationalism only affects (negatively) ω^F .

Asymmetric Most Cooperative Equilibrium: Low Discount Factor

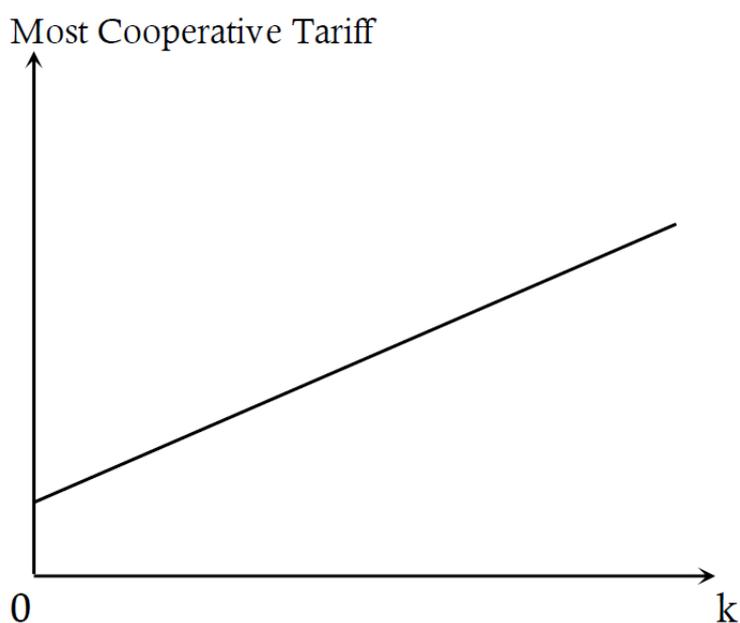
Most Cooperative Tariff



Asymmetric Most Cooperative Equilibrium: High Discount Factor



Symmetric Most Cooperative Equilibrium



Some Empirical Evidence

Dependent variable is difference in AD initiations or measures

| VARIABLES | (1) AD_Measures | (2) AD_Initiations | (3) AD_Measures | (4) AD_Measures | (5) AD_Initiations |
|--|----------------------|------------------------|-------------------------|-------------------------|------------------------|
| mean diff in CN | -5.796*** (1.987) | -7.459*** (2.049) | -3.158*** (0.783) | -2.807*** (0.849) | -2.070* (1.087) |
| ln(Imports) _{i,t-1} | | 1.445** (0.661) | 0.224 (0.253) | 0.0736 (0.224) | 0.177 (0.144) |
| Import growth _{i,t/t-1} | | 0.0850*** (0.0268) | 0.0287*** (0.0103) | 0.00971 (0.00884) | 0.00515 (0.00577) |
| ln(Imports) _{j,t-1} | | -0.297 (0.732) | -0.295 (0.280) | 0.0124 (0.238) | 0.126 (0.157) |
| Import growth _{j,t/t-1} | | -0.0820*** (0.0202) | -0.0212*** (0.00770) | -0.0241*** (0.00634) | -0.00477 (0.00460) |
| Exporter's GDP growth _{j,t/t-3} | | -0.00493 (0.00676) | -0.00242 (0.00258) | -0.00211 (0.00213) | 0.000964 (0.00139) |
| Importer's GDP growth _{i,t/t-3} | | 0.00473 (0.00367) | 0.00183 (0.00140) | 3.40e-05 (0.00118) | 0.000290 (0.000783) |
| ln(Real exchange rate) _{i,t-1} | | 1.309*** (0.352) | 0.460*** (0.135) | -3.746*** (1.310) | -0.0814 (0.845) |
| ln(Real exchange rate) _{j,t-1} | | 0.0684 (0.291) | 0.0160 (0.111) | -0.00171 (0.0897) | -0.0869 (0.0582) |
| Constant | 0 (0.934) | -22.42 (23.82) | 3.628 (9.106) | -0.550 (8.130) | -8.053 (5.391) |
| Observations | 296 | 225 | 225 | 225 | 225 |
| R-squared | 0.028 | 0.221 | 0.193 | 0.540 | 0.976 |
| Controls | NO | YES | YES | YES | YES |
| Importer FE | NO | NO | NO | YES | YES |
| Exporter FE | NO | NO | NO | YES | YES |
| Year FE | NO | NO | NO | YES | YES |

Conclusions

- We have presented the first theoretical analysis of the implications of consumer nationalism for multilateral tariff cooperation.
- The country with the (relatively more) nationalist consumers can sustain more liberal trade policies than its trade partner in a repeated-game setting.
- Moreover, its most cooperative equilibrium tariff is decreasing (increasing) in the level of its consumers' nationalism, provided that countries are relatively impatient (patient).

