

研究・イノベーション学会
第 34 回年次学術大会

日本のイノベーション・システムに係る基礎的データの整備 科学技術・イノベーション関係統計の改善 研究評価等に関する研究

2019 年 10 月 26 日
東京, 政策研究大学院大学

成城大学 社会イノベーション学部, 文部科学省 科学技術・学術政策研究所
伊地知 寛博

アウトライン

日本のイノベーション・システムに係る基礎的データの整備

- 政府統計「全国イノベーション調査」

科学技術・イノベーション関係統計の改善

- *Oslo Manual* 改訂 (3rd ed. [2005]; *Oslo Manual 2018* [2018])
- *Frascati Manual* 改訂 (*Frascati Manual 2015* [2015])
- 研究開発税制優遇措置に関するデータ及び情報の収集・編纂
- 国内関係機関への協力・協働等

研究評価等に関する研究

日本のイノベーション・システムに係る 基礎的データの整備

個人的背景

- 数学
 - どちらかというと “ 構造 ” に関心がある
 - そもそも，経済社会現象に関する数量的な表示に対しては懐疑的であった
- * 統計
- 調査・研究
 - 政策を対象とする
 - 国レベル

動機

- 見えないものを見る／より良く理解できるようにしたい
 - 新しい知見を得る／誤解を解く
- （それらに基づいて）より適切な取組につなげたい

国内における先駆的取組及び他国における取組状況

U.S., 日本

- CMU-NISTEP Survey

欧州諸国

- 「共同体イノベーション調査」
CIS: Community Innovation Survey

他国

- 各国における
National Innovation Survey

NISTEP REPORT No.48

イノベーションの専有可能性と技術機会

サーベイデータによる日米比較研究

平成9年3月

科学技術庁 科学技術政策研究所

第1研究グループ

後藤 晃
永田 晃也



Research Policy 31 (2002) 1349–1367



www.elsevier.com/locate/econbase

R&D spillovers, patents and the incentives to innovate in Japan and the United States

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Abstract

National surveys of R&D labs across the manufacturing sectors in the US and Japan show that intraindustry R&D knowledge flows and spillovers are greater in Japan than in the US and the appropriability of rents due to innovation less. Patents in particular are observed to play a more central role in diffusing information across rivals in Japan, and appear to be a key reason for greater intraindustry R&D spillovers there, suggesting that patent policy can importantly affect information flows. Uses of patents differ between the two nations, with strategic uses of patents, particularly for negotiations, being more common in Japan. © 2002 Elsevier Science B.V. All rights reserved.

Keywords: Patents; R&D; Spillovers; Innovation; Appropriability

1. Introduction

The ability of firms to appropriate at least some of the value created by their innovations is essential if there is to be incentive to innovate. On the other hand, the economy-wide benefits from an innovation depend to a considerable degree on the extent to which the new knowledge associated with it becomes available to others to use and build on. This article reports the results of a survey research study that compares the ability of the US and Japanese firms to appropriate the returns to their innovations, how these firms protect their innovations (by using, e.g. secrecy, patents,

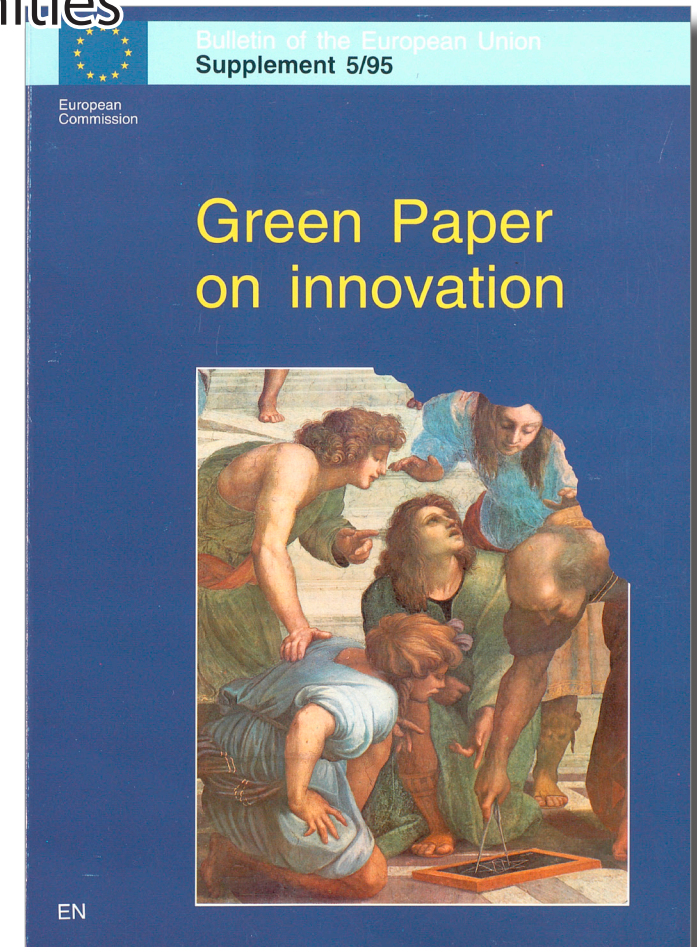
lead time advantages) and the magnitude and channels of intraindustry R&D information flows in the two nations. We focus particularly on the role of patenting since it is both a key policy instrument affecting appropriability and an object of growing managerial attention.

Our comparison of appropriability conditions and spillovers between Japan and the US builds on prior research that shows that, in most industries, firms rely predominantly on mechanisms other than patents to protect their innovations, including secrecy, first mover advantages and the exploitation of complementary capabilities (Scherer et al., 1959; Mansfield, 1986; Levin et al., 1987; Arundel, 2001; Taylor and Silberston, 1973). In some industries, such as drugs, patents are, however, quite important. A comparison

