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한·일 미래포럼

한일무역마찰 갈등을 넘어 상생으로

2020. 9. 5(토)

대구 EXCO 324호

주 최

한국국제경영학회(KAIBS) · 일본국제경영학회(JAIBS)
한국경영학회 대구경북지회 · 한국국제경영관리학회
한국산업경영학회 · 중앙대학교 산업경영연구소

후 원

대구광역시 DAEGU METROPOLITAN CITY 매일경제 每日新聞 DGB대구은행 DGB Daegu Bank KB국민은행 신성E&G
CHAEVI 화성 서한 kumbokju EXCO DCVB DAEGU Convention & Visitors Bureau

초대의 글

안녕하십니까? 코로나 사태로 일찍이 경험하지 못한 어려움을 겪고 있는 시점에서 한일 양국의 경영 학자들이 모여 '한일무역마찰: 갈등을 넘어 상생으로'라는 주제의 포럼을 개최하게 되어 회원 여러분을 초대합니다.

예상치 못한 코로나 사태 등 국내외 정치·경제환경 및 패러다임의 급변으로 불확성이 높아지고 있습니다. 현재 세계경제는 지난 30년, 길게는 2차 세계대전 이후 미국이 주도해 왔던 세계화(globalization)시대에서 세계화를 거부하면서 각국의 이익을 위해 강력한 보호무역주의로 각자도생을 추구하는 민족주의가 확산되는 탈세계화(deglobalization)시대로 접어들고 있으며, 그 대표적 사례가 미중무역마찰과 한일무역마찰이라고 할 수가 있습니다. 그동안 수출주도성장으로 세계화시대의 혜택을 톡톡히 누린 한국은 이제 세계화가 후퇴함에 따라 역으로 큰 어려움에 직면하고 있습니다.

특히, 최근 일본의 수출규제로 촉발된 한일관계가 악화일변도로 치닫고 있어서 경제를 넘어 안보 분야에까지 영향을 미치는 심각한 수준에 이르러 한일갈등으로 인해 한일재계교류가 중단되고 민간부문의 교류까지도 위축되고 있습니다.

이런 상황에서 본 학회는 일본국제경영학회(JAIBS), 한국경영학회, 한국국제경영관리학회, 한국산업경영학회, 중앙대학교 산업경영연구소와 의기투합하여 이럴 때일수록 민간차원에서의 교류, 그것도 양국 경제전문가들의 만남을 통해서 냉철하게 한일 양국이 안고 있는 문제를 정확히 이해하고 미래지향적인 자세로 상생의 길을 모색하는 것이 시급하다는 점을 깊이 인식하여 이 포럼을 개최하게 되었습니다. 부디 바쁘시더라고 많이 참석해서 좋은 의견을 나누는 활발한 토론의 장으로 만들어 주시길 바랍니다.

마지막으로 불가피하게 일본에서 온라인으로 이 포럼에 참석하시는 시라키 일본국제경영학회장을 비롯한 일본측 참가자들께 감사드리고, 또한 무엇보다도 중앙정부 간 갈등에도 불구하고 꾸준히 지자체나 민간교류의 활성화가 필요하다는 점을 깊이 인식하시고 적극 지원해주신 권영진 대구광역시장님과 공동주최 여러 학회장님들 및 후원기관에도 감사드립니다.

2020년 9월

한국국제경영학회장 서민교

한국국제경영관리학회장 설원식

한국산업경영학회장 박영근

중앙대학교 산업경영연구소장 송정석

Ⅰ. 2020 춘계 정책포럼(한·일 미래포럼) 전체 프로그램 및 일정

일자	시간	프로그램
9월 4일(금)	17:00 - 21:00	제1차 정기이사회 및 만찬
	21:00 -	숙박(인터불고호텔 엑스코)
9월 5일(토)	08:00 - 09:00	조식(장소: 아미정)
	08:30 - 12:00	동화사 관광(출발: 인터불고 엑스코 호텔 앞)
	12:00 - 13:00	중식(장소: 엑스코 325호)
	13:00 - 13:30	등록(장소: 엑스코 324호 앞 로비)
	13:30 - 14:00	개회식 및 <글로벌 프론티어 대상> 시상
	14:00 - 15:00	논문발표 Ⅰ, Ⅱ
	15:00 - 15:20	coffee break
	15:20 - 16:20	논문발표 Ⅲ, Ⅳ
	16:20 - 16:30	coffee break
	16:30 - 17:30	종합토론
	17:30 - 17:40	폐회

