IEA-METI-RIETI Conference

New Thinking on Industrial Policy

10 / 06 / 2022

Conference Report

INTERNATIONAL ECONOMIC ASSOCIATION

METI Ministry of Economy Trade and Industry

RIETI Research Institute of Economy, Trade & Industry, IAA

Background Note

Industrial policies are back in fashion. While most governments have always had a variety of selective policies supporting innovation, competitiveness, and declining regions, these policies have now become more salient and explicit as a result of a number of factors.

The evident progress of China in manufacturing – and of other East Asian nations before it -- has prompted many nations to emulate this move. The challenges of environmental sustainability and climate change require urgent investments in green technologies. Rising income and spatial inequalities within nations have made it more urgent to build inclusive productive structures that go beyond national champions or large firms. The COVID-19 pandemic has highlighted the importance of building supply chains that are resilient and dependable. These have reinforced the traditional arguments for industrial policy that focus on enhancing productivity and innovation.

Just as there are new arguments for industrial policy, there are new circumstances that require adaptations in industrial policy. While manufacturing remains important, its capacity to absorb employment has been sharply reduced, implying that “industrial” policies of the future will have to encompass services to a greater extent. Evidence shows that industrial policy works best when it is tailored to a country’s own circumstances, when it is flexible in application, when there is built-in learning, and when it works together with other policy tools.

While different nations are likely to go their own ways in practicing industrial policy, governments stand to learn considerably from other’s experiences. They can also learn from a growing body of academic research on the design and consequences of industrial policy. A conference where academic researchers and policy makers meet to discuss these questions can build better policy, stimulate further economic research, and help avoid misunderstandings and adverse spillovers from one nation’s policies onto others.

This conference, organized jointly by the International Economic Association (IEA), Japan’s Ministry of Economy, Trade and Industry (METI) and Research Institute of Economy, Trade and Industry (RIETI), accordingly focused on prevailing industrial policy practices, design of optimal industrial policy principles, and challenges to be addressed, with the goal of fostering mutual learning.

Table of Contents

Conference Information

Information

Time and Date: 12:00pm-3:00pm (GMT) / 9:00pm-12:00am (JST) / 7:00am-10:00am (CDT) / 8:00am-11:00am (EDT), Online (Live Stream)

Language: English / Japanese (with simultaneous interpretation)

Admission: Free

Hosts: IEA, METI, RIETI

Program

Time (GMT)	Program
12:00-12:10	**1. Opening Remarks**
	・ Mr. HAGIUDA Koichi (Minister of Economy, Trade and Industry, METI, Japan) (pre-recorded) ・ Dr. Dani RODRIK (President, IEA)
12:10-12:20	**2. Keynote Speech**: The Role of Industrial Policy in the New Era
	・ Dr. Joseph STIGLITZ (Columbia University, US)
12:20-13:50	**3. Latest Development on Industrial Policies** (Presentations and Discussions)
	Government officials to introduce development on industrial policies in respective countries, and distinguished scholars to share latest findings on industrial policy such as theoretical background and challenges, followed by discussions on each presentation. Key issues for consideration on presentations from government officials: ・ Priorities, challenges, and backgrounds of the recent development on industrial policy Issues to be explored through discussions: ・ Why the effectiveness of industrial policy has been “overlooked” until recently ・ Challenges which market cannot solely address such as climate change, income and spatial inequality, and supply chain resilience ・ Successful implementation of industrial policy ・ Concerns regarding today’s industrial policy

12:20-13:05	**3-A. Session1: Presentations from Government Officials** **Chair: Dr. Dani RODRIK (President, IEA)** Speakers: ・ Mr. HIRAI Hirohide (METI, Japan) ・ Ms. Donna LEONG (BEIS, UK) Discussants: ・ Dr. Gordon HANSON (Harvard University, US) ・ Dr. Charles SABEL (Columbia University, US)
13:05-13:50	**3-B. Session2: Presentations from Academic Researchers** **Chair: Mr. WATANABE Tetsuya (RIETI, Japan)** Speakers: ・ Dr. Austan GOOLSBEE (The University of Chicago, US) ・ Dr. Josh LERNER (Harvard University, US) Discussants: ・ Dr. TOMIURA Eiichi (Hitotsubashi University, Japan) ・ Dr. Philipp STEINBERG (BMWK, Germany)
13:50-13:55	**Break**
13:55-14:55	**4. Actions for Achieving the Purpose of the Forum** (Panel Discussion) **Chair: Dr. Ufuk AKCIGIT (IEA)**
	Participants from academia, government and international organization jointly discussed how to achieve the purpose of the forum: building a better industrial policy and promoting a better understanding of new thoughts on industrial policy. Topics raised by the moderator: ・ What should be the new ways to think about industrial policy ・ How to make industrial policy more effective Panelists: ・ Dr. Carol CORRADO (The Conference Board, US) ・ Dr. Chiara CRISCUOLO (OECD) ・ Dr. Piero GHEZZI (Former Minister of Production, Peru) ・ Dr. HAMAGUCHI Nobuaki (Kobe University, Japan) ・ Mr. HIRAI Hirohide (METI, Japan)
14:55-15:00	**5. CLOSING REMARK**
	Speaker: ・ Dr. YANO Makoto (RIETI, Japan)

Biography of Speakers

Organizers

IEA

Dr. Dani RODRIK (President)

Dani Rodrik is the Ford Foundation Professor of International Political Economy at Harvard's John F. Kennedy School of Government. He is a co-director of the Economics for Inclusive Prosperity (EfIP) network and president of the IEA. He is affiliated with the National Bureau of Economic Research and the Centre for Economic Policy Research (London) among other research organizations.

His research focuses on globalization, economic growth and development, and political economy. He is the recipient of numerous awards, including the inaugural Albert O. Hirschman Prize of the Social Science Research Council and the Princess of Asturias Award for Social Sciences. He was included in Prospect magazine's World's Top 50 Thinkers list (2019) and in Politico magazine's 50 list (2017).

He is the author of Straight Talk on Trade: Ideas for a Sane World Economy (2017). The book was awarded the George S. Eccles Prize for Excellence in Economic Writing by the Columbia Business School in 2019. He is also the author of Economics Rules: The Rights and Wrongs of the Dismal Science (2015) and The Globalization Paradox: Democracy and the Future of the World Economy (2011).

He holds a Ph.D. in economics and an MPA from Princeton University, and an A.B. from Harvard College.

Dr. Ufuk AKCIGIT (Member of Executive Committee)

Ufuk Akcigit is the Arnold C. Harberger Professor of Economics at the University of Chicago. He is an elected Research Associate at the National Bureau of Economic Research, Center for Economic Policy Research, and the Center for Economic Studies, and a Distinguished Research Fellow at Koc University. He has received a BA in economics at Koc University, 2003, and Ph.D. in economics at Massachusetts Institute of Technology in 2009.

As a macroeconomist, Akcigit's research centers on economic growth, technological creativity, innovation, entrepreneurship, productivity, and firm dynamics. His research has been repeatedly published in the top economics journals, cited by numerous policy reports, and the popular media.

The contributions of Akcigit's research has been recognized by the National Science Foundation with the CAREER Grant (NSF's most prestigious awards in support of early-career faculty), Kaufmann Foundation's Junior Faculty Grant, and Kiel Institute Excellence Award, among many other institutions. In 2019, Akcigit was named the winner of the Max Plank-Humboldt Research Award (endowed with 1.5 million euros and aimed at scientists with outstanding future potential). In 2021, Akcigit was awarded the prestigious Guggenheim Fellowship and was named a Fellow of the Econometric Society. In 2022, he received the Sakip Sabanci International Research Award and Kiel Institute's Global Economy Prize.

METI, Japan

Mr. HIRAI Hirohide (Director-General, Economic and Industrial Policy Bureau)

HIRAI Hirohide is Director-General of Economic and Industrial Policy Bureau of METI, Japan. He graduated from the University of Tokyo and joined Ministry of International Trade and Industry (MITI), the predecessor organization of METI in 1987.

Prior to his current position, he experienced various important positions in METI and related organizations including Director-General, Commerce and Information Policy Bureau (2020.7- 2021.6), Deputy Commissioner of Agency for Natural Resources and Energy (2019.7–2020.6), and Councillor of Bureau for Japan's Economic Revitalization, Cabinet Secretariat (2018.7-2019.6).

RIETI, Japan

Dr. YANO Makoto (Chairman)

Yano received a BA from the University of Tokyo and a Ph.D. in economics from the University of Rochester. He taught at number of universities, including Cornell University, Yokohama National University, Keio University and Kyoto University before joining RIETI as President and CRO in 2016, and became Chairman in 2020. He was also Chair of Institute of Economic Research in Kyoto University from 2010 to 2012, and President of the Japanese Economic Association from 2008 to 2009.

Mr. WATANABE Tetsuya (Vice-President)

Vice President/Chief EBPM Officer
Special Advisor to the Minister, METI
Visiting Professor, Graduate School of Public Policy, The University of Tokyo
Visiting Professor, Graduate Course for Data Science and Industrial Policy, Juntendo University

Mr. SABURI Masataka (Director of PR Strategy)

Director of PR Strategy / Research Coordinator (Policy History), RIETI Special Advisor to the Minister, METI

Expertise: Innovation Policy, Social Medicine (How to solve social problems)

Speakers

Dr. Carol CORRADO (Distinguished Principal Research Fellow, The Conference Board, US)

Carol Corrado is Distinguished Principal Research Fellow at The Conference Board, Senior Policy Scholar at the Center for Business and Public Policy, McDonough School of Business, Georgetown University, and Fellow at the National Institute for Economic and Social Research in the UK. Corrado's primary research focus is measuring and analyzing intangible capital and digital innovation and their contributions to economic growth.

Corrado has authored multiple papers on the role of intangible investment and capital in modern economies, including one that won the International Association of Research on Income and Wealth's 2010 Kendrick Prize. Recent work addresses the measurement of prices for IT investment goods, data as an asset, consumer digital services, and education services.

An essay on re-imagining GDP that she co-authored won the Indigo Prize in 2017.

She chaired the American Statistical Association (ASA) Business and Economics Section in 2014 and received the ASA's prestigious Julius Shiskin Award for Economic Statistics in 2003 and a Special Achievement Award from the Federal Reserve Board in 1998 for her contributions to measuring high-tech prices and industrial capacity.