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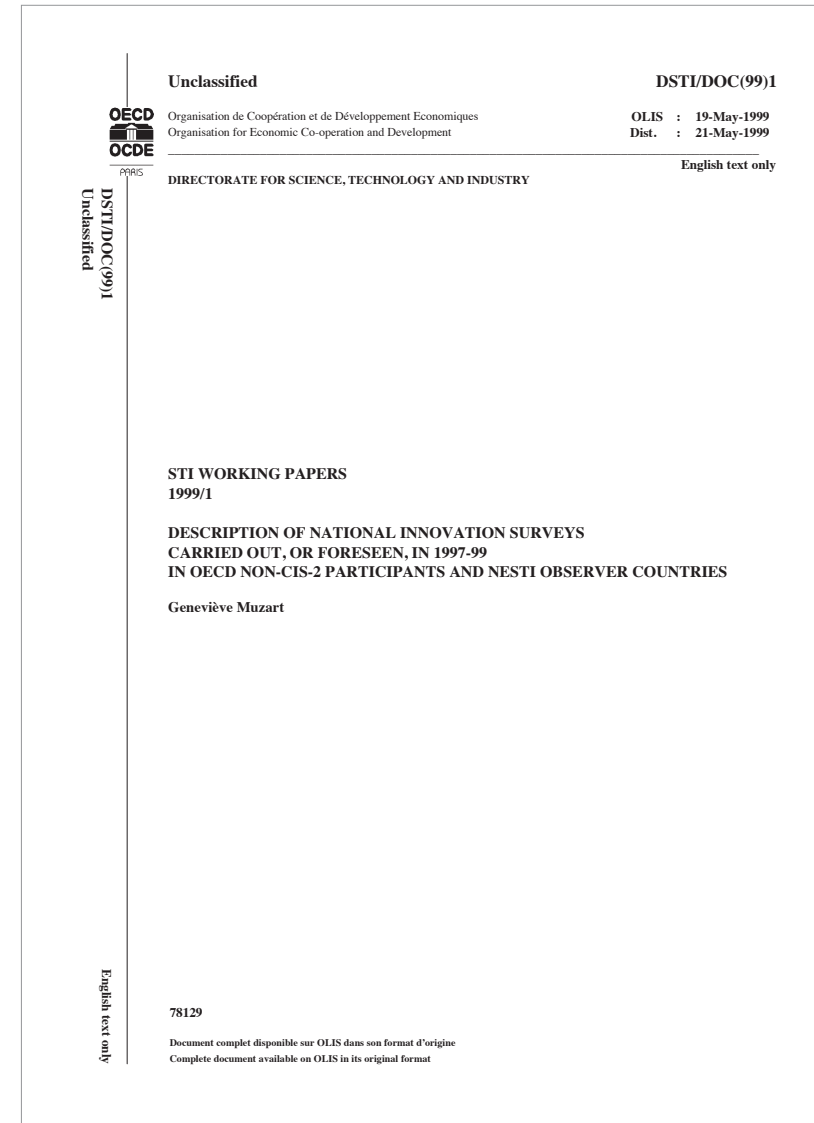
時代的・世界的背景

- “イノベーション政策” の出現
 - Commission of the European Communities
COM(95) 688 final



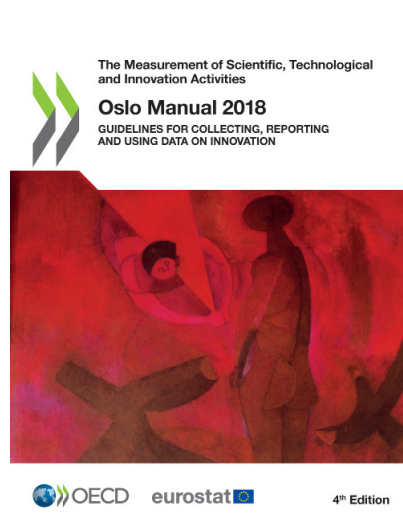
各国における national innovation survey の実施

- OECD における取り纏めと議論
 - “ 国際比較可能性の確保 ”
- *Oslo Manual* 改訂よりも,
CIS 3 の実施を先行させ
その経験を改訂に活かすこととする



測定指針，統計調査，指標データ，分析報告書

測定のための ガイドライン



各国における 統計調査



指標データ

分析報告書



CIS 3 の中核質問票と調査方法論

- “国際比較可能性の確保”のため、非 EU メンバ¹諸国にも勧奨され提供される

- 「全国イノベーション調査」(2003 年調査)において、中核質問票の調査事項を基盤とすることに加え、知的財産等に係る専有可能性や非技術的イノベーション(組織イノベーション、マーケティング・イノベーション)に関する調査事項等も加えて実施する

The Third Community Innovation Survey (CIS III)

CORE QUESTIONNAIRE

The Third Community Innovation Survey (Annex 6: 20 February 2001)
This survey is designed to collect information on innovation activities in enterprises and related activities in the manufacturing sector, services sector and construction sector. It is intended to compare enterprises with and without innovation activities. The survey is conducted in the following sectors: manufacturing, services, and construction. The survey is conducted in the following sectors: manufacturing, services, and construction. The survey is conducted in the following sectors: manufacturing, services, and construction.

If you have any questions or doubts concerning this questionnaire please contact:

Mrs. / Mr. _____

Phone : _____

Fax : _____

e-mail : _____

Name of respondent _____

Job title _____

Phone _____

Fax _____

e-mail _____

Methodological recommendations for CIS3.

1. Target population

The target population of the CIS3 shall be the total population of enterprises of a certain size and industry.

NACE

The following industries shall be included in the target population of the CIS3:

- mining and quarrying (NACE 10-14)
- manufacturing (NACE 15-37)
- electricity, gas and water supply (NACE 40-41)
- information and communication (NACE 60-64)
- media and cultural activities (NACE 65-67)
- computer and related activities (NACE 72)
- research and development (NACE 73)
- architectural and engineering activities (NACE 74.2)
- scientific research and analysis (NACE 74.3)

Size-classes

The cut off point for inclusion in the target population should not be more than 10 employees in any of the specified sectors. Countries may also include enterprises with less than 10 employees, if they are treated separately.

Statistical unit

The statistical unit for CIS3 shall be the enterprise, as defined in the Council Regulation¹ on statistical units or as defined in the statistical business register. If the enterprise for some specific reasons is not feasible as statistical unit, other units like divisions of enterprise groups, kind of activity units or even enterprise group can be used. It is important that the data collectors know which unit each report relates to and make the necessary adjustments to avoid double-counting or missing reporting. Other units used than the enterprise should be indicated in the database.

¹ Council Regulation (EEC) N° 696/93 of 15 March 1993, OJ N° L76 of the 3 March.

「全国イノベーション調査」(1/3)