Ⅱ. 한일미래포럼 일정

▣ 일 시 : 2020년 9월 5일(토) 13:00

▣ 장 소 : 대구 엑스코 324호실

시간	프로그램	
12:00~13:00	점심식사(도시락)	엑스코 325호
13:00~13:20	접수	엑스코 324호
	개회식	사회:정재휘(대구대)
13:20~13:25	개회사	서민교(한국국제경영학회장)
13:25~13:30	환영사	권영진(대구광역시장)
13:30~13:40	축사	Mitsuhide Shiraki(일본국제경영학회장) 이영면(한국경영학회장)
13:40~14:00	<글로벌 프론티어 대상> 시상	정민교 대표(대영채비(주))
	논문발표	사회: 서정해(경북대)
14:00~14:30	Paradox of global innovation by multinational corporations: Challenges and opportunities	Kazuhiro Asakawa (Keio Business School)
14:30~15:00	한일 무역마찰의 원인과 영향 그리고 대응방향	이지평(LG경제연구원)
15:00~15:20	Coffee break	
15:20~15:50	Beyond flying geese curse: Global position of manufacturing in Japan and Korea	Yukiko Fukagawa(Waseda University)
15:50~16:20	한일 무역마찰이 지역에 미치는 영향과 대응방안	정군우(대구경북연구원)
16:20~16:30	Coffee break	
16:30~17:30	종합토론	좌장: 서정해(경북대)
		이중우(인제대) 백권호(영남대) 이형오(숙명여대) Junjiro Shintaku(The University of Tokyo) Takeshi Ohtowa(Kanto Gakuin University) 박영원(The University of Tokyo) Mitsuhide Shiraki(Waseda University)
17:30~17:40	폐회	

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▣ 논문발표

목 차

▣ 종합토론

P·A·R·T

발표1

Paradox of global innovation by multinational corporations: Challenges and opportunities

Kazuhiro Asakawa(Keio Business School)

Paradox of global innovation by multinational corporations: Challenges and opportunities

Kazuhiro Asakawa
Keio Business School

Korea-Japan Future Forum
September 5, 2020

Motivation

- Declining R&D productivity in Japan in the past two decades
- R&D investment not necessarily leading to R&D productivity
- R&D globalization seems to be a solution
- However, paradox of home country advantage
- Parallel situation in Korea as well
- Implications for global innovation and R&D productivity in Japanese and Korean multinational corporations (MNCs)

Characteristics of Japan's R&D: Challenges

- High level of R&D investment
- High proportion of business R&D
- Low level of R&D productivity
- Low level of R&D globalization

=> Korea's R&D shows similar patterns

Kaz Asakawa, Keio Business School 3

High level of R&D investment

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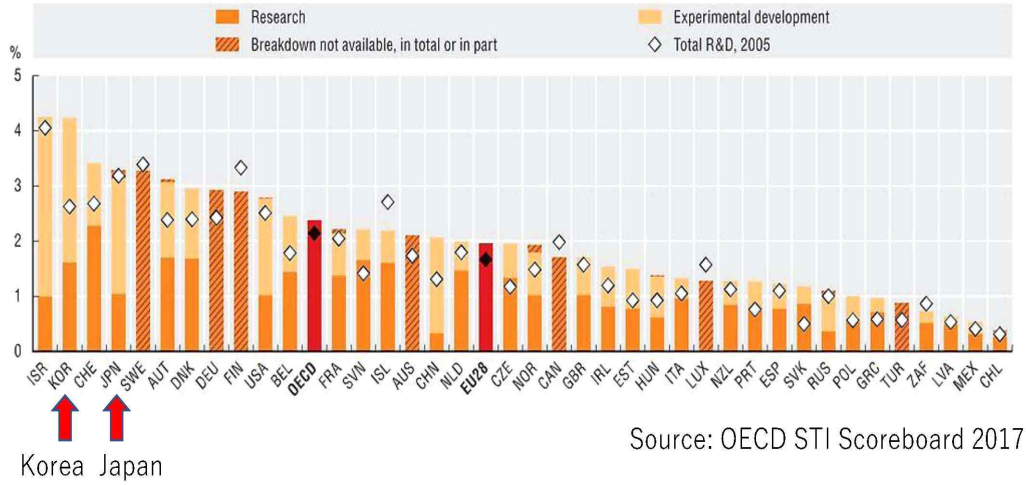
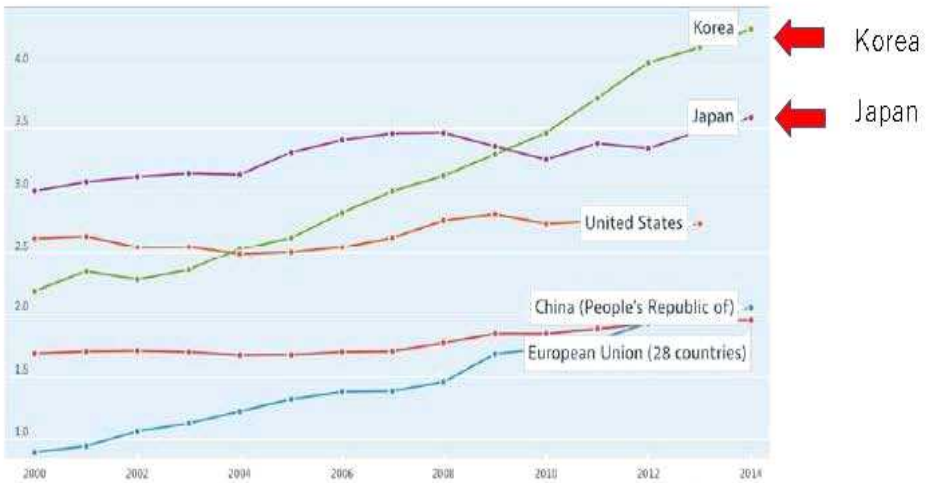
Gross domestic expenditure on R&D, by type of R&D, 2015
As a percentage of GDP