Corrado holds a PhD in economics from the University of Pennsylvania and a BS in management science from Carnegie-Mellon University.

Dr. Chiara CRISCUOLO (Head of Division, Productivity Innovation and Entrepreneurship Division, Science Technology and Innovation Directorate, OECD)

Chiara Criscuolo, an Italian national, is Head of the Productivity, Innovation and Entrepreneurship Division in the Directorate for Science, Technology and Innovation at the OECD. Mainly, her work focuses on entrepreneurship, enterprise dynamics, productivity and policy evaluation. In this realm, she has coordinated large cross-country microdata projects on employment dynamics, productivity, as well as research and development.

Chiara has played a lead role in advancing the use of firm level data and of microdata projects within the OECD. She has contributed to key horizontal and high level projects and publications, including the OECD volumes "Future of Productivity", "New sources of growth: Knowledge Based capital", and the "OECD Innovation Strategy". She co-manages the Global Forum on Productivity is also a member of the French and Portuguese National Productivity Boards.

Ahead of joining the OECD, Chiara received her doctoral degree in Economics from University College London and held academic appointments at the University of Siena, City University and the University of Cambridge, in addition to the London School of Economics.

Dr. Piero GHEZZI (Former Minister of Production, Peru)

International expert in economic development and informality. Former Minister of Production of Peru (February 2014 - July 2016) from where he proposed and implemented the "Mesas Ejecutivas", a methodology to apply policies of productive development through public-private collaboration. He was World Head of Economic Studies and Head of Research in Emerging Markets at Barclays Capital in London, and head of Research and Strategy for Latin America, as well as executive director and head of Foreign Debt Strategy for Emerging Markets at Deutsche Bank in New York (1999 to 2007). He was an assistant professor in the Department of Economics at the University Johns Hopkins in Baltimore, USA. He has a doctorate in Economics from the University of California at Berkeley, and has a Certificate of Advanced Studies (ASC) in International Economic Policy at the Kiel Institute for World Economy, Germany.

He has written many books: "Qué se puede hacer con el Perú: ideas para sostener el crecimiento económico en el largo plazo" (What can be done with Peru: ideas to sustain economic growth in the long term) in 2013 - coauthored with José Gallardo Ku -, "Logros y desafíos de la diversificación productiva en el Perú" (Achievements and challenges of productive diversification in Peru) in 2016, and "El Estado productivo: una apuesta para reconstruir la relación entre mercado y Estado en el Perú de la pospandemia" (The productive State: a proposal to rebuild the relationship between market and State in post-pandemic Peru in 2021. He also regularly contributes with chapters for books and public academic articles.

Dr. Austan GOOLSBEE (Professor, The University of Chicago, US)

Austan D. Goolsbee is the Robert P. Gwinn Professor of Economics at The University of Chicago.

He previously served in Washington as the Chairman of the Council of Economic Advisers and a member of the President's cabinet.

His research interests are the Internet, the new economy, government policy, and taxes. His research has earned him recognition as a Fulbright Scholar and an Alfred P. Sloan fellow.

Goolsbee serves on the Economic Advisory Panel to the Federal Reserve Bank of New York and has previously served on the Panel of Economic Advisors to the Congressional Budget Office, the U.S. Census Advisory Commission and as a special consultant for Internet Policy to the Antitrust Division of the Department of Justice.

Dr. HAMAGUCHI Nobuaki (Professor, Kobe University, Japan)

HAMAGUCHI Nobuaki is a Professor and former Director of Research Institute for Economics and Business Administration (RIEB) at Kobe University, and a Faculty Fellow and Program Director at RIETI. Previously, he was a researcher of Institute of Developing Economies (current Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO)).

His research areas are Regional Integration and Spatial Economics, and mainly focus on Japan, Latin America and East Asia. He is a member of Applied Regional Science Conference (ARSC) and Regional Science Association International (RSAI).

He received his B.A. degree in Brazilian Studies from Osaka University of Foreign Studies, and received his M.A. and Ph.D. degrees in Regional Science from University of Pennsylvania.

Dr. Gordon HANSON (Professor, Harvard University, US)

Gordon Hanson is the Peter Wertheim Professor in Urban Policy at Harvard Kennedy School. He is also Chair of the Social and Urban Policy Area at HKS, a research associate at the National Bureau of Economic Research, and a member of the Council on Foreign Relations. He is past co-editor of the Journal of Economic Perspectives, the Review of Economics and Statistics, and the Journal of Development Economics. Hanson received his PhD in economics from MIT in 1992 and his BA in economics from Occidental College in 1986.

Prior to joining Harvard in 2020, he held the Pacific Economic Cooperation Chair in International Economic Relations at UC San Diego, where he was founding director of the Center on Global Transformation. Hanson previously served on the economics faculties of the University of Michigan and the University of Texas.

In his scholarship, Hanson studies the labor market consequences of globalization. He has published extensively in top economics journals, is widely cited for his research by scholars from across the social sciences and is frequently quoted in major media outlets. Hanson's current research addresses how the China trade shock has affected US local labor markets, the causes and consequences of international migration, and the origins of regional economic divides.

Ms. Donna LEONG (Director of analysis, Department for Business, Energy and Industrial Strategy (BEIS), UK)

Donna is the Director of Analysis at BEIS. An experienced senior civil service leader and economist, Donna has previously worked at the Office for National Statistics, HM Treasury and the NZ Treasury. She has a MSc in Economics from LSE.

Dr. Josh LERNER (Professor, Harvard University, US)

Josh Lerner is the Jacob H. Schiff Professor of Investment Banking at Harvard business School.

He graduated from Yale College with a special divisional major. He worked for several years on issues concerning technological innovation and public policy at the Brookings Institution, for a public-private task force in Chicago, and on Capitol Hill. He then earned a Ph.D. from Harvard's Economics Department.

Much of his research focuses on venture capital and private equity organizations. He also examines policies on innovation and how they impact firm strategies. He co-directs the National Bureau of Economic Research's Productivity, Innovation, and Entrepreneurship Program and serves as co-editor of their publication, Innovation Policy and the Economy. He founded and runs the Private Capital Research Institute, a nonprofit devoted to encouraging access to data and research, and has been a frequent leader of and participant in the World Economic Forum projects and events. He is the winner of the Swedish government's Global Entrepreneurship Research Award and Cheng Siwei Award for Venture Capital Research.

Dr. Charles SABEL (Professor, Columbia University, US)

Charles Sabel is the Maurice T. Moore Professor of Law at Columbia Law School. Previously, he was Ford International Professor of Social Science at MIT. His undergraduate degree is in social studies, and his graduate degree is in government, both from Harvard University. His earlier work focused on the crisis of mass production and its implications for the regulation of markets and the macroeconomy. His more recent work develops pragmatist ideas into a general conception of democratic experimentalism, with particular attention to regulation, the provision of complex social services, and contracting under uncertainty.

Sabel's current projects include the elaboration of experimentalist or incremental solutions to apparently global problems such as trade and climate change; an investigation of the current transformation of U.S. administrative law in the face of uncertainty; and new models of economic development emerging with the spread of advanced techniques of “industrial” production to all sectors of the economy in the context of globalization.

Dr. Philipp STEINBERG (Director General of the Economic Policy Department, Federal Ministry of Economic Affairs and Climate Action (BMWK), Germany)

Dr. Philipp Steinberg studied law and political economy, as well as taxation, in Berlin, Münster and Paris, receiving his doctorate in 2001. In addition to the 1st and 2nd state examinations in law, he holds a Licence d'Etat Francais and an MBA. After working in a large law firm, he was employed in the Federal Ministry of Finance, as well as the party executive of the Social Democratic Party of Germany. In 2013, he moved to the Federal Ministry of Economic Affairs and Climate Action as a sub-department head, and since 2016 he is Director General of the Economic Policy department.

Dr. Joseph STIGLITZ (Professor, Columbia University, US)

Joseph E. Stiglitz is an American economist and a professor at Columbia University. He is also the co-chair of the High-Level Expert Group on the Measurement of Economic Performance and Social Progress at the OECD, and the Chief Economist of the Roosevelt Institute.

Stiglitz was awarded the Nobel Memorial Prize in Economic Sciences in 2001 and the John Bates Clark Medal in 1979. He is a former senior vice president and chief economist of the World Bank and a former chairman of the U.S. Council of Economic Advisers. In 2000, Stiglitz founded the Initiative for Policy Dialogue, a think tank on international development based at Columbia University. In 2011 he was named by *Time* magazine as one of the 100 most influential people in the world.

Known for his pioneering work on asymmetric information, Stiglitz's research focuses on income distribution, climate change, corporate governance, public policy, macroeconomics and globalization. He is the author of numerous books including, most recently, *People, Power, and Profits*, *Rewriting the Rules of the European Economy*, and *Globalization and Its Discontents Revisited*.

Dr. TOMIURA Eiichi (Professor, Hitotsubashi University, JP)

TOMIURA Eiichi is a Professor at the Faculty of Economics, Hitotsubashi University and a Faculty Fellow and Program Director at RIETI. Prior to his current position, he was forfmerly Dean, College of Economics at Yokohama National University, and served as a councillor of Hitotsubashi University. He was also served for Ministry of International Trade and Industry (MITI), Government of Japan till 2000. He earned his Ph.D. in Economics from the Massachusetts Institute of Technology in 1992 and his B.A. in Economics from University of Tokyo in 1984. His research expertise is in empirical international trade, especially offshore outsourcing with firm-level data. His articles have been published in many journals including Journal of International Economies, Review of International Economics, and Regional Science and Urban Economics. He has received Economist Award, Nikkei Prize, and Kojima Kiyoshi Prize in Japan.

Conference Summary

Key Takeaways

- There is a general consensus that industry policy is once again gaining momentum today. Industrial policies have been in place regardless of whether they are branded as industrial policy. Participants identified factors such as underinvestment and low productivity in the past, necessity of mission-oriented policy targeted to address today's pressing social problems, and importance of stable institutional framework for micro-policy as the drivers behind industrial policy today (Mr. Hirai, Ms. Leong).