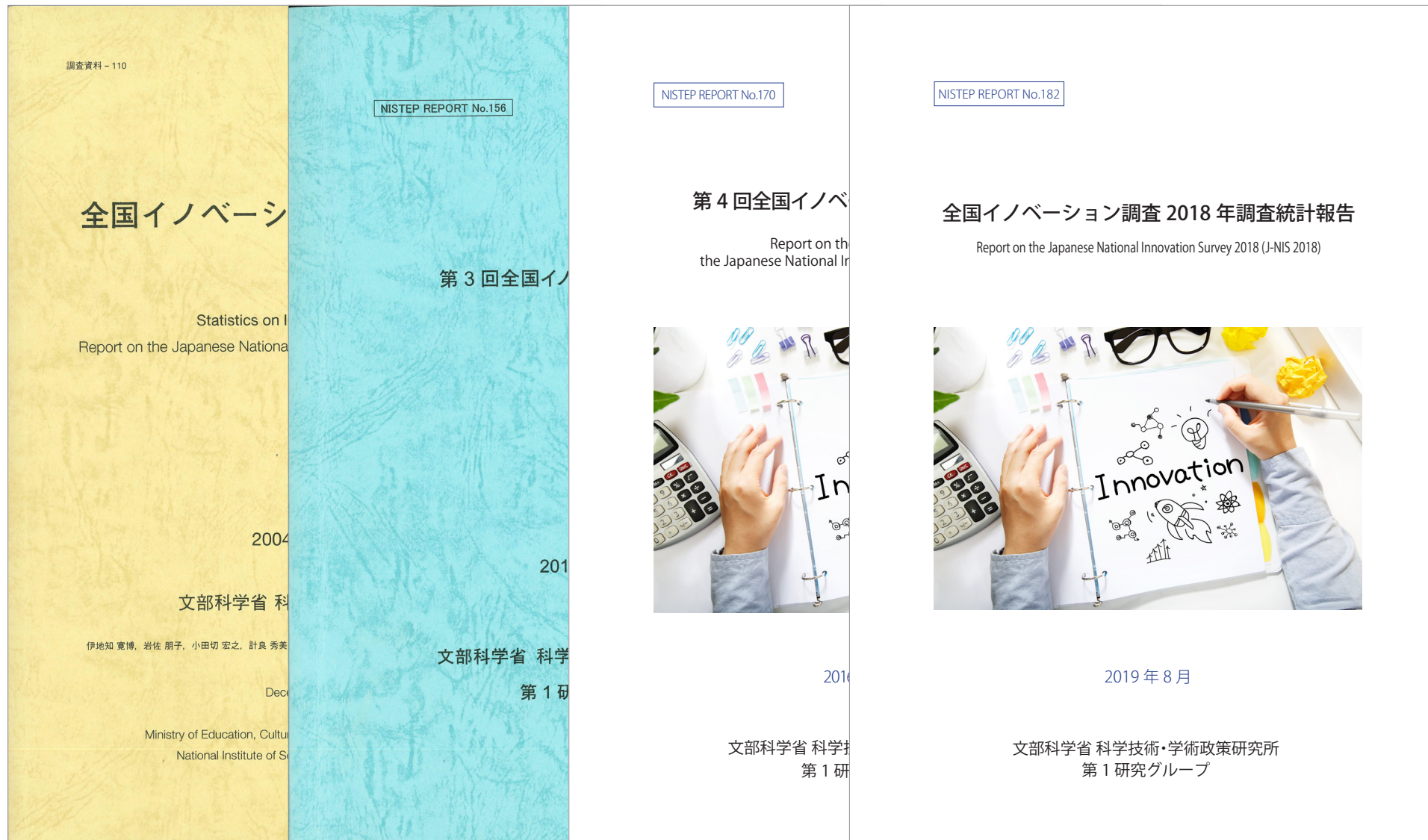
目的

- 科学技術・イノベーション政策の企画・立案・推進・評価に必要な基礎資料を得る
- イノベーション・システムに関して、より良く理解することができる
- イノベーション活動の中核である産業・企業における経営ビジョン構築や戦略策定の一助となることも期待する

特徴

- 全国的・総合的・客観的・体系的に観察・分析する
- 国際比較可能性の確保：
我が国のみならず諸外国における政策立案にも互恵的に資するよう

「全国イノベーション調査」 (2/3)



Award Lecture, JSRPIM Award

34th Annual Meeting, Japan Society for Research Policy and Innovation Management (JSRPIM), GRIPS, Tokyo, 26 October 2019; revised 28 October 2019

Tomohiro Ijichi, Faculty of Innovation Studies, Seijo University, and National Institute of Science and Technology Policy (NISTEP)

「全国イノベーション調査」(3/3)

	2003 年調査	2009 年調査	2013 年調査	2015 年調査	2018 年調査
調査実施時期	2003 年 1 月	2009 年 7 月	2013 年 1 月	2015 年 10 月	2018 年 10 月
参照期間	1999 年 – 2001 年	2006 年度 – 2008 年度	2009 年度 – 2011 年度	2012 年度 – 2014 年度	2015 年 – 2017 年
経済活動	農林水産業, 鉱業, 製造業, 一部のサービス業	一部のサービス業を除く全て	一部のサービス業を除く全て	一部のサービス業を除く全て	一部のサービス業を除く全て
対象企業規模	従業者数 10 人以上	常用雇用者数 10 人以上	常用雇用者数 10 人以上	常用雇用者数 10 人以上	従業者数 10 人以上
対象母集団企業数	216,585 社	331,037 社	412,753 社	380,224 社	505,917 社
標本企業数	43,174 社	15,871 社	20,191 社	24,825 社	30,280 社
有効回答企業数	9,257 社	4,579 社	7,034 社	12,526 社	9,439 社
有効回答率	21%	29%	34%	50%	31%
準拠する オスロ・マニュアル	第 2 版 (1997)	第 3 版 (2005)	第 3 版 (2005)	第 3 版 (2005)	第 4 版 (2018)

全国イノベーション調査 2018 年調査における調査対象範囲等

地理的範囲

- 日本全国に所在する企業

属性的範囲

統計単位

- 企業
 - 母集団の名簿は、「事業所母集団データベース」(平成 27 年次フレーム) が提供する事業所・企業情報に基づく。
 - 「企業」には、親会社、子会社及び関係会社等の企業グループ内の他社を含めない。
 - 企業の形態は、株式会社、有限会社、合名会社、合資会社、合同会社又は相互会社のいずれかである。

経済活動

- 農林水産業、鉱業、建設業、製造業、
電気・ガス・熱供給・水道業、サービス業（一部を除く）

例. プロダクト・イノベーション実現企業割合 (%)

46 Statistics on Innovation in Japan – Report on the Japanese National Innovation

表5 プロダクト・イノベーション実現企業, 1999年–2001年: 全企業に対する割合, ける割合

	プロダクト・イノベーション実現企業 全企業に対する割合 (%)			
	全規模	小規模	中規模	大規模
全経済活動	17	15	21	41
農林水産業	13	13	18	0
鉱工業	20	16	26	51
サービス業	15	13	17	29
鉱工業				
鉱業	5	6	0	x
製造業	20	16	26	51
食料品・飲料・たばこ・飼料製造業	19	19	20	25
繊維工業	20	18	27	60
衣服・その他の繊維製品製造業	13	13	11	28
なめし革・同製品・毛皮製造業	17	15	32	0
木材・木製品製造業（家具を除く）	14	13	19	50

全国イノベーション調査 2018

表14 プロダクト・イノベーション実現 (2015年–2017年): 全企業に対する割合 (単位: %)

	プロダクト・イノベーション 実現	プロダクト・イノベーション 実現の内容	
		新しい又は 改善した 製品	新しい又は 改善した サービス
全体	12	10	6
小規模企業	11	8	5
中規模企業	15	13	7
大規模企業	28	22	15
製造業	20	18	5
小規模企業	17	15	4
中規模企業	24	22	6
大規模企業	45	44	14
サービス業	11	8	6
小規模企業	10	7	6
中規模企業	12	9	7
大規模企業	23	14	15