Source: OECD STI Scoreboard 2017

Kotabe, M. (2017): R&D spending of the countries

Figure 1: R&D Spending Relative to GDP by Country (2000-2014)

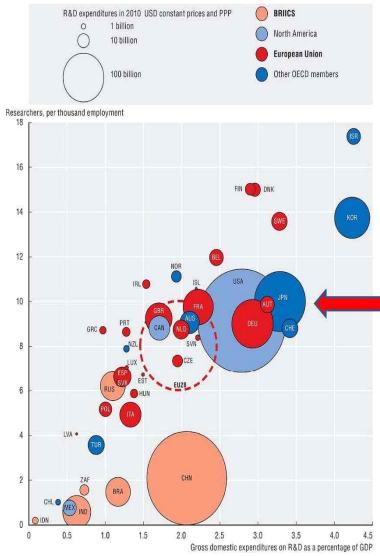


Source: OECD, https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm, 2016.

REFERENCE: Kotabe, M. 2017 Have Japanese companies lost sight of the paradigm shift in competitive advantage? Japan MNE Insights, 3(2).

R&D in OECD and key partner countries, 2015

# of researchers /1000 employment



Korea

Japan

R&D expenditures

Source: OECD STI Scoreboard 2017

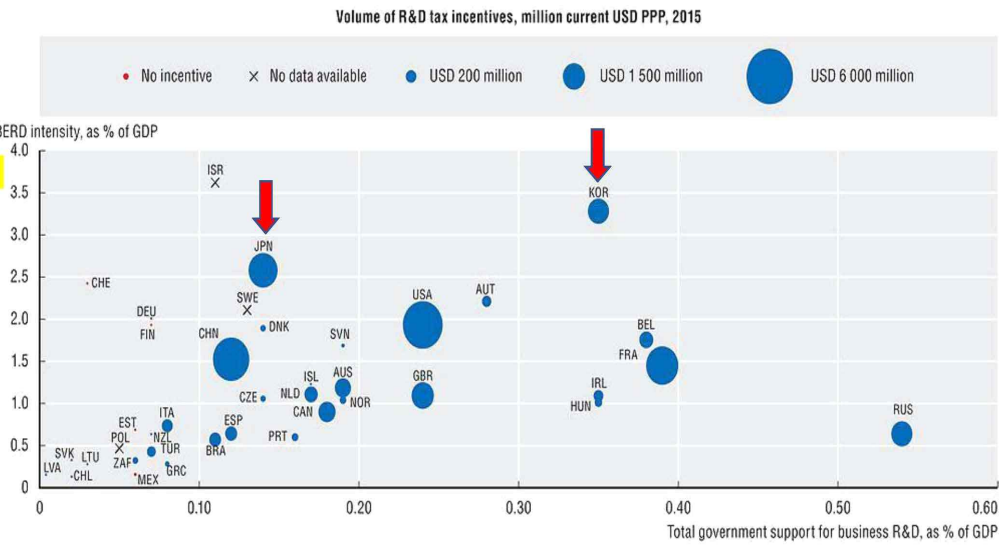
High proportion of business R&D

Business R&D, 2005 and 2015
As a percentage of gross domestic expenditure on R&D

Japan
Korea

Source: OECD STI Scoreboard 2017

Business R&D intensity and government support to business R&D, 2015
As a percentage of GDP

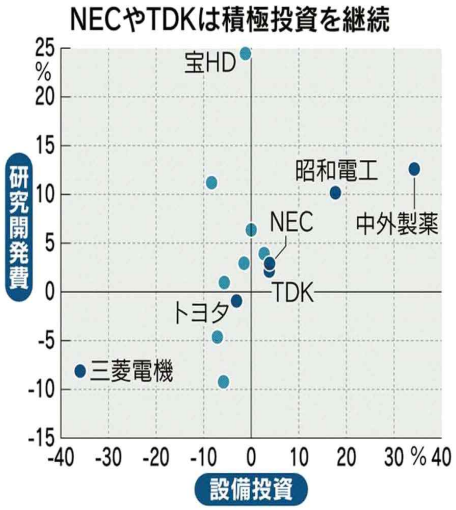


Source: OECD STI Scoreboard 2017

Government support

Firms are continuing to invest in R&D in the age of COVID-19 pandemic

Nikkei Shimbun, June 12, 2020



(注)2020年度計画、前年度比増減率

トヨタは次世代車開発に向けて高水準維持
(研究開発費の20年度計画)