- Comparing industrial policies today with those in the past (*first generation industrial policy* or *"grandpa's industrial policy*), participants noted the risk of policies such as subsidies and carbon tariffs falling into the path of the first generation industrial policy which was based on competitiveness concerns rather than externality concerns (Professor Goolsbee). Government participants (Mr. Hirai, Dr. Steinberg) pointed to transnational coordination as a key in mitigating this problem.

- Scholars identified information asymmetry and rent seeking as the source of general criticism on industrial policy. In overcoming these problems, participants highlighted the importance of embedding industrial policy in society through shared financial and implementational responsibility between public and private sector (Professor Lerner, Professor Stiglitz, Professor Tomiura) and engagement of civil society and regional actors (Professor Hanson, Ms. Leong, Professor Sabel, Professor Stiglitz), thereby bringing the best out of the private sector in achieving new social and development objectives (Dr. Criscuolo). On the degree of government intervention and selection of appropriate instruments in policy implementation, frameworks such as the US National Science Foundation, DARPA (Professor Goolsbee), Israel's Yozma scheme (Professor Lerner), and Peru's Mesas Ejecutivas policy (Dr. Ghezzi) were highlighted as pertinent examples.

- There was also a discussion on targeted policy. Government participants cited the unintended consequences or emissions arising as a result of a focus on horizontal policy in the past (Ms. Leong), and the necessity to promote newly defined set of sectors (e.g. green industry, resilience-related industry) (Mr. Hirai) as parts of rationale behind today's targeted policy. Several scholars (Professor Goolsbee, Professor Lerner) cautioned against governments making too specific targets ex-ante, and the importance of learning-by-doing and a feedback loop among stakeholders is highlighted in this regard (Dr. Ghezzi, Professor Hamaguchi, Professor Hanson, Professor Sabel).

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- Participants also stressed the necessity of (i) capacity-building and trust-making among policy designers and stakeholders (Dr. Ghezzi, Professor Hamaguchi, Mr. Hirai), and (ii) data collection, data sharing and evidence-based policy making (Dr. Corrado, Professor Tomiura) for effective industrial policy.

1. Opening Remarks

Speakers:
Mr. HAGIUDA Koichi (Minister of Economy, Trade and Industry, METI, Japan) (pre-recorded)
Dr. Dani RODRIK (President, IEA)

- H.E. Mr. Hagiuda, Minister of Economy, Trade and Industry of Japan welcomed participants, and stressed Japan's willingness to lead the global economic and social reforms amid increasing changes in geopolitics and rising concerns over the future of the global economy. In light of this, the minister revealed the New Direction of Economic and Industrial Policies, a policy initiative by METI to achieve a virtuous cycle of growth and wealth distribution through mission-oriented industrial policies and reconstruction of economic and social systems. Minister Hagiuda concluded his remark by calling on the participants to lead the way in identifying new industrial policies that will best serve the world going forward.

- Echoing Minister Hagiuda's remarks, Professor Rodrik noted that industrial policy is back in fashion as many countries and governments seek new forms of capitalism and industrial policy. Professor Rodrik further elaborated that while industrial policy has always been practiced, there is an opportunity to make it better by being more conscious and systematic about the policy. He also pointed to two traditional sources of skepticism about industrial policy: (i) the lack of information among policymakers and (ii) the political capture that can arise from industrial policy, and stressed the importance of mutual learning and cooperation between policymakers and economists.

2. Keynote Speech: The Role of Industrial Policy in the New Era

Speaker:
Dr. Joseph STIGLITZ (Columbia University, US)

- Professor Stiglitz noted a confluence of factors, including financial crisis, climate crisis, inequality, Covid-19, and the war in Ukraine, behind industrial policy taking a center stage once again. Professor Stiglitz stressed that market alone do not suffice systematic failures, and governments can improve matters by government-designed economic strategy, and cited that the systemic short-sightedness to risk is evidenced most strikingly by an European country which made itself significantly dependent on Russian gas.

- Professor Stiglitz recalled oppositions from many advanced countries and from within the World Bank on his project on the East Asian miracle in the last 1980s'-early 1990s', a World Bank project with support from Japan. His observation is that what was behind these opposition was unwillingness to seek for an alternative to the Washington Consensus, and industrial policy has discredited not by experience or theory, but by ideological hostility toward industrial policy, a view that is widely rejected today.

- Professor Stiglitz raised following four reflections on industrial policy.
  1) All countries do have industrial policy in reality. Support for expansion of derivatives, policies embedded in the Defense Department, policies that encouraged de-industrialization are the industrial policy in the U.S. Policies, expenditures, and taxes all shape the economy, and being conscious on every government action helps shape the economy to have a democratic discussion about where the economy and the society is going.
  2) We need to keep in mind both social objectives (e.g. climate change, equality and resilience) and market failures (e.g. failures in capital market, widespread racial and gender discrimination in many societies). Borders do matter as well; while we have created a view after WWII that we should be working and striving for a borderless world, and economic policy was often based on the notion that we were about to achieve a borderless world, we began to realize that the borders do matter (e.g. actions by President Trump, vaccine nationalism, export restraints under food crisis).
  3) An industrial policy program has to focus on addressing double or triple duties. With limited resources and instruments, policies need to address as many of social objectives as possible. It is pleasing that the Biden administration is pursuing industrial policy with discrimination inequality and green transition in consideration.
  4) Opposition to industrial policy is not based on economics but is based more on political economy and imperfections of information. Governments have made a difference (e.g. US agricultural

programs in the 19th century, DARPA and the Internet in the 20th century). The East Asian miracle showed unambiguously that the government industrial policies have made a difference. In terms of institutional design that reduces the likelihood of failures, one distinct source of success by East Asian economies is access to credit versus giving away free money. Transparency, peer review, engagement of civil society can mitigate political economy risks.

3. Latest Development on Industrial Policies (Presentations and Discussions)

Government officials to introduce development on industrial policies in respective countries, and distinguished scholars to share latest findings on industrial policy such as theoretical background and challenges, followed by discussions on each presentation.

Key issues for consideration on presentations from government officials:

- Priorities, challenges, and backgrounds of the recent development on industrial policy

Issues to be explored through discussions:

- Why the effectiveness of industrial policy has been "overlooked" until recently
- Challenges which market cannot solely address such as climate change, income and spatial inequality, and supply chain resilience
- Successful implementation of industrial policy
- Concerns regarding today's industrial policy

3-A. Session1: Presentations from Government Officials

Chair:
Dr. Dani RODRIK (President, IEA)

Speakers:
Mr. HIRAI Hirohide (METI, Japan)
Ms. Donna LEONG (BEIS, UK)

Discussants:
Dr. Gordon HANSON (Harvard University, US)
Dr. Charles SABEL (Columbia University, US)

<Presentations from Speakers>

- Mr. Hirai elaborated the concept of METI's New Direction of Industrial Policy and its rationale. Acknowledging that Japan has underinvested in the fields such as green technology, digital technology, and human capital in the last 30 years of Japan's low economic growth, Mr. Hirai reiterated the idea of inducing private investment with a mission-oriented approach in targeted areas, and providing large-scale, long-term and well-planned governmental support.
  He identified six pillars of mission-oriented industrial policies, with the 15 billion dollars Green Innovation Fund and support for Japan Advanced Semiconductor Manufacturing as examples of mission-oriented industrial policies already in place. Regarding socioeconomic system reform, Mr.

Hirai also stressed the importance of addressing low and declining investment in human capital through promotion of human capital management, improving flexibility of labor market, and diversification of education from elementary school to doctoral levels.

- In line with Mr. Hirai, Ms. Leong also linked the starting point of modern UK industrial policy to its relatively weak productivity performance. She presented her analysis that UK policies in last 20 years tended to have too much focus on horizontal policies and lacked sufficient consideration for (i) the effects of policy across various sector, (ii) stable policy institutions for sound micro-policy, and (iii) importance of place, and local productivity.
  Ms. Leong emphasized the UK has been addressing the issues inherent in past industrial policy by (i) developing a framework to prioritize sectors, (ii) setting up long-term micro policy institutions such as the National Infrastructure Commission and the Productivity Institute, and (iii) improving social and institutional productivity and implementing place based policy decisions through the initiatives identified in the recently published Leveling Up Strategy.
  She concluded her presentation by identifying challenges for the future (i.e. the uncertainty with regard to the ultimate shape of a post-Covid new normal, path dependency effects in advancing sector and place based policies, the unprecedented challenges of 'big transitions' such as automation, digital, and net zero).

<Discussions>

- Following the presentations from speakers, Professor Hanson made following points on purposes and implementation of industrial policy.
  1) Purposes of industrial policy: Given the externalities of capitalism, we need to be mindful against the belief that one policy fits all, and it is imperative to have separate, yet complementary, set of policies to achieve different objectives.
     -In pursuing decarbonization of the economy and reduction of economic disparities concurrently, there is a risk that industrial policy is highjacked to achieve the former without sufficient consideration about how to achieve the latter.
     -The combination design of the four components of US industrial policy (i.e. (i) workforce development, (ii) technical assistance to firms, (iii) tax incentives to firms, (iv) necessary infrastructure) will depend on the social objectives. Promotion of economic growth will favor STEM education/training, whereas decarbonization will require a much narrower part of STEM, and addressing economic disparities will call for vocational and technical training in non-four-year college institutions.
  2) Successful implementation of industrial policy: It is imperative to involve firms, workers, and civic actors early in the process. Studies on place-based policies in the US by Professor Rodrik and Professor Hanson reveals that the economic development practice in the U.S. has begun to resemble the practices in emerging economies, with the successful policies involving non-

governmental actors, industry groups and local policymakers early in the process of problem identification and policy design. We also need to be mindful about local context in workforce development.

- Professor Sabel echoed with previous speakers on the point that decades-long ideological disposition to industrial policy has disappeared. He characterized challenges for industrial policy today as follows.
  -With many countries committing substantial degree of financial resources on industrial policies, the concern today is not impediment by ideology, but rather the information problem for authorities.
  -A number of successful industrial policies in the past were designed and implemented by relatively small number of sophisticated firms, experts and academics in developed economies (e.g. DARPA). Today's agenda (e.g. green transition, addressing accumulated poverty) will require (i) local actors to adapt to new types of policy planning, gaining new set of competence to work with national/regional actors, and (ii) workers to acquire new skills. This task is common to both advanced and developing economies (e.g. the UK Levelling Up Program). Local, place-based, participatory approaches will be required in implementing Next Generation EU as well.