製造業	全規模	小規模	中規模	大規模
1999年–2001年	20	16	26	51
2015年–2017年	20	17	24	45

Award Lecture, JSRPIM Award

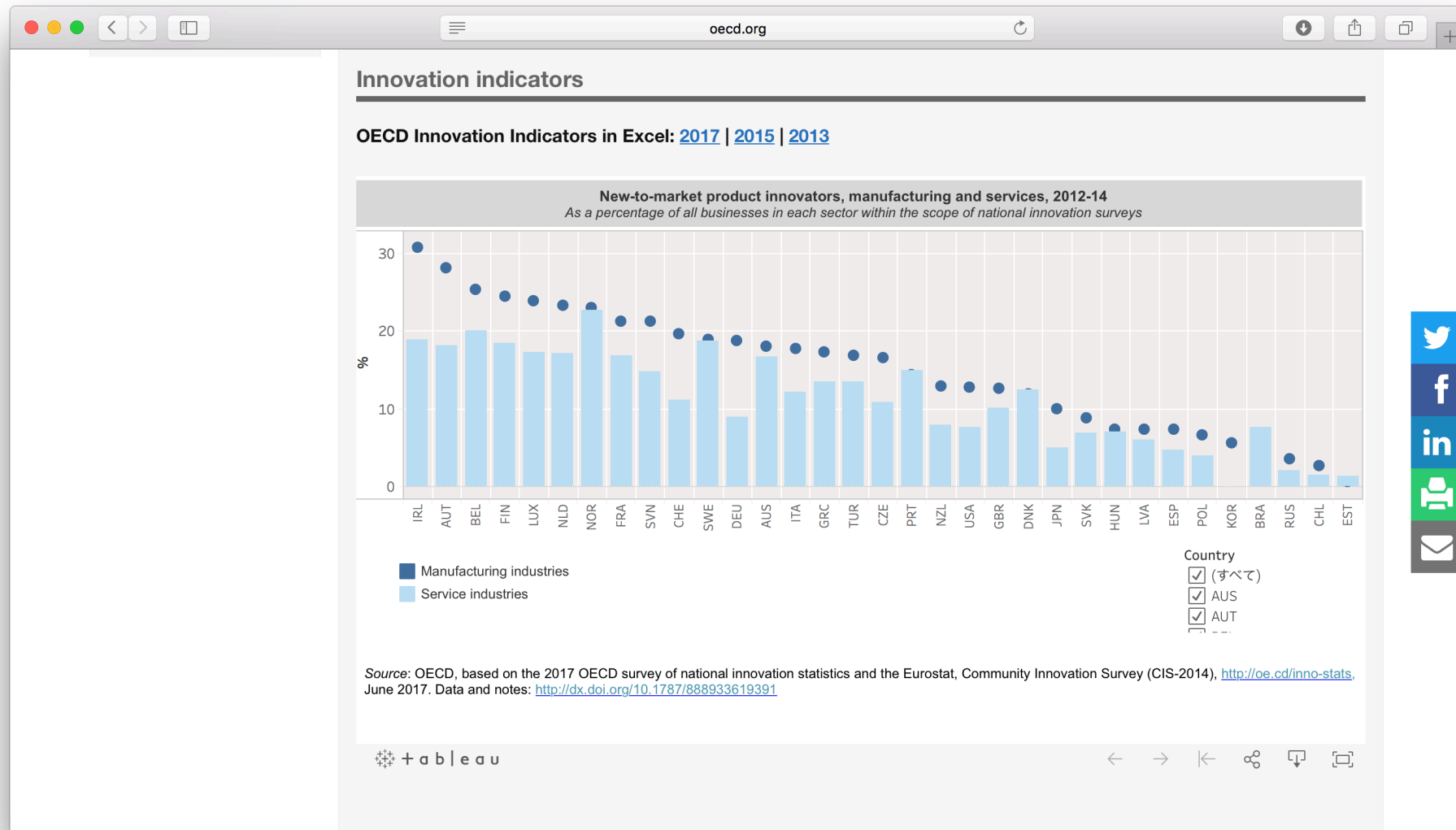
34th Annual Meeting, Japan Society for Research Policy and Innovation Management (JSRPIM), GRIPS, Tokyo, 26 October 2019; revised 28 October 2019

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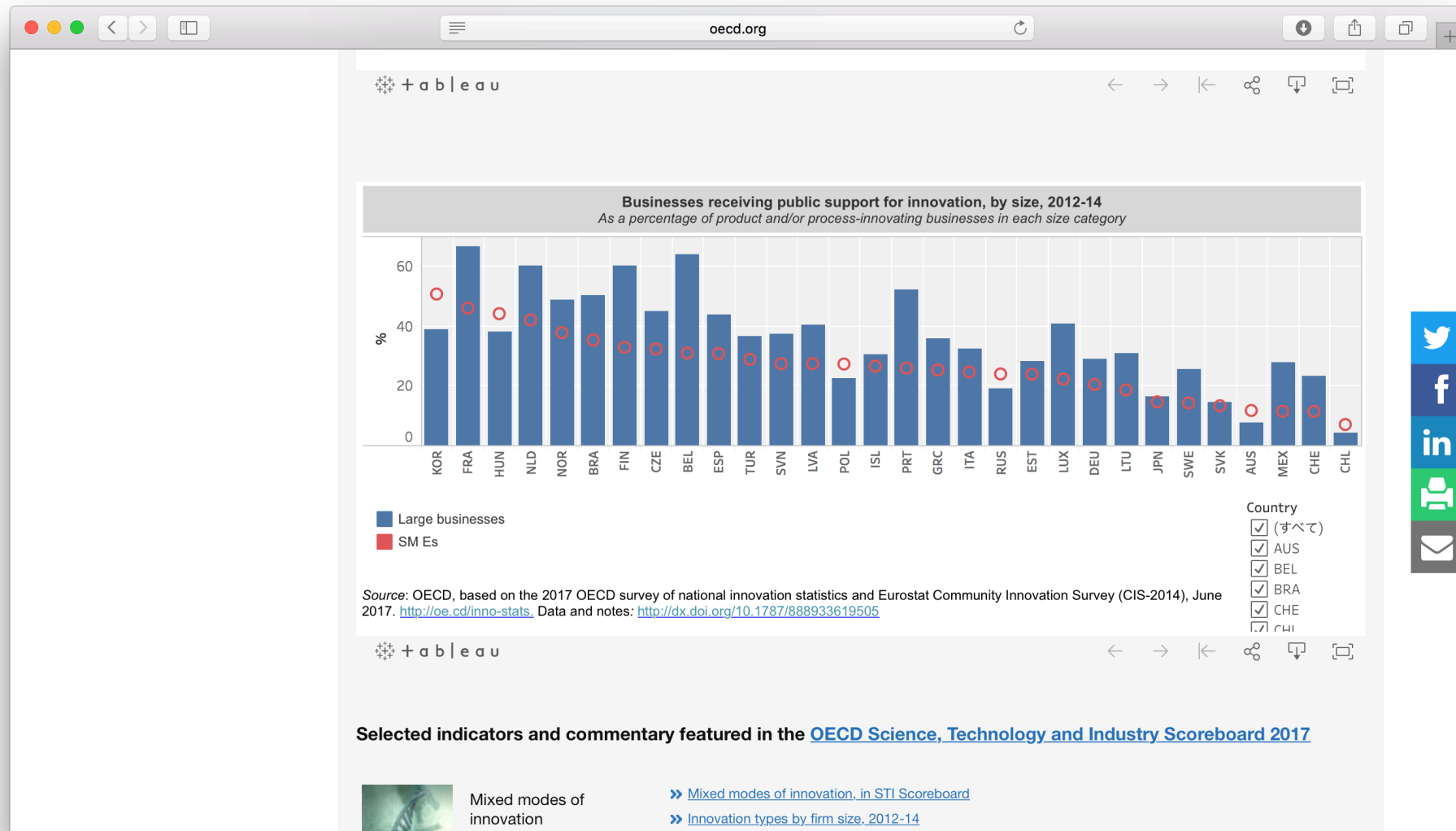
統計調査の国際的活用の例 (1/6) : OECD