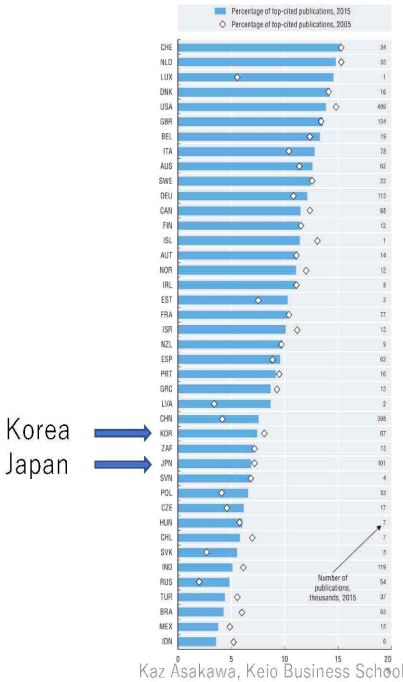
トヨタ自動車	1兆1000(▲0.9)
武田薬品工業	4470(▲9.2)
アステラス製薬	2390(6.6)
第一三共	2280(15.5)
大塚HD	2200(2.0)
三菱電機	1900(▲8.1)
エーザイ	1655(18.1)
三菱重工	1400(▲4.6)
TDK	1200(2.1)
中外製薬	1150(12.6)

(注)単位億円、カッコ内は前年度比増減率%、▲は減少

Low level of R&D productivity

Quantity and quality of scientific production, 2005 and 2015

Number of documents and percentage among the world's 10% most cited publications, fractional counts



Korea

Japan

Mediocre level

Source: OECD STI Scoreboard 2017

Declining Rate of Return on R&D capital

Industry	1986-1990	1991-2001	2002-2010
Pharmaceutical	28.2%	31.9%	5.0%
Electronic and Electric	19.7%	5.6%	-2.1%
Chemical	38.8%	4.0%	2.3%
Machinery	12.8%	1.7%	0.3%

The table was prepared by the presenter based on the data from Sakai, H. (2016) Journal of Business Economics and Management 17(4): 527–545

Return on R&D capital: International comparison

- Prior literature: Sakai (2016), Goto and Suzuki (1989), Bernstein (1989), Hall and Mairesse (1995), Bond et al (2003), Griffith et al (2006), Dorszelski et al (2013), Ortega-Argeles et al (2015)
- Return of R&D capital in Japan, US, Canada, Europe (EU, Germany, France, Spain, UK, etc.)
- Ranging from 7% to 66% over different periods 1963-2008 across different industries
- Typically over 20% (Sakai, 2016: Hall et al 2010)

Reference: Sakai (2016)

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Question

- How is the low level of R&D productivity related to the low level of R&D globalization?

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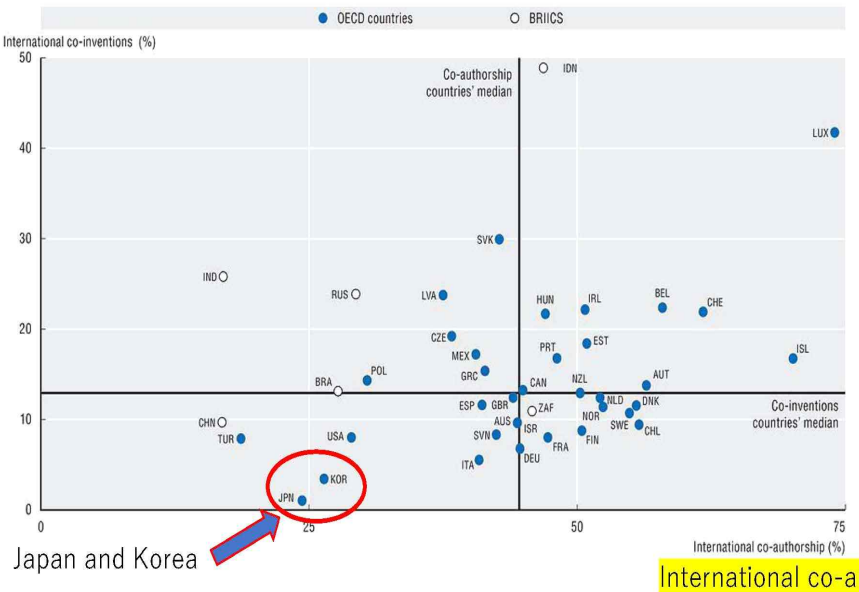
Low level of R&D globalization

International collaboration in science and innovation, 2005-16

Co-authorship and co-invention as a percentage of scientific publications and IP5 patent families