- On the relationship between policy objectives and policy instruments, Mr. Hirai mentioned that while each of the six missions under New Direction of Industrial Policy is a different socio-economic problem, he is seeing growth opportunities in addressing these problems given the underlying enormous demands. Mr. Hirai also touched upon the importance of a well-functioning multilateral trading system and dispute settlement system, along with the importance of seeking alternative mechanisms as necessary.

- Ms. Leong acknowledged the tradeoffs among policy objectives, and noted innovation will provide one answer in escaping from tradeoffs. On the issue around local actors, she stressed that what is at the heart of the Levelling Up Strategy is the recognition the local economy relies significantly on local decision makers and it is a "rediscovery" of necessity to ensure that local decision makers take decisions that are appropriate for local areas.

- As for the relationship between place-based and sector/industry-based policies, Ms. Leong described them as intertwined in the case of the UK's levelling up policy. Mr. Hirai also elaborated that while Japan is not focusing on industry in conventional terms (e.g. heavy industry, light industry), Japan is seeking to prioritize new set of industry groups (e.g. green transformation industry, resilience-related industry).

3-B. Session2: Presentations from Academic Researchers

Chair:
Mr. WATANABE Tetsuya (RIETI, Japan)

Speakers:
Dr. Austan GOOLSBEE (The University of Chicago, US)
Dr. Josh LERNER (Harvard University, US)

Discussants:
Dr. TOMIURA Eiichi (Hitotsubashi University, Japan)
Dr. Philipp STEINBERG (BMWK, Germany)

<Presentations from Speakers>

- Professor Goolsbee echoed the observations in previous discussions that all policies are industrial policies, regulatory captures and information-based failures were behind the negative views by economists on the first generation of industrial policy, and that the new generation of industrial policy needs to fix externalities and market failures. He made following arguments on the forms and challenges regarding today's industrial policy.
  1) New policies to fix externalities: Successful new policies often are seen in areas that are largely non-political. While the recent rise of industrial policy typically comes from various crisis (e.g. concerns on climate change leading to subsidies and regulations, supply chain crisis pushing for vaccine productions, national security concerns on semiconductors), the competitiveness concern behind them entails a risk of going back to old-fashioned industrial policy. Even if carbon intensity tariffs are intended to address global externalities, such tariffs could lead to other countries claiming for national security interests or tariffs based not on externality.
  2) Short-run orientation arising from information failure: Early in the Covid-19 crisis was a huge attention to ventilator, but in a few months, the importance of having domestic manufacturing base for ventilator in dealing with the pandemic was denied. This resembles an information failure which haunted old industrial policy.
  3) The degree of government intervention: A source of success behind the U.S. National Science Foundation, National Institute of Health, DARPA, and funding system for US universities is that policy designers did not design where the money should go. In a sense, immigration, attracting human capital, is one of the ultimate new types of industrial policy.
  4) Further caution on old-fashioned industrial policy: The US industrial policy in last five years was about old-fashioned protection of industry rather than about externality (e.g. large assistance to airline, cruise and other politically connected industries). We should also be cautious about hijacking antitrust policies with the intention of blocking foreign goods.

- Professor Lerner revealed his observations on entrepreneurship and stated that private entrepreneurial finance can help mitigate information and capture issues surrounding public programs.

  -Professor Lerner noted the benefits of private entrepreneurial finance from the governments' perspective, which include (i) mitigating informational asymmetries in selecting new ventures, (ii) venture capitalists' ability to make "tough" decisions, and (iii) different types of compensations for private financiers and governments (e.g. financial returns, addressing externalities).

  -Using data on 755 programs worldwide, Professor Lerner's empirical study identified several factors behind involvement of private capital investors in public programs: (i) effective governments, (ii) programs targeting earlier-stage firms, and (iii) the presence of existing private venture activity. Public entrepreneurial finance programs tend to be associated with higher subsequent growth in innovation.

<Discussions>

- Professor Tomiura provided his reflections on presentations from Professor Goolsbee and Professor Lerner regarding unintended policy consequences by citing the widened productivity gap that has resulted from the industry relocation program in Japan. He also echoed Professor Lerner's argument on private-public collaboration by noting that cluster policy in Japan was successful only when local banks were involved as the main bank.

  Professor Tomiura further highlighted the importance of forward-looking design of data collection in evaluating industrial policies, as the objectives and policy tools for the new industrial policy today are more complex than in the past while the big data accumulated in private sector and recent development on place based policies are providing opportunities in advancing policy evaluation. In this context, he revealed a recent initiative by RIETI on evidence based policy making (EBPM).

- Dr. Steinberg noted that modern interpretation on market failures has contributed to the growing momentum of industrial policy in the last few years. His argument stretched the rationale for industrial policy from externalities to planetary boundaries that is motivating decarbonization efforts. He also cited positive spillover effects of promoting digital economy. Dr. Steinberg further made following arguments.

  -Capital market failure and the importance of private sector engagement: The German economic stabilization fund is an example of German government's effort for close collaboration with private investors.

  -Path dependency: The Gaia-X project is trying to help businesses to collaborate to overcome path dependency.

  -New rationales for industrial policy: Strategic autonomy and resilience are gaining attention as the new theoretical backbones of industrial policy, resulting in increased support for

semiconductor industries and value chain relocations in Europe and the U.S. There is both a point and a danger to it.

-Policy scope and policy instruments: While Germany has rather narrow scope on its industrial policy, it is important to consider criteria and boundary of industrial policy, given the political nature of the issues which industrial policy is expected to address. The main challenge from a practitioner's perspective is how to determine and calibrate right instruments.

- Professor Lerner touched upon the establishment of Yozma in Israel as an example of successful involvement of private sector under which the government distance itself from entrepreneurs by providing funding to intermediary venture capital funds rather than directly to entrepreneurs, and matching validation to the public funding made possible by co-fundings from venture capitalist and government. Professor Lerner also argued for setting a broad set of parameters for entrepreneurship rather than trying to dictate where technologies should be going.

- Professor Goolsbee echoed Professor Lerner's argument on the importance of involving intermediaries; in response to Covid-19, the US policy was designed for swift provision of financial resources from Fed (Federal Reserve System) to small business by using banks as intermediaries, but this approach has faced conflicting objectives as banks tended to provide finance first to their most favored clients (e.g. high income entrepreneurs). All policy decisions are not free from politics, and this makes industry policy prone to the risks of going back to the old-fashioned policy. He also raised the issue of whether autonomy can be considered as a new rationale for industrial policy, if autonomy is fueled by competitiveness concerns and desires to do things at home.

- Dr. Stenberg responded to Professor Goolsbee's comment on the danger of repeating the old-fashioned industrial policy by stating that pure nationalization cannot be the solution today, and cited the Important Projects of Common European Interest as an example of policy coordination effort within the EU to mitigate the problem of subsidy race.

4. Actions for Achieving the Purpose of the Forum (Panel Discussion)

Chair:
Dr. Ufuk AKCIGIT (IEA)

Panelists:
Dr. Carol CORRADO (The Conference Board, US)
Dr. Chiara CRISCUOLO (OECD)
Dr. Piero GHEZZI (Former Minister of Production, Peru)
Dr. HAMAGUCHI Nobuaki (Kobe University, Japan)
Mr. HIRAI Hirohide (METI, Japan)

Participants from academia, government and international organization jointly discussed how to achieve the purpose of the forum: building a better industrial policy and promoting a better understanding of new thoughts on industrial policy.

Topics raised by the moderator:

- What should be the new ways to think about industrial policy
- How to make industrial policy more effective

- Dr. Corrado explored the roles and features of intangible economy in today's digitalized economy, noting the rise of proprietary data as a vital factor for competition in the intangible economy. She elaborated that even when digital products and services themselves are not a secret, the proprietary data that trains algorithms cannot be copied, and this characteristic has a significant impact on both productivity and competition among companies. She concluded that frameworks for new industrial policy need to incorporate this aspect of modern competition.

- Dr. Criscuolo noted that objectives of industrial policy are changing in response to the new socioeconomic and geopolitical challenges, and industrial policy itself is also evolving in parallel. Referring to the OECD's recent work on the SDGs and industrial policy, she emphasized that industrial policy has an important role to play in bringing the best out of the private sector in achieving the new social objectives such as green transition, resilience of global value chains, and inclusive growth. She also stressed the importance of relying on strategies that combine industrial policy tools with the wider range of complementary instruments to address different market failures.

- Dr. Ghezzi presented three important points for implementing effective industrial policies based on his experience with the Mesas Ejecutivas (Executive Roundtable), which he implemented to

improve the productivity of the Peruvian economy when he was the Minister of Production in Peru. The first point he stated is that collaboration among the main public and private stakeholders is the key to improving productive diversification. He explained that coordination failures between the public and private sectors as well as within compartmentalized government entities of different levels and within the private sector are the major cause of low productivity. Since these failures tend to be very specific to the sector, industry, value chain and often territories, starting a process of public-private cooperation is key to identifying and solving the main problems affecting them.

As the second point, he explained that the Mesas Ejecutivas are neither purely top down nor bottoms up. They include actors on the ground that know the problems and potential solutions. But, occasionally, when ground actors can´t solve problems, these must be bumped up to high-level authorities (with more capabilities and resources).

Finally, he emphasized that the focus on starting small and implementing policies quickly and learning during execution is crucial because political cycles are much shorter than that required for industrial policies to come to fruition. This has allowed the methodology to work at solving problems but also learn to solve them, generating significant capabilities both in the public and private sector and in their capacity to coordinate with one another.

- Professor Hamaguchi shared his observation on the capital flight to risk-free assets in the last two decades in Japan due to uncertainties arising from structural changes (e.g. aging population, technological paradigm change toward carbon neutrality and digital transformation). He called for a holistic approach in industrial policy to reduce such uncertainties and to promote investment in more productive assets. As for practical implementations of such a holistic approach, he highlighted the importance of (i) competent executive institutions composed of staff with high analytical and communication skills, and (ii) a functioning feedback loop among stakeholders, including politics, to ensure transparency in operations.

- Mr. Hirai stressed the importance of policy coordination and shared narratives among like-minded countries in achieving objectives such as carbon neutrality and secure supply chains, inducing large private investments, while avoiding conflicts of interests among countries in their pursuit of industrial policy.