The screenshot displays the OECD website interface. At the top, the navigation bar includes links for Data, Publications, More sites, News, and Job vacancies. The main header features the OECD logo and the tagline 'BETTER POLICIES FOR BETTER LIVES'. A search bar with 'Google Custom search' is visible on the right. The left sidebar contains a menu with categories like 'Science, technology and innovation policy', 'Industry and globalisation', 'Emerging technologies', 'Digital economy', 'Broadband and telecom', and 'Consumer policy'. The main content area is titled 'Innovation statistics and indicators' and provides information about OECD work on innovation surveys and indicators. It includes a paragraph describing the OECD's role in developing international guidelines for surveys of business innovation (Oslo Manual) and the design of indicators. Below this, there are links for 'Innovation indicators', 'Definitions', 'Methodology and analysis', and 'Related links'. A section titled 'Innovation indicators' is followed by a link to 'OECD Innovation Indicators in Excel: 2017 | 2015 | 2013'. At the bottom, a chart titled 'New-to-market product innovators, manufacturing and services, 2012-14' is partially visible, showing data as a percentage of all businesses in each sector within the scope of national innovation surveys.

統計調査の国際的活用の例 (2/6) : OECD



統計調査の国際的活用の例 (3/6) : OECD



統計調査の国際的活用の例 (4/6) : OECD

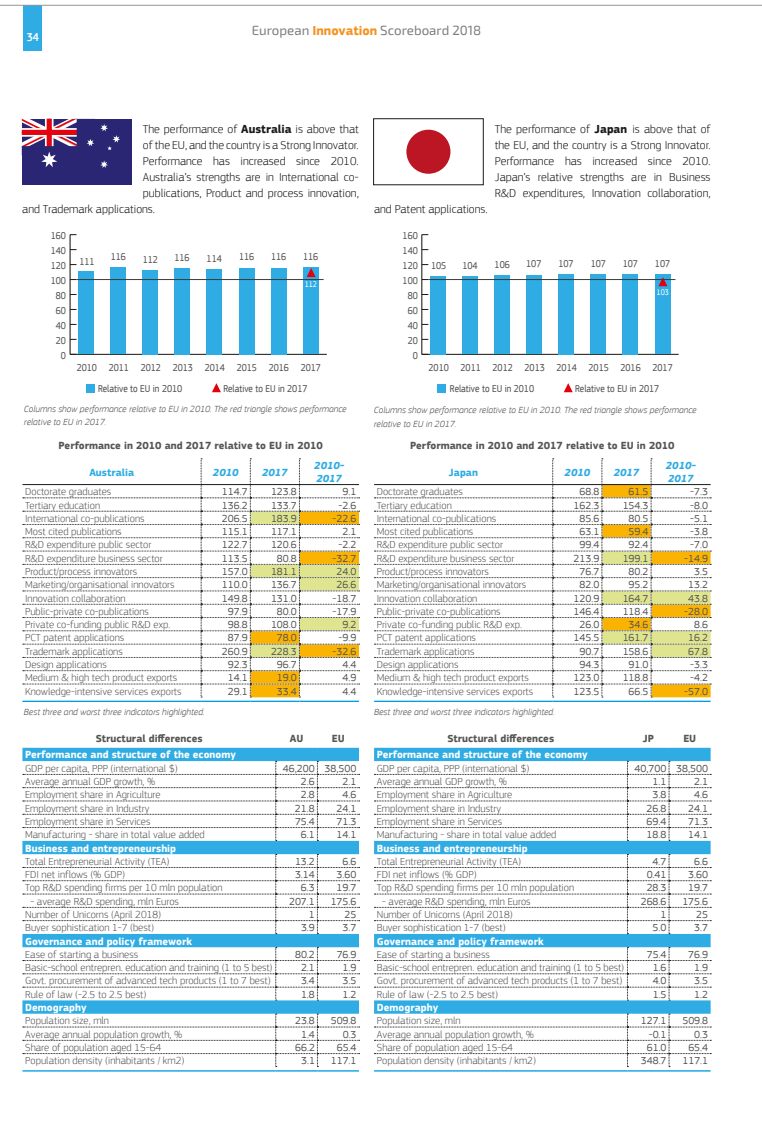
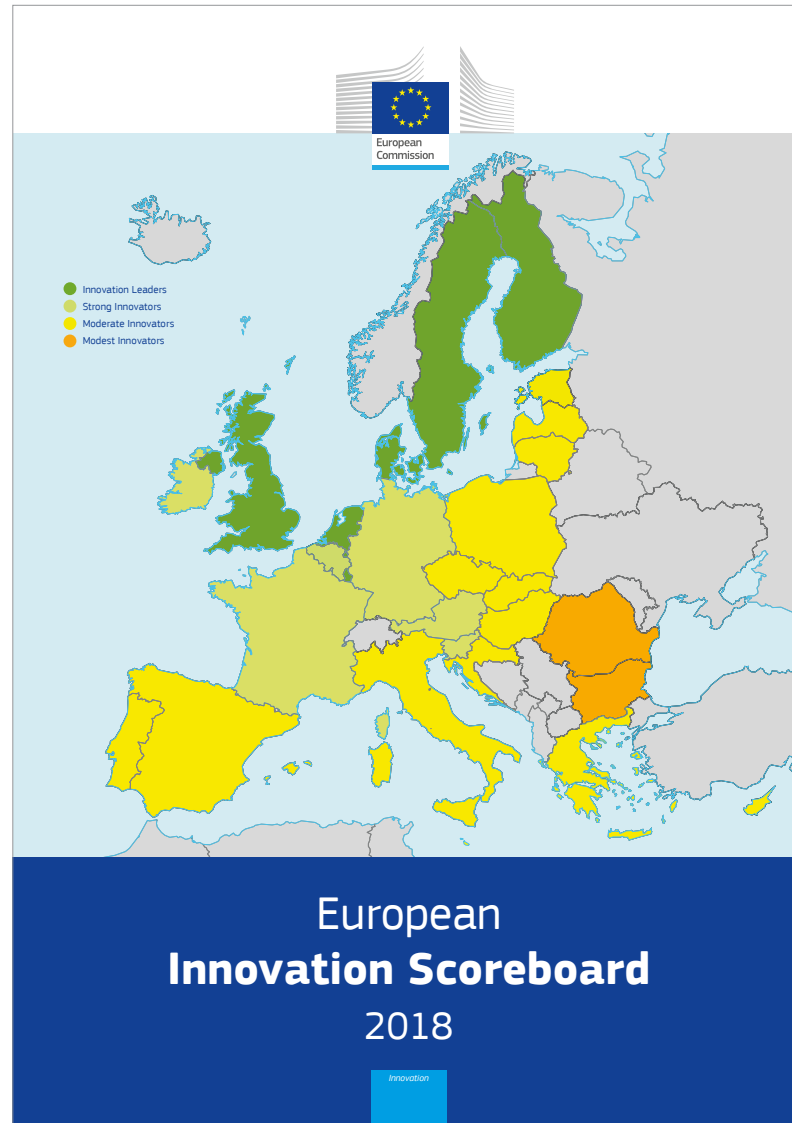
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OECD INNOVATION INDICATORS																											
June 2017																											
Available breakdown																											
Contents																											
firm size econ. sector R&D status																											
Types of innovation																											
1 Innovative firms (product/process or ongoing/abandoned or organisational/marketing), as a percentage of total firms																											
2 Innovative firms (product/process or organisational/marketing), as a percentage of total firms																											
3 Product and/or process innovative firms (regardless of organisational or marketing innovation), as a percentage of total firms																											
4 Product and/or process innovative firms, including abandoned or ongoing innovation activities (regardless of organisational or marketing innovation), as a percentage of total firms																											
5 Product innovative firms (regardless of any other type of innovation), as a percentage of total firms																											
6 Process innovative firms (regardless of any other type of innovation), as a percentage of total firms																											
7 Organisation innovative firms (regardless of any other type of innovation), as a percentage of total firms																											
8 Marketing innovative firms (regardless of any other type of innovation), as a percentage of total firms																											
9 Product and/or process innovative firms only, as a percentage of total firms																											
10 Organisation and/or marketing innovative firms only, as a percentage of total firms																											
11 Product and/or Process AND Marketing and/or Organisational innovations only, as a percentage of total firms																											
12 Product innovative firms with innovations that were new to the firm's market, as a percentage of total firms																											
13 R&D active product and/or process innovative firms, including ongoing or abandoned innovation activities, as a percentage of product and/or process (including ongoing or abandoned) innovative firms																											
Public financial support for innovation activities																											
14 Firms receiving public support for innovation, as a percentage of product and/or process (including ongoing or abandoned) innovative firms																											
Innovation co-operation partners																											
15 Firms co-operating on innovation activities, as a percentage of product and/or process innovative firms, including abandoned or ongoing innovation activities (regardless of organisational or marketing innovation)																											
16 Firms co-operating on innovation activities with suppliers, as a percentage of product and/or process innovative firms, including abandoned or ongoing innovation activities (regardless of organisational or marketing innovation)																											
17 Firms co-operating on innovation activities with clients (private and/or public sector), as a percentage of product and/or process innovative firms, including abandoned or ongoing innovation activities (regardless of organisational or marketing innovation)																											
18 Firms co-operating on innovation activities with higher education or government institutions, as a percentage of product and/or process innovative firms, including abandoned or ongoing innovation activities (regardless of organisational or marketing innovation)																											
19 Firms engaged in national collaboration only, as a percentage of product and/or process innovative firms, including abandoned or ongoing innovation activities (regardless of organisational or marketing innovation)																											
20 Firms engaged in international collaboration, as a percentage of product and/or process innovative firms, including abandoned or ongoing innovation activities (regardless of organisational or marketing innovation)																											
Innovation and intellectual property protection																											
21 Firms that applied for patents, as a percentage of product and/or process innovative firms, including abandoned or ongoing innovation activities (regardless of organisational or marketing innovation)																											
22 Firms that registered a design, as a percentage of product and/or process innovative firms, including abandoned or ongoing innovation activities (regardless of organisational or marketing innovation)																											
23 Firms that registered a trademark, as a percentage of product and/or process innovative firms, including abandoned or ongoing innovation activities (regardless of organisational or marketing innovation)																											
Innovation and participation in public and international markets																											
24 Firms with public procurement contracts, as a percentage of total firms																											
25 Innovative firms with public procurement contracts, as a percentage of total innovative firms																											
26 Innovative firms with public procurement contracts, as a percentage of total firms																											
27 Non innovative firms with public procurement contracts, as a percentage of total non innovative firms																											
28 Innovative firms with public procurement contracts, as a percentage of total firms with public procurement contracts																											
29 Firms operating in international markets, as a percentage of total firms																											
30 Innovative firms operating in international markets, as a percentage of total innovative firms																											
31 Innovative firms operating in international markets, as a percentage of total firms																											
32 Non innovative firms operating in international markets, as a percentage of non innovative firms																											
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統計調査の国際的活用の例 (5/6) : European Union