- On the other hand, asymmetric consumer nationalism across countries produces an anti-cooperation effect on the incentives of the country with the non-nationalist consumers.
- Thus, with respect to countries' ability to multilaterally cooperate, asymmetric consumer nationalism between the two trade partners has more pronounced adverse effects on the one with the non-nationalist consumers, rather than vice versa.
- Overall effect of asymmetric consumer nationalism on multilateral trade cooperation is negative or ambiguous.
- Interesting possibility: Surge in consumer nationalism around the globe ⇒ eruption of multilateral trade war fueled **primarily** by protectionist actions taken by the countries with the **non-nationalist** consumers.

Session III: The Devil is in the Detail – Rules of Origin

Rules of Origin and Economic Costs

Dr. Chul Chung (Senior Vice President, Korea Institute for Int’l Economic Policy)



Session III: The Devil is in the Detail – Rules of Origin

Modeling Rules of Origin

Dr. William Powers (ITC)



A Comprehensive Analysis of Rules of Origin in U.S. Trade Agreements

2019–20 Korea-U.S. Policy Dialogue

January 10, 2020

William Powers

Ricky Ubee

U.S. International Trade Commission

Disclaimer: This paper solely represents the opinions and professional research of its individual authors. It does not necessarily represent the views of the U.S. International Trade Commission or any of its individual Commissioners.

Motivation

- Rules of Origin (ROO) typically not a high-profile trade policy topic
- USMCA automotive ROO brought attention to topic
- Effects of ROO are well documented and widespread
 - Multiple sectors: textiles and apparel, plastics, pharma, electronics, etc.
 - Multiple agreements: NAFTA, EU Regional Trade Agreements (RTAs), ASEAN
- Limited coverage of product-specific ROO data
- Our paper provides first comparison of ROO in all U.S. agreement; also, a focus on trade in value added

Effects of ROO on trade and trade patterns

3

Effects of ROO in literature: costs

- ROO raise costs and reduce the volume and variety of goods trade
- Average ROO cost of 2–5%, though vary considerably by type of ROO, country, and agreement; some estimates exceed 30%
- ROO restrictiveness indexes (Estevadeordal, 2000; Cadot et al., 2006a; Harris, 2007; Kelleher, 2013)
- ROO restrictiveness varies by ROO type (Carrere and de Melo, 2005; Cadot et al., 2005, Kelleher, 2013)
 - Technical most restrictive
 - RVC may be lower cost in combination with other requirements (Cadot and Ing, 2016)
- Product-specific ROO literature detailed, data intensive, relies on relatively few agreements

4

Effects of ROO in literature: trade patterns

- ROO affect the pattern of trade
 - Can decrease trade in final goods and boost trade in inputs (Carrere and de Melo, 2004; Cadot et al., 2005, 2006; Estevadeordal and Suominen, 2005)
 - ROO more stringent in final goods than intermediate inputs
 - ROO increase returns to exporters of required inputs
 - Concentrate trade within regional blocs; reduce trade in intermediate inputs with third-countries (Conconi et al., 2018)
- Regime-wide flexibility and harmonization of ROO can expand trade
 - Cumulation and de minimis rules expand trade; estimated effects can be large but vary by region and direction of trade (Estevadeordal and Suominen, 2004, 2005; Park and Park, 2011; Bombarda and Gamberoni, 2013; Andersson, 2016)
 - Harmonization can increase trade (Hayakawa and Laksanapanyakul, 2017)

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Effects of ROO in literature: Limitations

- Utilization of ROO depends on individual firm characteristics (Bombarda and Gamberoni, 2013; Keck and Lendle, 2012)
 - Yet no studies have employed firm-level data
- Regional value content is a major ROO criteria
 - Yet no studies have examined whether higher VA in exports raises ROO utilization or trade under ROO (Cadestin et al., 2016 is only use of VA)
- Lack of harmonization increases ROO costs
 - Yet we have no global product-specific databases, and
 - Few large-scale comparisons (Estevadeordal and Suominen, 2004; Cadestin et al., 2016)