- Professor Akcigit pointed out the monotonous application of policy instruments among countries as a cause of policy ineffectiveness, and stressed the importance of countries using their own data to analyze and understand the particular problems of each country.

- Dr. Ghezzi noted that country's capabilities for industrial policy can be developed in the course of policy implementation by fostering trust between public and private sectors. On the other hand,

he pointed out that since Mesas Ejecutivas is intensive in government capabilities – which are not abundant – and promoting stakeholder interaction at a nationwide level is difficult, policymakers often seek for easier alternatives such as tax reduction and protection of specific industries. In addition, he reiterated that building strong industrial policies, and more so solving long term or structural problems, require perseverance and policy continuation through administrations over time.

- Dr. Criscuolo pointed out the dilemma inherent in designing both politically acceptable and socially effective policies; politicians may seek to create efficient policies that satisfy everyone while policy implementation inevitably creates winners and losers, and this conflict results in policy exceptions that make policies ineffective. She also stated that it is important to embed downscaling and exit strategies into policy evaluation cycles because the tendency of politicians illustrated above makes it difficult to abandon existing policies, ending up with a myriad of similar policies.

- Answering a question from Professor Akcigit on whether governments have adequate human resources and dynamism to fully comprehend and formulate appropriate policies in response to the impact of digital economy on employment and competition, Dr. Corrado enumerated two points.
  1) The lack of a proper framework for digital business cause misunderstanding of cost and rent structure of digital economies, leading to misguided discussions.
  2) The rise of proprietary data is hindering competition.
  She stated that policies to promote data sharing among companies may help address these issues, citing practice of credit scoring companies as an example, and that we should understand how data is being used in each industry to address the problem of entry barriers.

- Mr. Hirai presented several reflections from his work on the New Direction of Economic and Industrial Policies; (i) the importance of international cooperation, as the free flow of data, goods, and services is becoming increasingly difficult amid the changing geopolitical situation, and (ii) need for talented human resources and functional institutions in keeping up with rapid technological change.

- Professor Hamaguchi pointed to two types of abilities that are essential for government agencies in charge of industrial policy; (i) the ability to incorporate social issues (e.g. employment, equality) into specific policy programs, and (ii) communication capability. He also noted the value of technology and knowledge transfers through international cooperation.

- Finally, Professor Akcigit reiterated that a myriad of similar policies distorts policy outcomes, and that there is a lack of proper evaluation of the effectiveness of subsidies and other programs. Dr.

Ghezzi commented that the lack of coordination between key stakeholders rather than failing to provide the right subsidy is the real and deep-rooted problem. Following this, Dr. Criscuolo emphasized that an ecosystem in which universities, producers, customers, and competitors play their respective roles and interact with each other is key to the new industrial policy.

5. Closing Remark

Speaker:
Dr. YANO Makoto (Chairman, RIETI, Japan)

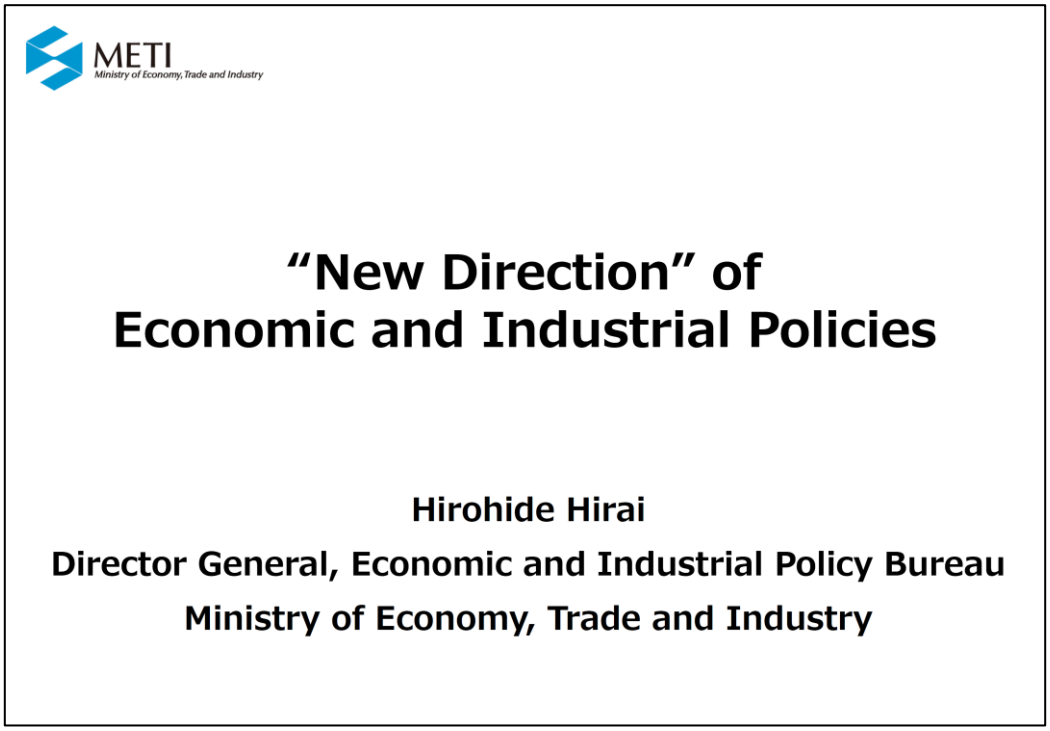
- Chairman Yano wrapped up the conference by emphasizing that the new industrial policy is indispensable to tackle major issues we are facing today, and thanking the participants for their valuable insights and discussions which will serve as the basis for future work on industrial policy.

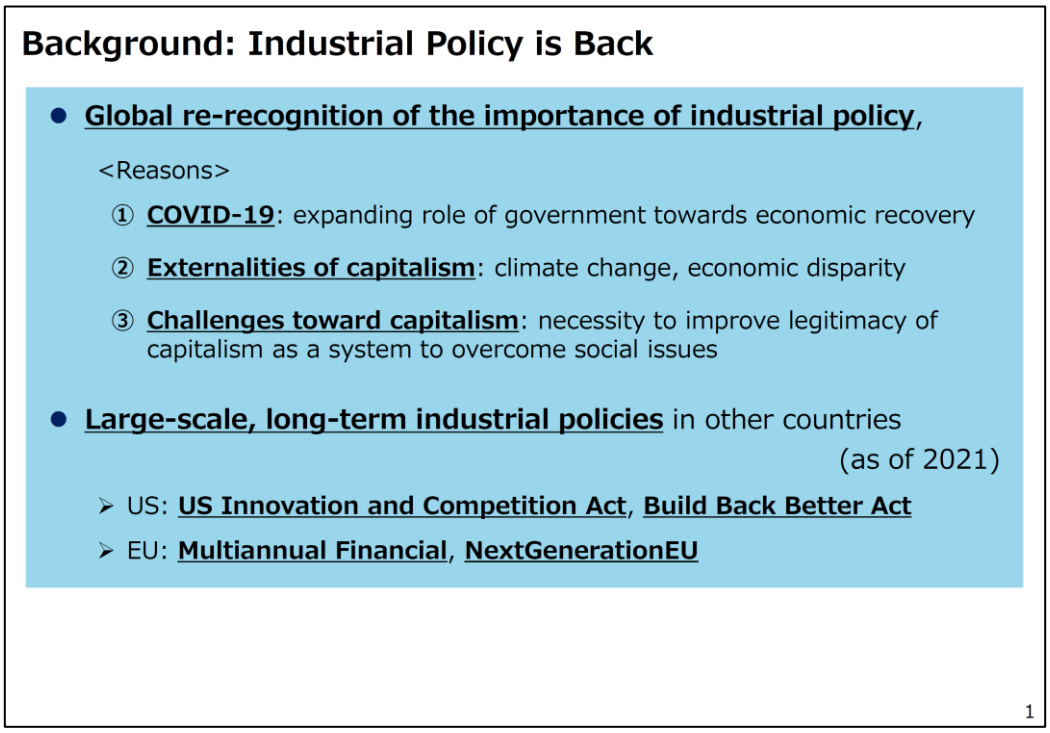
Presentation Slides

3. Latest Development on Industrial Policy (Presentations and Discussions)

3-A. Session1: Presentations from Government Officials

Mr. HIRAI Hirohide (METI, Japan)





"New Capitalism": Japan's government-wide policy

- **"New Capitalism" by Prime Minister Kishida.**
- Updating capitalism to **overcome market failure** (e.g. inequality, environment)
  + utilizing the benefits of **market mechanism**.
- **Virtuous cycle between economic growth and distribution.**
- METI's contribution: **"New Direction" of economic and industrial policy**.

Growth

(1) Technology and Innovation
- Five-year plan for startup creation

(2) Digitalization
- Investment in digital infrastructure

(3) Carbon Neutrality
- "Clean Energy Strategy" and GI Fund

(4) Economic security
- Economic security bill, JASM

(1) Wage raise
- Tax incentives for wage-raising firms

(2) Investment in human capital
- Support towards reskilling
- Improving flexibility of labor market

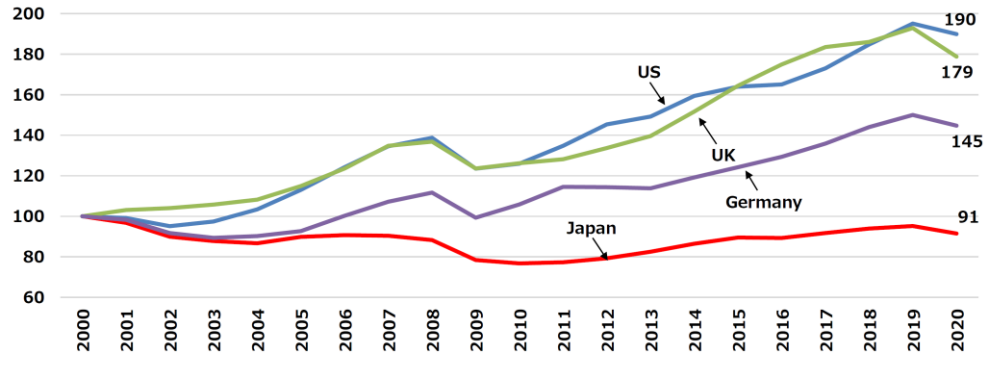
(3) Maintaining the middle class
- Strengthening social security for households with children

Distribution

"New Direction" of economic and industrial policy

- **"Lost 30 years": Low economic growth** brought by **underinvestment** (green technology, digital technology, human capital, etc.).
- "New Direction": **expand investment toward social issues**.
- **Mission-oriented approach**, with **large-scale, long-term support**.