Source: OECD STI Scoreboard 2017

International co-inventions

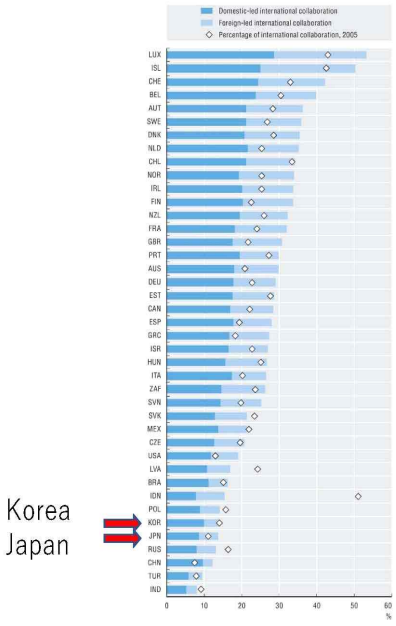


Japan and Korea

International co-authorship

International scientific collaboration, 2015

As a percentage of domestically authored documents, fractional counts

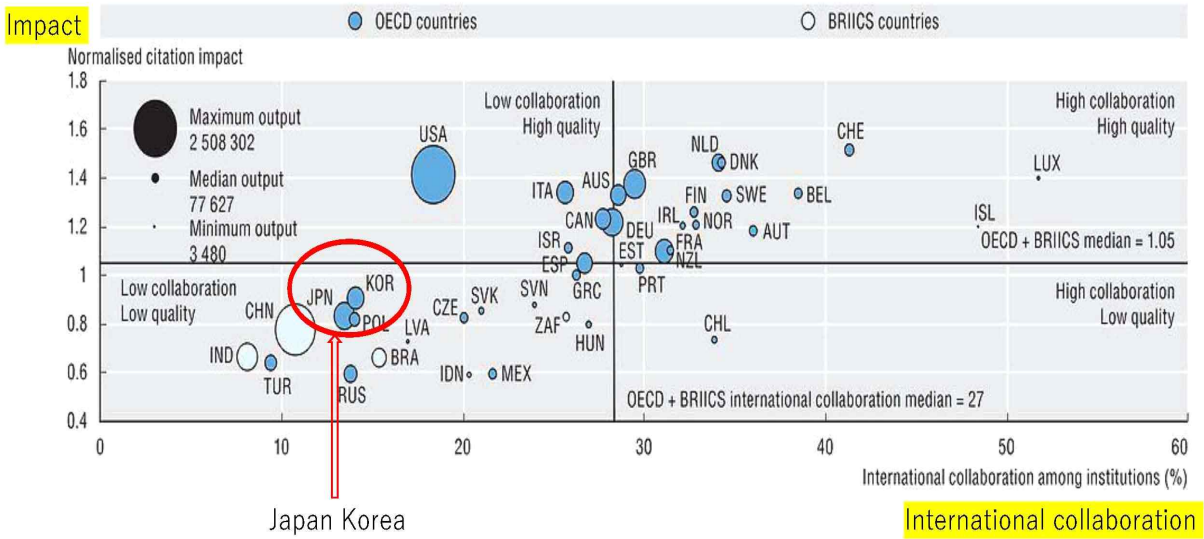


Korea
Japan

Source: OECD STI Scoreboard 2017

The citation impact of scientific production and the extent of international collaboration, 2012-16

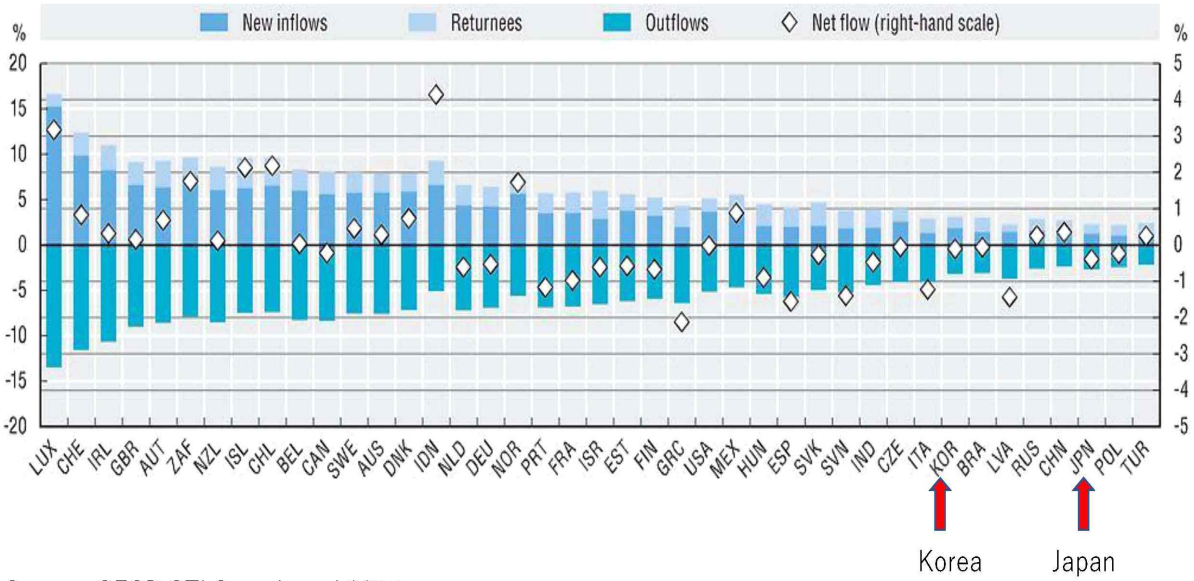
As an index and percentage of all citable documents, based on fractional counts