統計調査の国際的活用の例 (6/6) : United States



National Science Board | Science & Engineering Indicators 2018

8 | 94

CHAPTER 8 | Invention, Knowledge Transfer, and Innovation

International Comparisons in Innovation Incidence

Interest in international competitiveness drives cross-country comparisons of business innovation rates, and these indicators provide a uniquely focused measure of activity distinct from R&D.

The data described as follows are collected under *The Oslo Manual* (OECD/Eurostat 2005), discussed in the sidebar [Concepts and Definitions for Business Innovation Survey Data](#). While differences in survey methodologies across countries continue to drive inconsistency among international data, broad patterns emerge. Across countries, the highest rates of product and process innovation are reported in relatively smaller, but S&T-focused economies, such as Switzerland, Israel, and Finland. In contrast, Japan, the United Kingdom (UK), and the United States all rank relatively low in reported incidence (see Table 8-11).

Not surprisingly, country-level data show innovation incidence varies across firm size. Firms with 250 or more employees had higher innovation rates than smaller firms, with a notable exception. For Australia, small firms had a higher product innovation rate compared with larger firms.

National Science Board | Science & Engineering Indicators 2018

8 | 95

CHAPTER 8 | Invention, Knowledge Transfer, and Innovation

TABLE 8-11

International

2012-14

(Percent of firms)

Country

Product innovation

Switzerland

Israel

Ireland

Australia

Finland

Germany

Norway

Netherlands

Belgium

Sweden

Austria

Luxembourg

Portugal



National Science Board | Science & Engineering Indicators 2018

8 | 96

CHAPTER 8 | Invention, Knowledge Transfer, and Innovation

Country	Total	Fewer than 250 employees	250 employees or more
Brazil	18.5	17.6	43.6
United States	18.4	NA	NA
New Zealand	18.1	17.8	38.1
South Korea	16.8	16.3	34.1
Japan	14.6	13.8	31.6
Slovak Republic	12.6	11.3	35.8
Hungary	12.0	11.1	32.1
Spain	11.2	10.3	43.9
Estonia	11.0	10.2	38.3
Poland	9.5	8.4	38.8
Latvia	8.5	7.7	35.4
Russian Federation	5.3	2.6	15.7