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Comparison of ROO in U.S. agreements

7

Major categories of ROO

- **Change in Tariff Classification (CTC):** A requirement that a product be processed to the point of changing tariff lines at either the chapter (HS 2-digit), heading (HS 4-digit), or subheading (HS 6-digit) level.
- **Regional Value Content (RVC):** A requirement that the product contain a certain amount or share of value added from an eligible country, or set of countries
- **Technical requirements:** A requirement that the product undergo a special process.
- **And combinations thereof**

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RoO in U.S. agreements

- New ROO dataset from the National Graduate Institute for Policy Studies (GRIPS) in Tokyo and the International Trade Centre in Geneva
- ROO for every U.S. RTA
 - 14 U.S. RTAs with 20 countries
 - Complex: 214 unique types of ROO
- We categorize into major ROO types, similar to Estevadeordal (2000) or Estevadeordal and Suominen (2005)
- Focus on value added
 - We further combine ROO categories into RVC/non-RVC/both/either

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ROO example: Chapter 73 (Iron and Steel)

- Organize ROO into detailed categories

| Detailed ROO category | Israel | NAFTA | Korea |
|--|--------|-------|-------|
| CC | | 42 | 46 |
| CH | | 15 | 25 |
| CH + ECTC | | 42 | 25 |
| CS + ECTC | | 1 | 6 |
| CI | | 1 | |
| CH + Tech | | 5 | 5 |
| ALW | | | 1 |
| RVC 35% | 124 | | |
| CH and RVC 35/45% | | | 1 |
| CH or RVC 35/45% | | | 3 |
| CH or (CH + ALW and RVC 35/45%) | | | 11 |
| CH or (CH + ALW and RVC 60/50%) | | 15 | |
| (CS and Tech) or (CH + ALW and RVC 35/45%) | | | 1 |
| Total | 124 | 121 | 124 |

RVC = Regional value content
 CC = Change in chapter (HS2)
 CH = Change in heading (HS4)
 CS = Change in subheading (HS6)
 CI = Change in tariff item (HS8)
 ECTC = Exception to change
 Tech = Technical requirement
 ALW = Allowance for specific items

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ROO example: Chapter 73, cont.

- Aggregate ROO into six broader categories for tractability, with focus on RVC

| ROO category | Israel | NAFTA | Korea |
|--------------|--------|-------|-------|
| CTC | | 101 | 102 |
| RVC | 124 | | |
| CTC or RVC | | | 3 |
| CTC + RVC | | | 1 |
| Combo | | 15 | 12 |
| Other | | 5 | 6 |

CTC = Change in tariff classification

RVC = Regional value content

Combo = Choice of more stringent CTC, or a less stringent CTC with an RVC

Other = Technical requirements & allowances

- Across all products and agreements, “pure” CTC and “pure” RVC requirements account for almost 80% of observations

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U.S. ROO: Two models for U.S. agreements

| RTA (start of negotiations) | CTC | RVC | CTC or RVC | CTC+ RVC | Combo | Other | Total |
|--|------|-------|------------|----------|-------|-------|-------|
| Middle East and North Africa (MENA) | | | | | | | |
| Israel (1984) | — | 100.0 | — | — | — | — | 100 |
| Jordan (2000) | — | 83.4 | — | — | — | 16.6 | 100 |
| Morocco (2003) | 14.0 | 80.3 | — | — | 0.2 | 5.5 | 100 |
| Bahrain (2004) | 11.4 | 83.0 | — | — | — | 5.6 | 100 |
| Oman (2005) | 11.4 | 83.0 | — | — | — | 5.6 | 100 |
| All MENA | 7.4 | 85.9 | — | — | — | 6.6 | 100 |
| Non-MENA | | | | | | | |
| NAFTA (1988) | 59.8 | — | 0.4 | 4.3 | 28.7 | 6.8 | 100 |
| Chile (2001) | 80.3 | — | 1.2 | 4.4 | 7.2 | 7.0 | 100 |
| Singapore (2001) | 79.9 | — | 1.4 | 4.6 | 3.7 | 10.5 | 100 |
| DR-CAFTA (2003) | 80.0 | 0.8 | 3.0 | 3.2 | 5.0 | 7.9 | 100 |
| Australia (2003) | 80.3 | 0.3 | 2.7 | 3.8 | 5.2 | 7.7 | 100 |
| Peru (2004) | 79.3 | 0.8 | 3.6 | 3.7 | 5.2 | 7.4 | 100 |
| Colombia (2004) | 79.3 | 0.8 | 3.6 | 3.7 | 5.2 | 7.4 | 100 |
| Panama (2004) | 80.7 | 0.7 | 2.6 | 2.8 | 5.9 | 7.3 | 100 |
| Korea (2006) | 81.7 | 0.7 | 2.1 | 3.2 | 5.4 | 7.0 | 100 |
| All non-MENA | 78.0 | 0.5 | 2.3 | 3.7 | 7.8 | 7.7 | 100 |
| All RTAs | 52.7 | 26.4 | 1.5 | 2.4 | 5.1 | 11.9 | 100 |