 Source: OECD STI Scoreboard 2017

International mobility of scientific authors, 2016

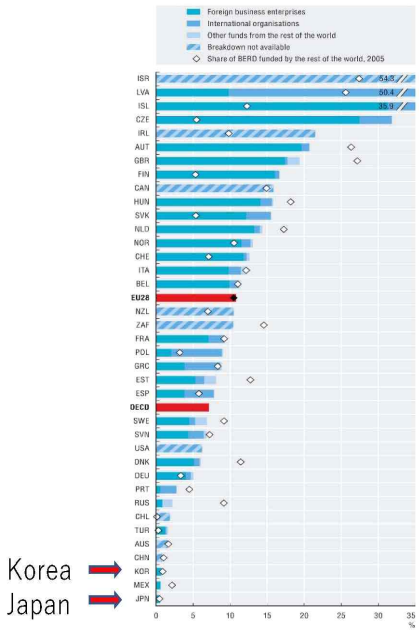
As a percentage of authors, by last main recorded affiliation in 2016



Source: OECD STI Scoreboard 2017

Business R&D funded from abroad, by source of funds, 2015

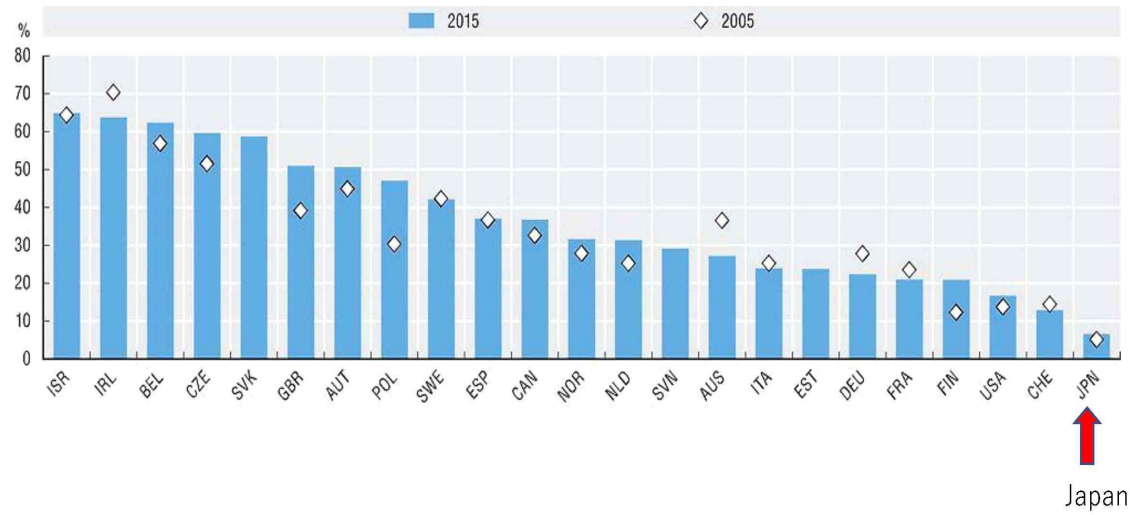
As a percentage of business enterprise expenditure on R&D



Source: OECD STI Scoreboard 2017

Business R&D expenditures by foreign-controlled affiliates, selected countries, 2015 or latest available