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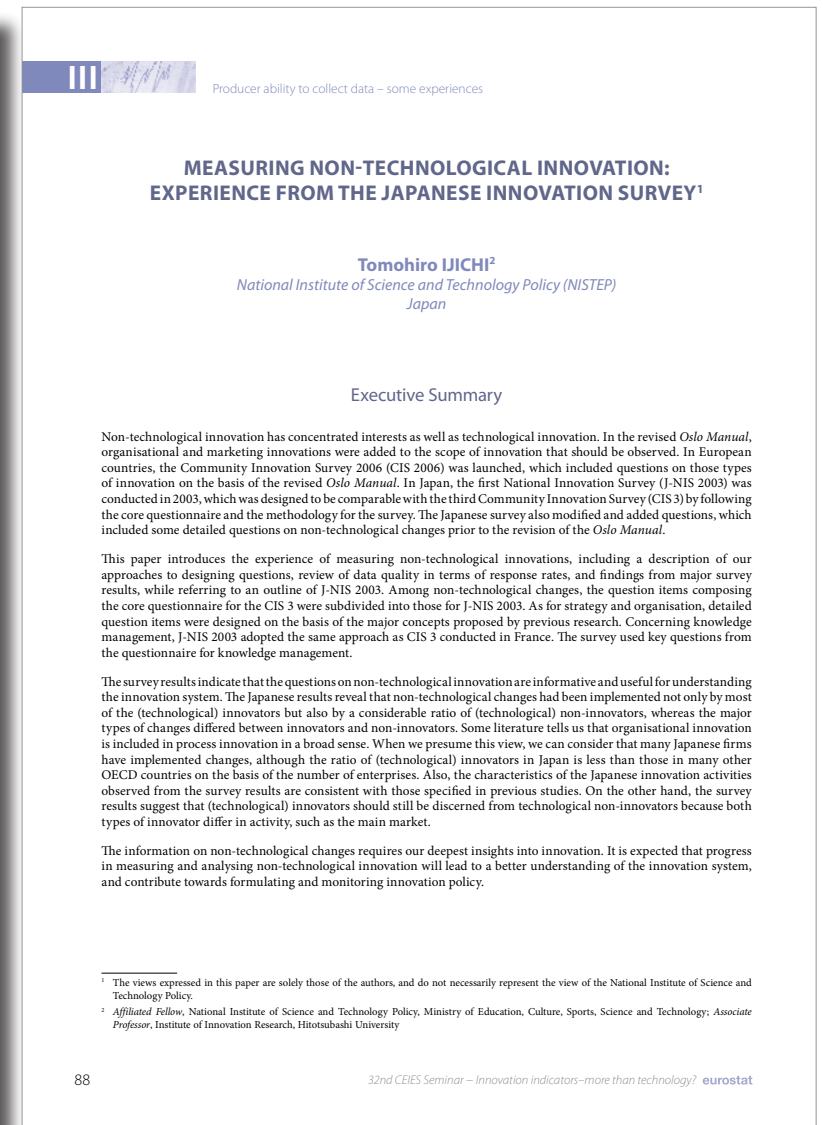
Tomohiro Ijichi, Faculty of Innovation Studies, Seijo University, and National Institute of Science and Technology Policy (NISTEP)

統計調査の国内における活用

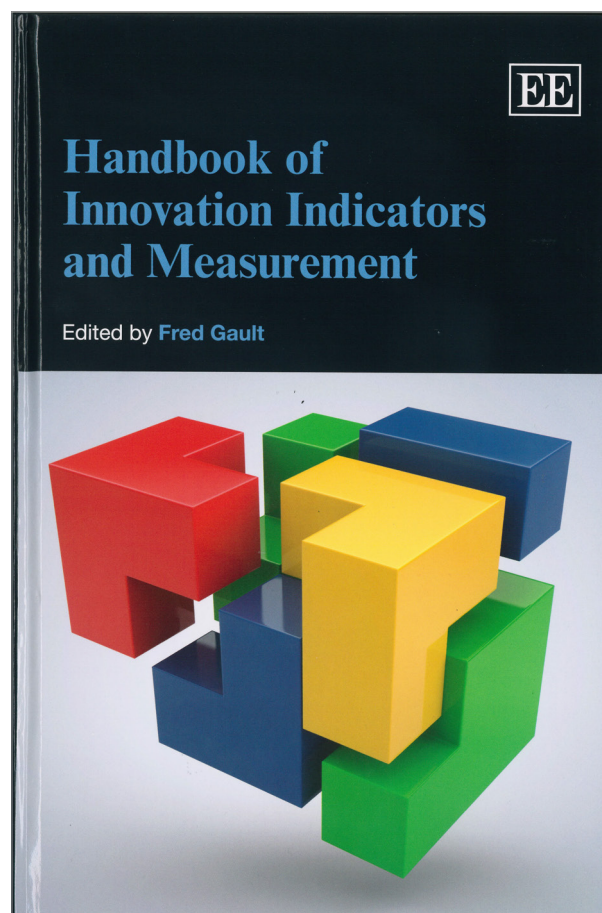
- 各種白書等の政策文書において活用されている
- 以下は、近年の例である：
 - 『平成 29 年版科学技術白書』



統計調査実施経験に関する国際的共有 (1/2)



統計調査実施経験に関する国際的共有 (2/2)



8 Innovation surveys: experience from Japan

Tomohiro Ijichi¹

1. INTRODUCTION

This chapter describes the Japanese experience of innovation surveys. Innovation is recognized as essential for sustainable growth and economic development. Innovation policy requires evidence to support it. The measurement and analysis of innovation activities and the innovation system provide the fundamental evidence required.

Economic activities are globalized. In these circumstances, innovation policy needs to take this into account when dealing with the national innovation system. This can be done by undertaking internationally harmonized measurement of innovation. Japan, as an OECD member country, has contributed to this harmonization. Also, it has adapted it to the Japanese environment in order to exploit rich and useful information from the results. Some of what makes Japan different is now described.

First, Japan is a non-EU country. Innovation surveys have been conducted as repetitions of the Community Innovation Survey (CIS) in European countries. In other non-EU OECD countries, including Japan, Korea and China, innovation surveys have been conducted that are comparable with the CIS. In the case of the European Economic Area (EEA) countries, each country has to transmit the determined statistics to Eurostat according to an EU decision² and regulation.³ These provide the justification for each country to conduct an innovation survey and to provide the results to Eurostat, the statistical office of the EU. However, Japan has no framework for regulating an innovation survey. For this reason, enormous effort is needed to reach understanding on the necessity of conducting an innovation survey with wider stakeholders as well as with direct users and to receive official approval to do so.

Second, Japan has a different cultural and social background from other countries, especially European countries. For example, Japanese is quite different from languages used in Europe and America and is expressed by different types of characters. Concepts represented held by the Japanese may differ considerably from those used in the European and American countries. Hence, in statistical surveys, the understanding

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196 | (212/502)

科学技術・イノベーション関係統計の改善

NESTI (科学技術指標各国専門家作業部会)

- Working Party of National Experts on Science and Technology Indicators
- OECD/CSTP (科学技術政策委員会) の中の Working Party (作業部会) の一つ

MANDATE OF THE WORKING PARTY OF NATIONAL EXPERTS ON SCIENCE AND TECHNOLOGY INDICATORS (NESTI)