- MENA**

- Largely follow the Israel RTA (except apparel)
- Most ROO based on RVC

- Non-MENA**

- Loosely follow NAFTA
- Most ROO based on CTC

- There is no “average” RTA

- Structures evolve over time, with considerable influence of individual negotiations

- Some agreements have very similar structure

- Peru and Colombia
- Bahrain and Oman

12

ROO utilization and determinants

| RTA | Preference utilization | Preference margin | U.S. imports | Partner value added share | ROO categories | | |
|-----------------|------------------------|-------------------|--------------|---------------------------|----------------|-------|-------|
| | (%) | (%) | (billion \$) | in imports (%) | CTC | RVC | Other |
| MENA | | | | | | | |
| Israel | 12.6 | 0.7 | 23.9 | 73.9 | — | 100.0 | — |
| Jordan | 95.2 | 23.2 | 1.4 | N/A | — | 83.4 | 16.6 |
| Morocco | 29.7 | 4.0 | 1.0 | 70.2 | 14.0 | 80.5 | 5.5 |
| Bahrain | 63.3 | 5.5 | 0.8 | N/A | 11.4 | 83.0 | 5.6 |
| Oman | 67.3 | 3.7 | 0.9 | N/A | 11.4 | 83.0 | 5.6 |
| All MENA | 20.7 | 2.2 | 28.1 | N/A | 7.4 | 86.0 | 6.6 |
| Non-MENA | | | | | | | |
| NAFTA | 56.0 | 2.6 | 564.9 | 68.8 | 59.8 | 33.4 | 6.8 |
| Chile | 56.3 | 1.4 | 8.6 | 74.9 | 80.3 | 12.8 | 7.0 |
| Singapore | 21.8 | 2.0 | 15.6 | 56.7 | 79.9 | 9.6 | 10.5 |
| DR-CAFTA | 58.9 | 8.9 | 23.0 | 74.5 | 80.0 | 12.0 | 7.9 |
| Australia | 50.3 | 1.6 | 10.2 | 80.5 | 80.3 | 12.0 | 7.7 |
| Peru | 55.0 | 4.7 | 5.0 | 84.7 | 79.3 | 13.3 | 7.4 |
| Colombia | 40.4 | 1.0 | 13.4 | 79.5 | 79.3 | 13.3 | 7.4 |
| Panama | 17.3 | 0.8 | 0.2 | N/A | 80.7 | 12.0 | 7.3 |
| Korea | 26.3 | 1.7 | 68.1 | 68.6 | 81.7 | 11.3 | 7.0 |
| All non-MENA | 52.1 | 2.6 | 708.9 | N/A | 78.0 | 14.3 | 7.7 |
| All RTAs | 50.9 | 2.6 | 737.0 | N/A | 52.7 | 35.4 | 11.9 |

- Preferential tariff margin plays a role in utilization
- No clear pattern between RVC prevalence and VA in exports
- Utilization driven by a complicated mix of factors

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Effects of USMCA motor vehicle ROO

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Motor vehicle ROO, selected RTAs