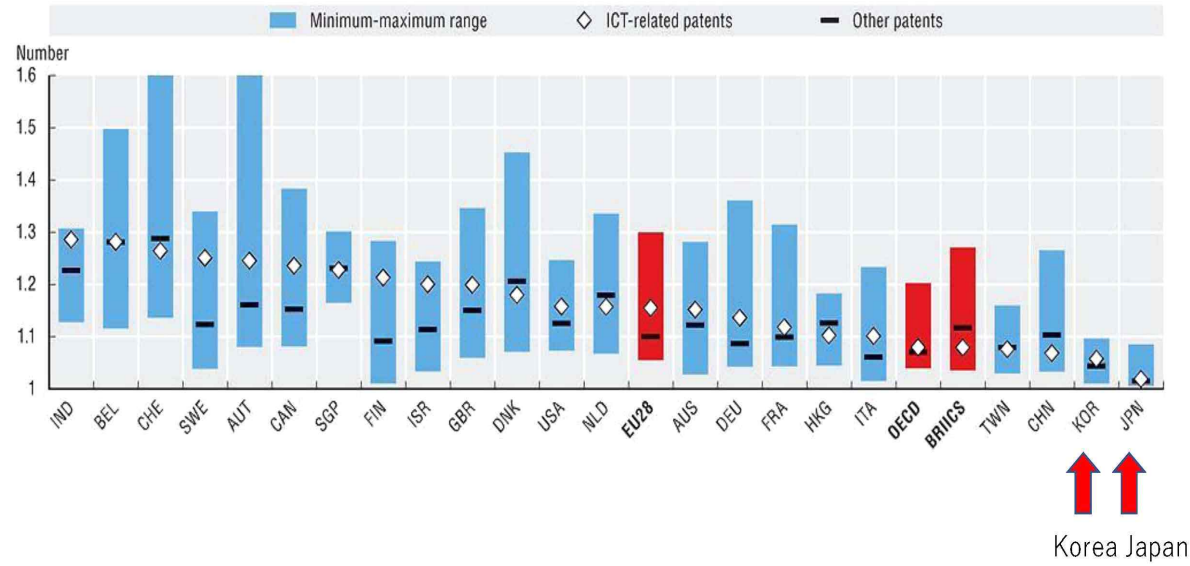
As a percentage of business enterprise expenditure on R&D



Source: OECD STI Scoreboard 2017

Number of economies in which inventors are located, by technology, 2012-15

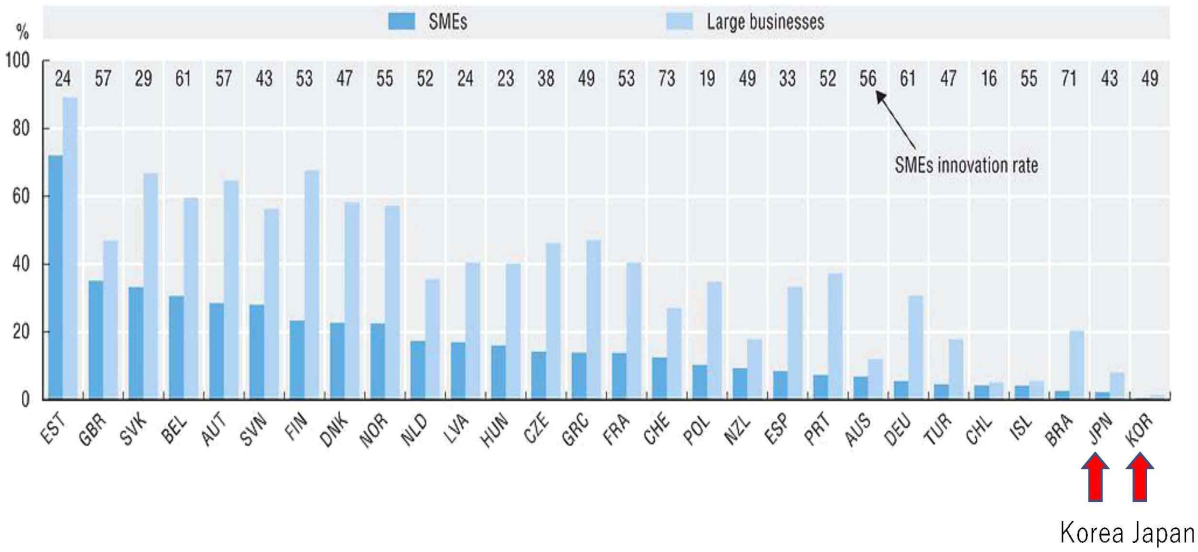
Average across technologies, IP5 patent families, by residence of the patent owner



Source: OECD STI Scoreboard 2017

Businesses engaged in international collaboration for innovation, by size, 2012-14

As a percentage of product and/or process-innovating businesses in each size category