Capital Formation in Major Economies (2000=100, excludes residential investment)



Japan's Approach for Mission-Oriented Policies

Goal
Solving socio-economic issues & Achieving economic growth

Mission Setting
①Necessity of problem solving in Japan
②Necessity of problem solving in the world
③Possibility of Japan's contribution.

Direction to pursue

- **Global**: oriented towards the global market, partnership with foreign players
- **High value creation:** diverging from Japan's over-focus on cost competitiveness
- **Involvement of startups**: free from existing industrial structure, focusing on resolving social issues

Policy Tools

- **Shared strategy between public and private sector:** necessary for making bold investments
- **Large-scale, long-term, and planned support:** mitigating risk towards achieving a shared purpose
- **Designed regulation and system:** market creation of areas serving to resolve socio-economic issues

4

Two Pillars of the "New Direction"

"Mission-Oriented" Industrial Policies

<Concept>

- **Shared long-term vision and goals** between government and private sector.
- Government **providing large-scale, long-term and well-planned support.**

<Target Issues>
①Carbon Neutral Society
②Digital Society
③Economically Secure Society
④New Health Society
⑤Disaster-Resilient Society
⑥Sustainable Society through Biomanufacturing

Updating Socioeconomic System

<Goals>

- Improving **global competitiveness** amidst rapidly changing industrial structure
- Achieving **inclusive growth** through maximizing the value of individuals and local regions.

<Focuses>
①Human Resources
②Startups/Innovation
③Value-Creating Management
④Globalization of Japanese Society
⑤Inclusive Growth
⑥EBPM/Data-Oriented Governance

5

Examples of "Mission-Oriented" Industrial Policies

Green Innovation Fund (established in 2021)

- **Large-scale**: $15B fund for programs with ambitious carbon neutral goals.
- **Long-term**: support for **up to 10 years**.
- Public-private partnership: requiring executives to engage in programs as a **company-wide management issue**.

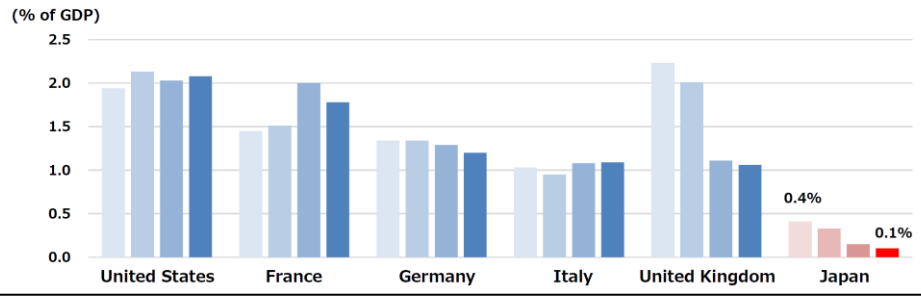
Support for JASM: Japan Advanced Semiconductor Manufacturing (2021)

- Joint venture established by **TSMC, Sony and Denso**.
- **Government support: $3B**.
- Fortifying **domestic manufacturing base of semiconductors**
- Public-private partnership: **enhancing industry-academia-government collaboration** and **fostering human resources**.

Updating Socioeconomic System: Investing in Human Capital

- Issue: **low and declining investment in human capital**,
  → low labor productivity, slow adaptation to changing industrial structure.
- Policy direction:
  - Promotion of **human capital management**,
  - Improved **flexibility of labor market**,
  - **Diversification of education**.

International Comparison of Human Capital Investment (excluding OJT)
(from the left, shows investment in 1995-99, 2000-2004, 2005-09, 2010-14)



Ms. Donna LEONG (BEIS, UK)

UK Industrial Policy and its Challenges

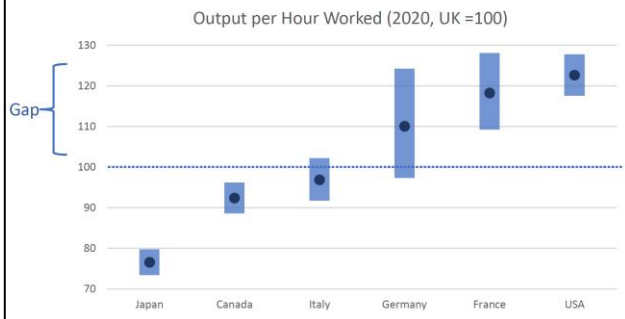
Donna Leong
UK Department for Business, Energy and Industrial Strategy

Department for Business, Energy & Industrial Strategy

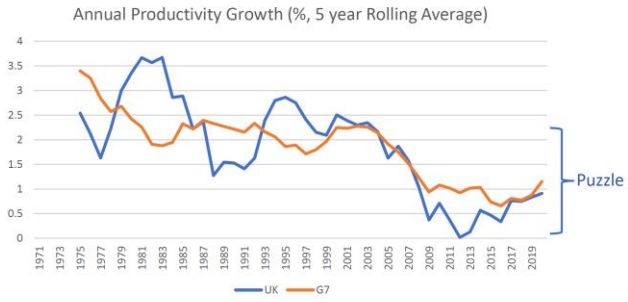
Background

The starting point for modern UK Industrial Policy is our relatively weak productivity performance

The UK has a longstanding **productivity gap** with France, Germany and the USA



The UK has also had a more severe productivity slowdown (**productivity puzzle**) than other G7 countries



- Although at least some of the UK's recent productivity weakness is likely due to a slowdown of the productivity frontier (Fernald and Inklaar 2022) – this does not help explain our longer run under-performance or why we were harder hit

Source: ONS International Comparisons of Productivity, OECD International Comparisons of Productivity; Fernald and Inklaar (2022) - The UK Productivity Puzzle in an International Comparative Perspective

This has been the subject of successive policy initiatives – but the end result is less than the sum of its parts

The most recent push on UK productivity started in 1998 (The Five Drivers of Productivity)

This has since been followed by the Plan for Growth (1 & 2), Productivity Plan and the Industrial Strategy

As a result, the UK has maintained or improved its performance on most of the drivers of productivity

…with the notable exception of private investment

This led to some productivity catch-up in the 1990s and early 2000s, but since the late 2000s progress has gone into reverse

Business Environment
- Consistently ranked in the top ten globally in assessments of ease of doing business and regulatory environment

Education and Skills
- Doubled the proportion of the population with higher level skills, halved basic skills

Science and Innovation
- Maintained our standing in terms of research excellence, but weaker on private sector innovation

Infrastructure
- Increased investment in UK infrastructure, but still room for substantial improvement

Private Investment
- Lowest share of private investment in GDP in the G7, consistently in the bottom quartile of the OECD

What have we been missing? UK policy has tended to focus too much on the What and not enough on the Who, How and Where

What (Horizontal Policies)

The common theme of the last three decades of UK growth and productivity strategy is a strong focus on **horizontal policies**
This is driven by the UK's bad experience of industrial policies in the 1960s – 1970s ('Picking Winners')

Who (Sectors)

Horizontal policies have differential effects across sectors and types of firms

Lack of thinking about the effects of policy across sectors leads to '*industrial policy by accident, rather than design*'

How (Institutions)

UK has been successful in establishing stable macro policy institutions (Bank of England independence, OBR etc.)

But micro-policy has been characterised by constant change

Where (Place)

An implicit policy assumption was that labour markets clear – people will move to places with jobs and businesses will move to places with spare labour

Although there is *some* truth to this, it is contradicted by falling mobility rates and long term under-performance of many UK towns

Change in UK Approach

Who: Our prioritisation framework considers sector potential, HMG objectives and the role for government

As part of the work to develop **Build Back Better: Our Plan for Growth**, we developed a framework to prioritise sectors, incorporating lessons learned from the Industrial Strategy 2017

(1) Future Growth Potential

Comparative advantage: Specialisation creates economies of scale, leading to higher growth & productivity.

(Focus on what you are good at)

Future growth potential: Seek to capitalise on growth to generate benefits for the wider economy.

(Focus on where future growth lies)

Technological progress: Shift of the productivity frontier of sectors, and the economy, to boost long run growth.

(Focus on where the technology is going)

(2) Strategic Government Objectives

Net Zero: HMG has a legal obligation to achieve NZ by 2050, which will create new businesses, jobs and other opportunities across the economy.

Levelling Up: HMG has made regional growth a key priority, to rebalance the economy away from London & South East.

(3) Government Additionality

Market Failures: When left to market forces, the allocation of goods & services in certain sectors may be sub-optimal.

- Externalities, e.g. positive spillovers from R&D like new knowledge, or negative costs caused by pollution.
- Imperfect information between agents can create coordination failures or other imbalances.

Missing Markets: In new, emerging tech sectors, private investors may be unwilling to invest due to uncertain returns and the associated risk profile. This can lead to a missing market with no supply despite potential future demand.

Government can make the first move to establish the market and provide a signal to private actors to invest.

Infant Industries: Nascent markets are often too small and face high barriers to operate in global markets.

In narrow cases there can be an argument for HMG to support these sectors to support them scale-up and attain economies of scale,to enable these industries to eventually capitalise on global trade opportunities.