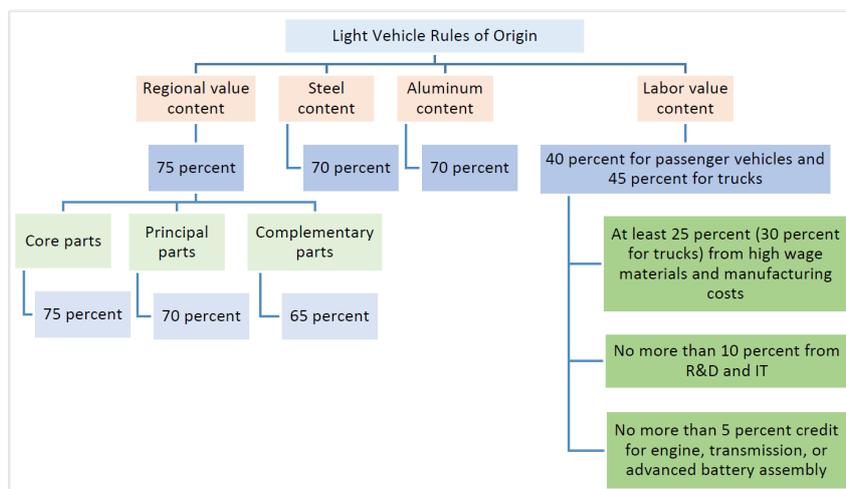
| RTA | Entry into force | RVC thresholds |
|-----------|------------------|---|
| USMCA | — | <ul style="list-style-type: none"> • 75% for passenger vehicles and light trucks • 75% for “core” parts, such as engines, transmissions, and chassis • 65–70% for other parts, such as tires and A/C • 70% for steel and aluminum |
| NAFTA | 1994 | <ul style="list-style-type: none"> • 62.5% using the net cost requirement for passenger automobiles, light trucks, engines, and transmissions • 60% for other auto parts |
| Australia | 2005 | <ul style="list-style-type: none"> • 50% under the net cost method for automotive products |
| Korea | 2012 | <p>One of three RVC tests can be used:</p> <ul style="list-style-type: none"> • 55% under build-down • 35% under build-up; and • 35% under the net cost method |

- Motor vehicle ROO differ considerably by agreement
- USMCA also adds a Labor Value Content requirement: 40–45% of production expenditures must go towards high-wage assembly, R&D, and IT

Source: Canis, et al., 2017; Schultz et al., 2019; USITC, 2019.

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Overview of USMCA motor vehicle ROO



Source: USITC, 2019

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Effects of USMCA motor vehicle ROO

- Three estimates in the literature:

1. Burfisher, et al. (2019):

- Use GTAP CGE model, updated to 2018
- “Stylized representation”: Assumes that
 - Higher RVC will raise costs (reduce preference benefits) of importing vehicles in United States, Canada, and Mexico, and all parts trade moves entirely to MFN tariff rates;
 - LVC will raise wage rates in Mexican auto sector by 50%.
- Estimate that USMCA auto ROO reduce U.S. welfare by over \$1 billion, reduce N. American trade in vehicles and parts, and increase imports from the ROW (particularly into Mexico)

2. Schultz et al. (2019):

- Use data on value added in North American motor vehicle models. No explicit modeling.
- Assume that vehicle models not in compliance with new ROO will pay higher MFN tariffs rather than adjust the location of parts production
- Estimate that higher costs of \$470–2,200 per vehicle will reduce U.S. production and exports, and reduce vehicle sales by 60,000–150,000

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Effects of USMCA motor vehicle ROO

3. USITC (2019):

- Use PE model of competition among motor vehicle models and parts suppliers. Requires data on sales, sourcing, and retail pricing at the motor vehicle model level; and costs of production and production employment by country.
- Assumes parts manufacturers bring more production of parts to the United States to comply with new ROO.
- Estimates that
 - U.S. vehicle prices rise by 0.4–1.6%, reducing sales and production. Small cars have largest declines; pickup trucks least affected.
 - U.S. imports from Mexico decrease, imports from Canada are mixed, and imports from the rest of the world grow.
 - In the U.S., employment gains by parts makers more than offset losses by vehicle manufacturers.

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Conclusions

- The literature emphasizes that ROO can have considerable effects on costs, volumes, variety, and patterns of trade. Analyzing specific ROO (e.g., USMCA auto ROO) requires considerable granular detail
- U.S. agreements have considerable heterogeneity in types of ROO
- Utilization of preferences in U.S. RTAs depends on a complicated mix of factors
- Future work on the role of value added in trade with RTA partners could be valuable—value added could explain the types of ROO employed in agreements or it could help explain their effects

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Questions?

Thank you!

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