Source: OECD STI Scoreboard 2017

Global R&D and innovation

- **global R&D** (von Zedtwitz and Gassmann, 2002; Asakawa, 2001; Asakawa, Park, Song, and Kim, 2018; Li and Kozhikode, 2009; Li and Xie, 2011; Santangelo, Meyer, and Jindra, 2016; Song and Shin, 2008; Song, Asakawa and Chu, 2011; Un and Cuervo-Cazurra, 2008; von Zedtwitz, 2004; Zhao and Islam, 2017), **global knowledge** (Asakawa, Park, Song, and Kim, 2018; Cantwell and Santangelo, 1999; Song, Almeida, and Wu, 2003; Song and Shin, 2008; Song, Asakawa and Chu, 2011; Zhao and Islam, 2017). **global IP** (Zhao, 2006; Keupp, Friesike, and von Zedtwitz, 2012), **capability and innovation** (Cuervo-Cazurra and Rui, 2017; Li and Xie, 2011; Song and Shin, 2008; Song, Asakawa and Chu, 2011), **global innovation strategy** (Doz, Santos and williamson, 2001; Doz and Wilson, 2012; Li and Kozhikode, 2009; Li, Qian, and Yao, 2015; Zhao, Alcacer, and Dezso, 2015; *Santos, Doz,* and Williamson, 2004), **MNC organization** (von Zedtwitz, Gassmann, and Boutellier, 2004; Ambos, Asakawa and Ambos, 2011; Asakawa, 2001; Santangelo 2012; Song, Asakawa and Chu, 2011; Asakawa, Park, Song, and Kim, 2018), **reverse innovation** (Hadengue, de Marcellis-Warin., von Zedtwitz, and Warin, 2017; von Zedtwitz, Corsi, Soberg, and Frega, 2015), **emerging economies and MNCs** (Cuervo-Cazurra and Genc, 2008; Cuervo-Cazurra and Rui, 2017; Li and Kozhikode, 2009; Li and Xie, 2011;Santangelo and Meyer, 2011; von Zedtwitz, 2004; Xie and Li, 2017; von Zedtwitz, 2006), **internationalization** (Santangelo and Stucchi, 2018; Santangelo and Meyer, 2017, 2011) among others.

R&D globalization and R&D productivity

- Causality link of R&D globalization – R&D productivity remains less obvious
- R&D globalization – knowledge and capability accumulation – performance
  - Dynamic capability theory (Teece et al, 1997)
  - Metanational management (Doz et al, 2001)
  - Competence enhancing/leveraging (Cantwell and Mudambi, 2005)

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Hypothesis

- Low R&D productivity may be due to the low level of R&D globalization

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Our empirical analysis
(Work In Progress)

- R&D productivity of firms
  - with global R&D > without
- The pattern is more salient in the industries with weaker home-country advantage
  - Weaker industry: with >without
  - Stronger industry: disappear or reverse

Data: NEEDS-Financial QUEST, Toyokeizai Overseas Operations of Japanese Firms
Measures: R&D productivity: value added/R&D capital (Hall and Mairess 1995, Sakai 2016, other prior studies); R&D globalization: Overseas R&D facilities (Kuemmerle, 1999); HCA of industries: Industry competitive advantage (Porter 1990)

Global R&D for R&D productivity: Paradox of HCA

- Global R&D enhances R&D productivity
- For industry with stronger HCA, global R&D does not enhance R&D productivity
  - Contrary to the conventional wisdom: HCA leads to higher performance
- For industry with weaker HCA, global R&D enhances R&D productivity
  - Contrary to the conventional wisdom: lack of HCA leads to lower performance

Global knowledge sourcing is easier said than done: Paradox

- The paradox of motivation and capabilities (Song and Shin, 2008)
- The paradox of selective attention (Monteiro, 2015)
- The paradox of subsidiary power (Mudambi and Navarra, 2004)
- The paradox of tacit knowledge and geographic dispersion (Doz and Wilson, 2012)
- The paradox of administrative and knowledge embeddedness with HQ (Asakawa, Park, Song and Kim, 2018)

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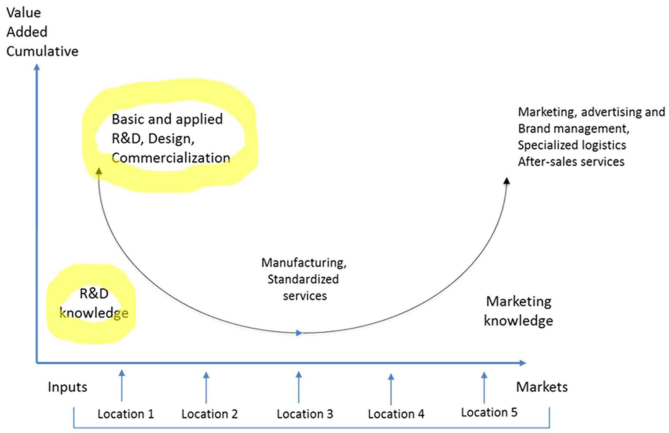
R&D productivity as a key source of competitive edge for Japan and Korea



Source: Mudambi, 2008

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Implications for Japan/Korea

- Japan
  - R&D as the ultimate source of competitive advantage
  - TOP > BOP, EA technological catch-up, R&D as comparative advantage
  - "Abenomics" R&D incentives to foster R&D investment alone is not effective
- Korea
  - China threat – shrinking cost advantage
  - From imitation to innovation (Song et al) => accelerating R&D investment => Likely to face the same dilemma Japan is facing
- Japan and Korea
  - Similar situation, opportunity and challenges
  - R&D globalization can be an opportunity to enhance R&D productivity