How: We have made some progress in building more long-term micro policy institutions

National Infrastructure Commission

Founded in 2015, this provides independent and expert advice to the UK government on how to meet its infrastructure challenges; and monitors progress on meeting these objectives

Productivity Institute

Founded in 2021, although primarily an academic institute it is specifically tasked with engaging with businesses and policy makers to provide practical solutions to their productivity challenges

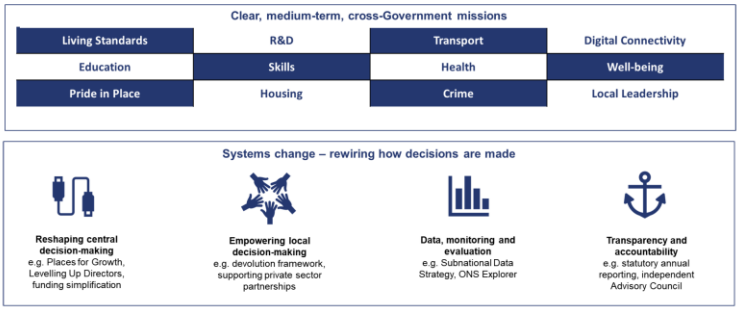
Levelling Up Strategy

Published in 2022 – key recommendations focus on improving the institutions which make place based policy decisions, both at the national and local level

Where: The Levelling Up strategy is anchored in a wider view of what makes places successful and 'rewiring' government

Six Capitals Framework

Changing how (local) government decisions are made



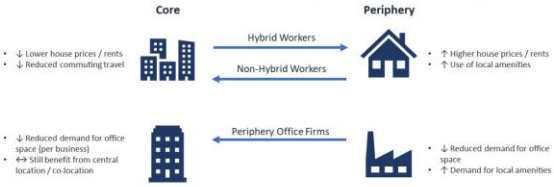
- **Six Capitals framework** tackles more than just low productivity and moves beyond a narrow definition of productive assets to incorporate social and institutional capital
- Key focus is building a **policy response with longevity, strategic co-ordination and local empowerment** – supported by better evidence, transparency and accountability

Challenges for the Future

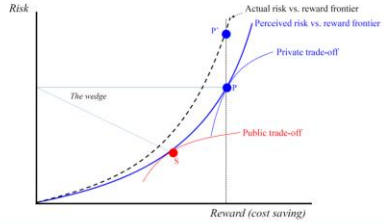
Following Covid-19 we are not returning to previous trends, but to a 'New Normal' – whose ultimate shape is not yet clear

- Shift towards **hybrid working** in the UK looks likely to be persistent and large (in those occupations who can do it)
- We do not think this will change the **central role of cities** in modern growth
- But it will **change when and where people live and work** – with implications for 'office adjacent' sectors / activities

Possible impacts of shift to greater teleworking



Risks vs Efficiency Trade-offs in International Supply Chains



- Covid-19 along with the Russia-Ukraine crisis have also focused attention on **supply chain resilience**
- In particular the trade-off between **risk versus efficiency**, with the public having a lower appetite for risk
  - Supply chains using **Just in Time** production models are more efficient but also more vulnerable big shocks (Ortiz 2021)
  - But **nationalisation of supply chains** does not remove risk – it simply changes what and where those risks are

Source: Ortiz (2021) Spread Too Thin, The Impact of Lean Inventories; Baldwin and Freeman (2021) Risks and Global Supply Chains: What do we know and what we need to know

We cannot ignore the effects of path dependence which makes it difficult to disentangle sector and place based policies

Almost all UK towns who suffered a negative shock in the 1980s still lagged behind in 2011

Note: Male Employment Rate (MER)

Large scale government expenditure in one location has significant leakage to other locations

Heatmap of vacancies mentioning Hinkley Point

Bar charts show skill content of vacancies by region relative to all Hinkley Point related jobs

Location of software, design, finance and management jobs skewed towards London, Bristol

- New Economic Geography and Complexity Economics emphasise the importance of the different bundles of productive assets across places – these incentivise businesses who need those assets to co-locate
  - But very difficult for policy to create clusters or incentivise businesses to relocate to an underperforming area
- Once a location loses its more productive / higher skill activities, it can easily slip into a lower skill equilibrium as more productive firms locate elsewhere

Source: Rice and Venables (2020) The Persistent Consequences of Adverse Shocks: How the 1970s Shaped UK Regional Inequality; BEIS Analysis of Burning Glass data.

Which is a challenge as the 'big transitions' – Automation, Digital, Net Zero etc. – play out differently across the economy

- Experience of the 1980s suggests policy has to get out ahead of any economic restructuring, or else it can be very expensive and difficult
- Some examples of where a proactive approach this has been a success (e.g. switch to natural gas, digital switchover) but the coming transitions much bigger in scale and scope

Automation

Although on balance likely to be neutral or positive for employment – will still *change* large numbers of jobs

Risk of job polarisation affecting the lower skilled (particularly the young)

Wider questions around job quality, wellbeing, legal accountability etc.

Digital

Some evidence of 'J-Curve' type effects in the adoption of digital technologies

Could widen productivity divergence as 'followers' lack the capacity to make the necessary complementary investments

Which in turn could lead to a slowing of knowledge diffusion and adoption

Net Zero

Smaller employment reallocation implications than automation

But potentially a much bigger challenge for business investment

Requires a wholescale 'greening' of our capital stock across all sectors – 'nowhere to hide'

Source: Kariel (2021) Job Creators or Job Killers? Heterogeneous Effects of Industrial Robots on UK Employment; Acemoglu (2021) - Inequality and Automation; Brynjolfsson et al (2020) - The Productivity J-Curve; Corrado et al (2020) New Evidence on Intangibles, Diffusion and Productivity; McKinsey (2022) The Net Zero Transition

Any Questions?

3-B. Session2: Presentations from Academic Researchers

Dr. Josh LERNER (Harvard University, US)

The Dance between Public and Private Investors: Public Entrepreneurial Finance around the Globe

Jessica Bai, Shai Bernstein, Abhishek Dev, and Josh Lerner

Harvard University and Yale University

IEA-METI-RIETI Conference on New Thinking on Industrial Policy
June 10th, 2022

Introduction

- In recent decades, governments around the world have been increasingly interested in boosting innovation and the "knowledge economy."
- One manifestation of this is efforts to boost financing for early-stage ventures.
  - In fact, over the last decade, such government programs around the globe reached a scale similar to the global venture capital industry (~$150 billion/year).
- But young high-growth businesses face substantial uncertainty, information asymmetry and require significant technological expertise.
  - Skillful allocation of capital to such companies may be difficult:
    - Gompers and Lerner 1999; Kaplan and Stromberg 2003; etc.
- This paper seeks to explore whether government entrepreneurial funding programs can address capital allocation through ties with private capital markets:
  - Ties to literature on collaboration between investors with varied skills and information in private and public markets.

Why might government programs may benefit from private entrepreneurial finance?

- Substantial informational asymmetries that affect the selection of new ventures:
  - VC frequently make decisions based on "soft information":
    - Kaplan and Stromberg 2004; Bernstein et al. 2016; etc.
  - These may be difficult for public officials to duplicate.
- Substantial issues surround governance and refinancing of new firms:
  - VCs have developed various mechanisms to ensure ability to make "tough" decisions:
    - E.g., staged financing (Gompers 1994; Neher 1999).
  - May be difficult for government operating alone.
- Unlike public officials, private financiers' compensation is strongly tied to the success of their investments, affecting sorting of individuals' and their effort.
- Highly effective governments can anticipate these problems and collaborate with private capital markets to address them:
  - Acemoglu and Robinson 2013; Stiglitz, Lin, and Monga 2014.

When would governments and venture investors collaborate?

Provide a conceptual framework based on Lach, Neeman, and Schankerman (2021):

- Governments seek to maximize private returns *and* project externalities.
- Private investors do not internalize externalities but *improve* likelihood of success.
- We incorporate heterogeneity in (1) project quality and externalities, (2) VC effectiveness, (3) private investors' search costs, and (4) government ability to extract rents.

We characterize *when* governments would attempt to attract VC investors by providing subsidized equity in projects.

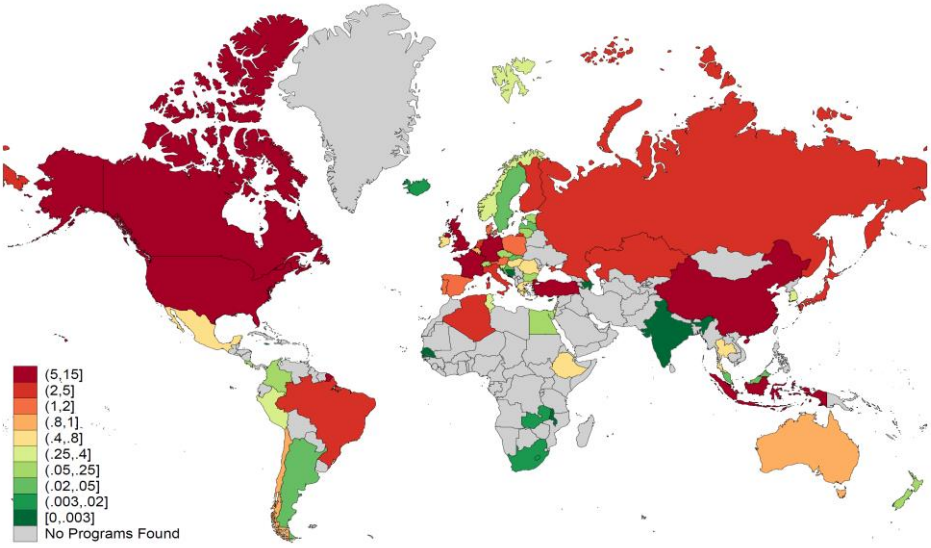
Empirical approach

- The literature to date has largely focused on efficacy of a single program or a single nation, exploiting a discontinuity associated with the program:
  - Bronzini and Iachini 2014; Howell 2017; Le and Jaffe 2017; Myers and Lanahan 2020; Santoleri et al. 2020; and many others.
  - Or multiple programs in a single nation:
    - Kisseleva 2020; Pless 2020.
- These approaches **cannot** explore *when* collaboration between public and private entrepreneurial finance emerge:
  - Put differently, existing approaches cannot test framework predictions.
- Remarkably understudied, but key challenge: information about government funding efforts of early-stage ventures around the globe is not widely available.

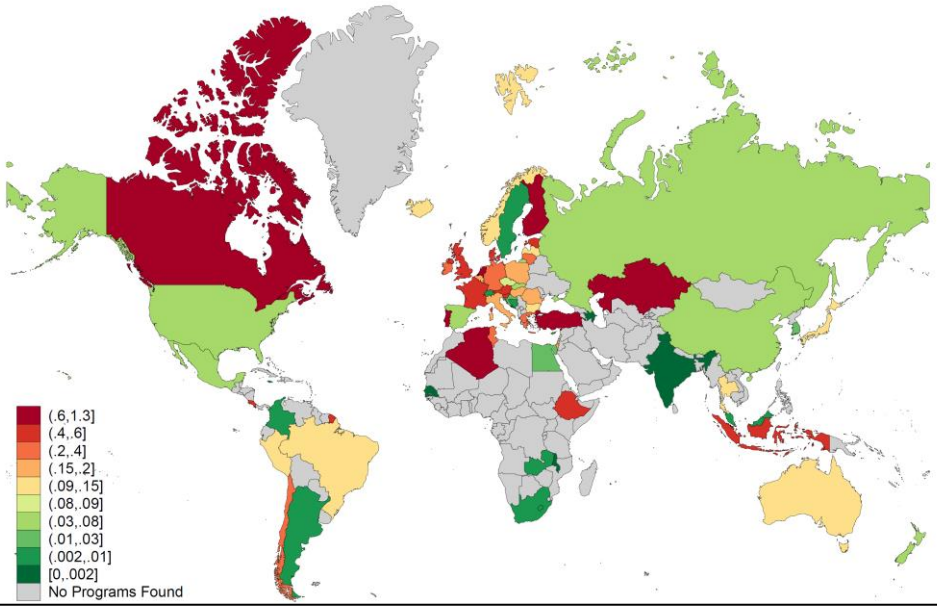
Empirical approach (2)

- Hand collect novel data on government funding programs around the globe:
  - 755 programs in 66 countries active between 1995 and 2019.
  - Attempt to create as complete and unbiased a sample as possible.
  - Compile information about the structure and budget of these programs and their reliance on private capital markets.
- Test theoretical suggestions about the relationship between public entrepreneurial finance initiatives with local venture capital markets.

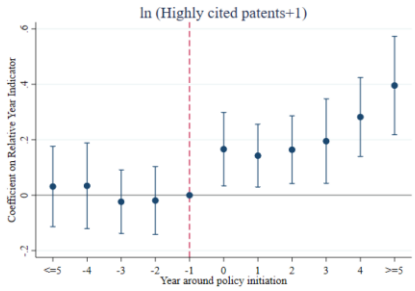
Annual budgets, entrepreneurial finance programs ($B)



Average of annual budget/GDP (in %)



Key findings



- Looking at the appearance of these programs, results are consistent with the model:
  1. Private sector involvement more pronounced when governments are more effective.
  2. Private sector involvement more pronounced when programs focus on early-stage firms.
  3. More private venture activity is associated with subsequent government entrepreneurial finance, especially in better-run countries.
- Looking at impact of these programs, public entrepreneurial finance programs are associated with a higher growth in patenting activities.
- Results suggest that private entrepreneurial finance can help public programs mitigate information and capture issues.

Thank You!

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10

Dr. TOMIURA Eiichi (Hitotsubashi University, Japan)

Comments

June 10, 2022

Eiichi Tomiura
Hitotsubashi University/RIETI, Japan

On main presentations

- Prof. Goolsbee

  AER (1998) → Unintended effect of policy (Okubo & Tomiura "Industrial relocation policy, productivity, and heterogeneous plants: Evidence from Japan," *Regional Sci & Urban Econ* 2012)

- Prof. Lerner

  Policy effective if financial institutions involved (Okubo, Okazaki & Tomiura "Industrial cluster policy and transaction networks: Evidence from firm-level data in Japan," *Canadian J. of Econ*, forthcoming)

My remark on data for "new" industrial policy

- "New" targets & tools → Measurement problem
- Evaluation → Strict identification (randomization impossible)

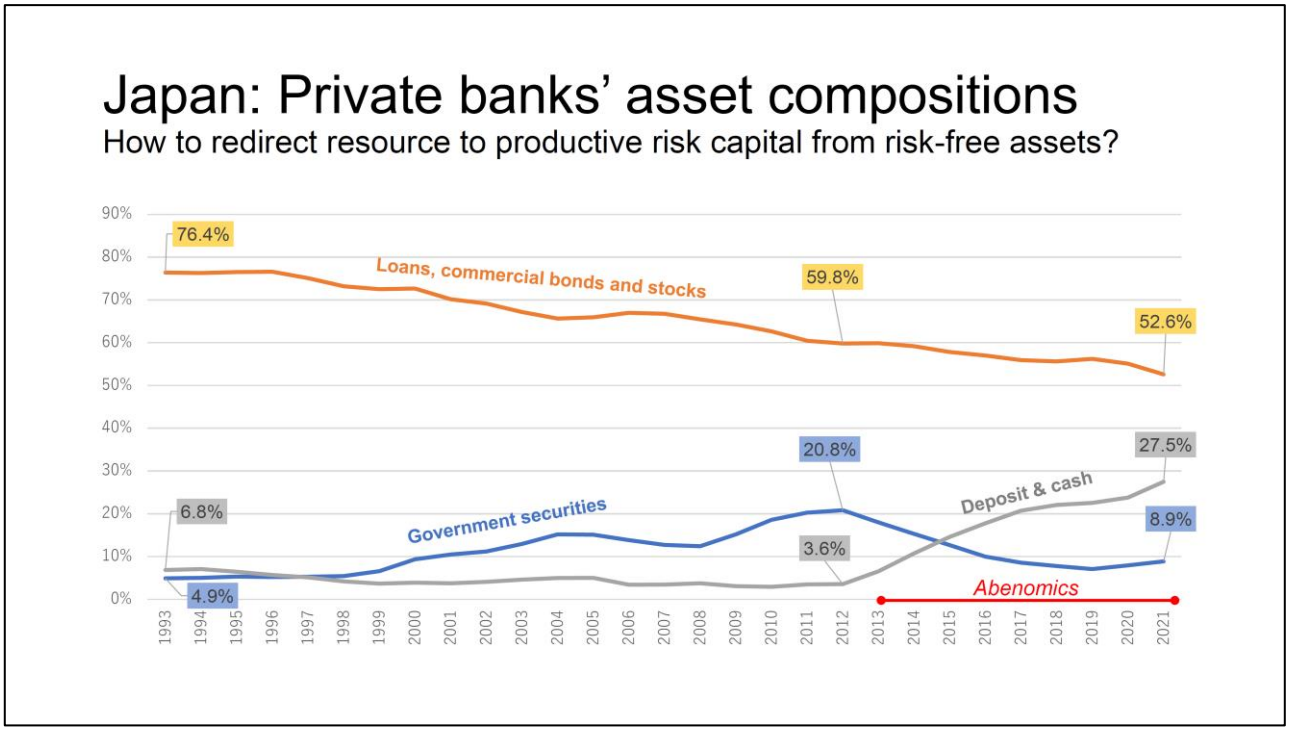
- High-frequency Big Data accumulated in private sector
- Research design in urban econ. on place-based policy

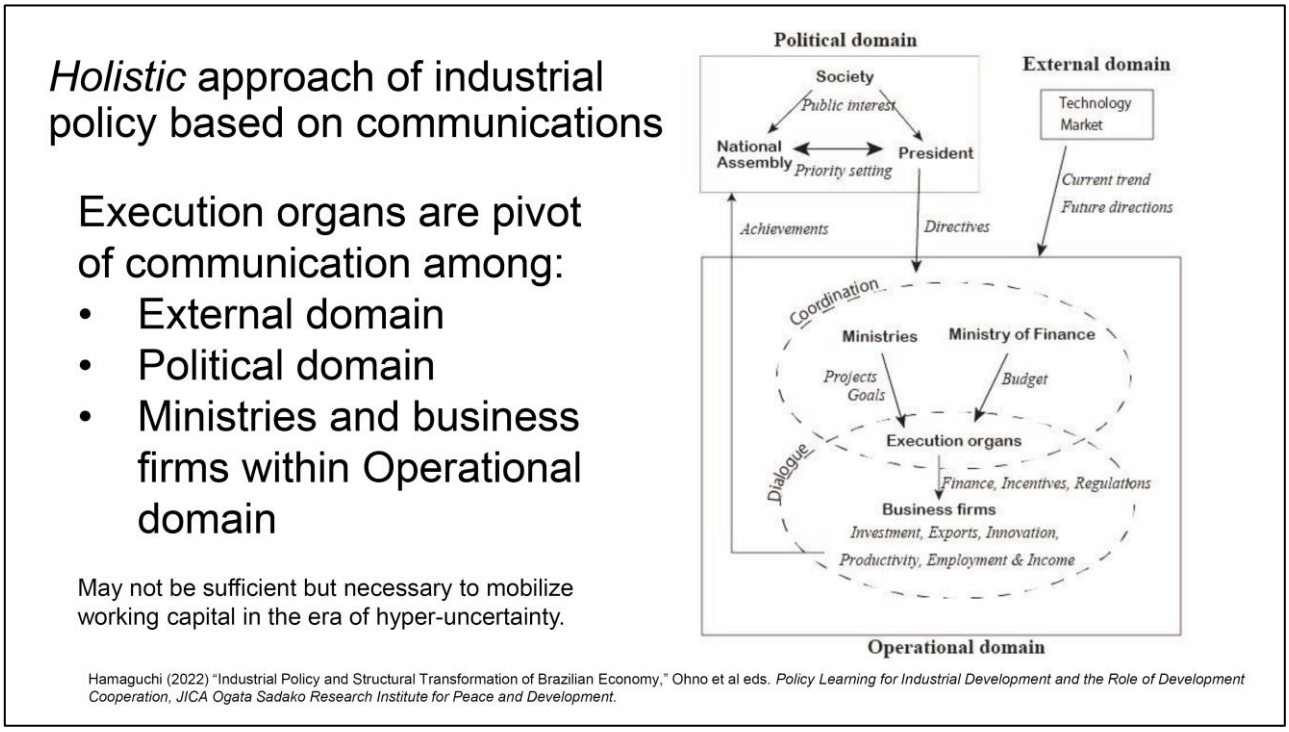
→ **Forward-looking design of data collection scheme** for future policy evaluation (Japan's RIETI planning a trial)

E. Tomiura

4. Actions for Achieving the Purpose of the Forum (Panel Discussion)

Dr. HAMAGUCHI Nobuaki (Kobe University, Japan)





Hamaguchi (2022) "Industrial Policy and Structural Transformation of Brazilian Economy," Ohno et al eds. *Policy Learning for Industrial Development and the Role of Development Cooperation, JICA Ogata Sadako Research Institute for Peace and Development.*

https://www.rieti.go.jp/en/events/22061001/info.html