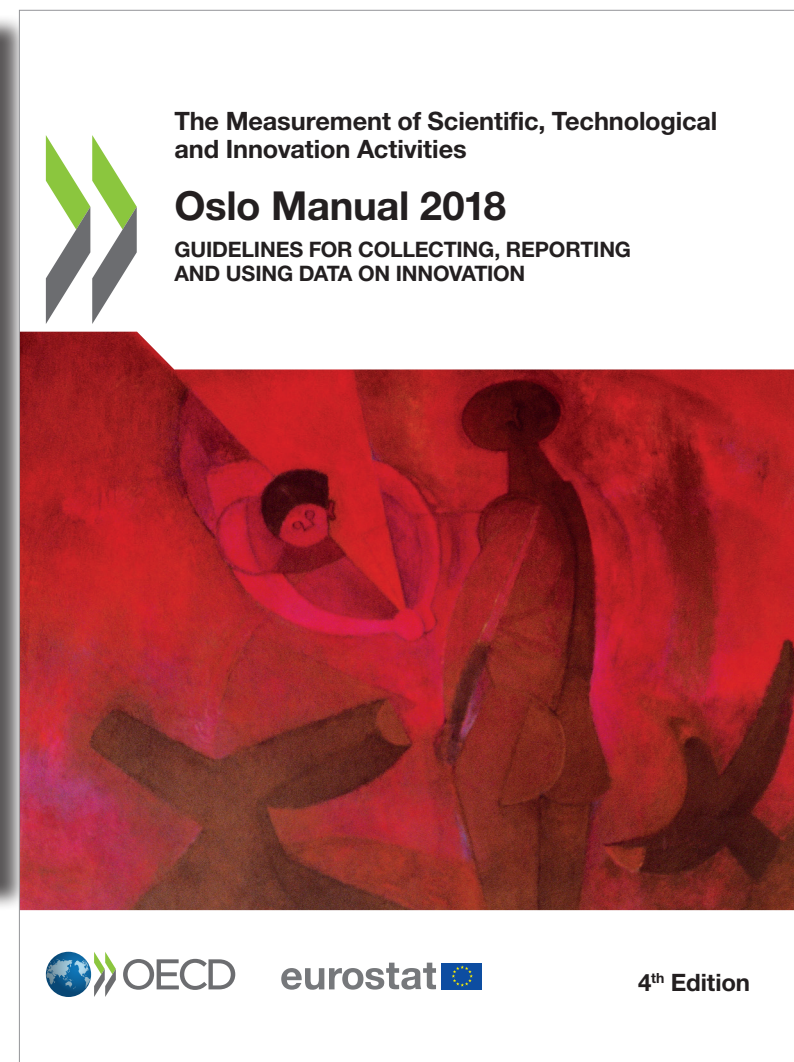
“Aims and Scope

The Working Party of National Experts on Science and Technology Indicators (NESTI) will monitor, supervise, direct and co-ordinate statistical work on science, technology and innovation (STI), contributing to the development of indicators and quantitative analyses needed to meet the requirements and priorities of the Committee for Scientific and Technological Policy (CSTP).

- 構成国等：
OECD メンバー国等, OECD 関係強化国等, 国際機関
- 構成国等代表員の主要な背景：
科学技術・イノベーション統計・測定に関する作成提供者及び利用者
(分析者, 政策担当者) である実務家, 専門家等

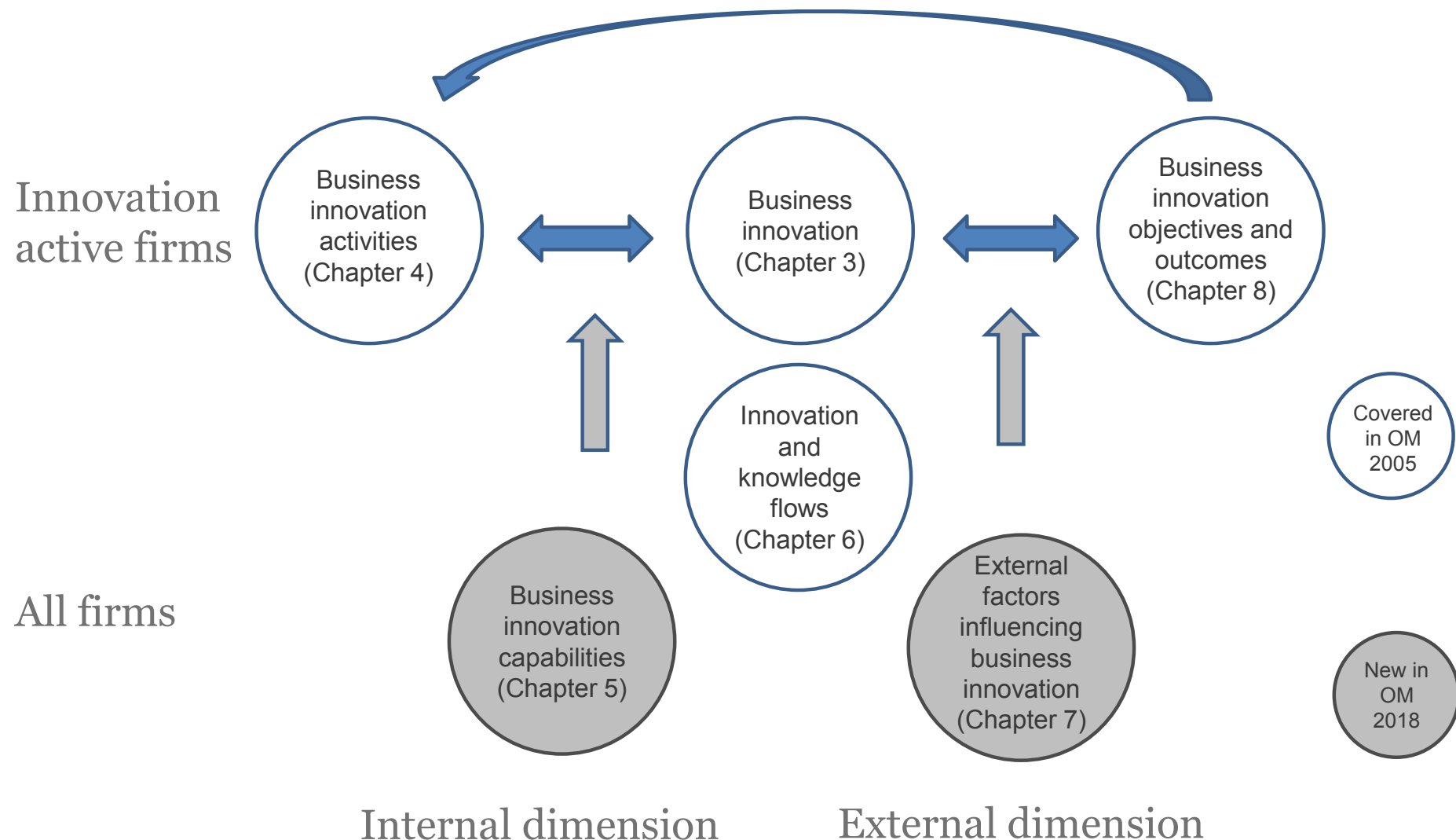
Oslo Manual (オスロ・マニュアル)

- 定義を提供する
- 測定（収集，報告）の標準を勧告する
- 利用／解釈について説明する
- 国際比較可能性を確保する
- 政策討議における“共通言語”を提供する



Oslo Manual 2018 第II部の構成と各章の関係

Figure 1.1. General representation of the relationship between chapters in Part II

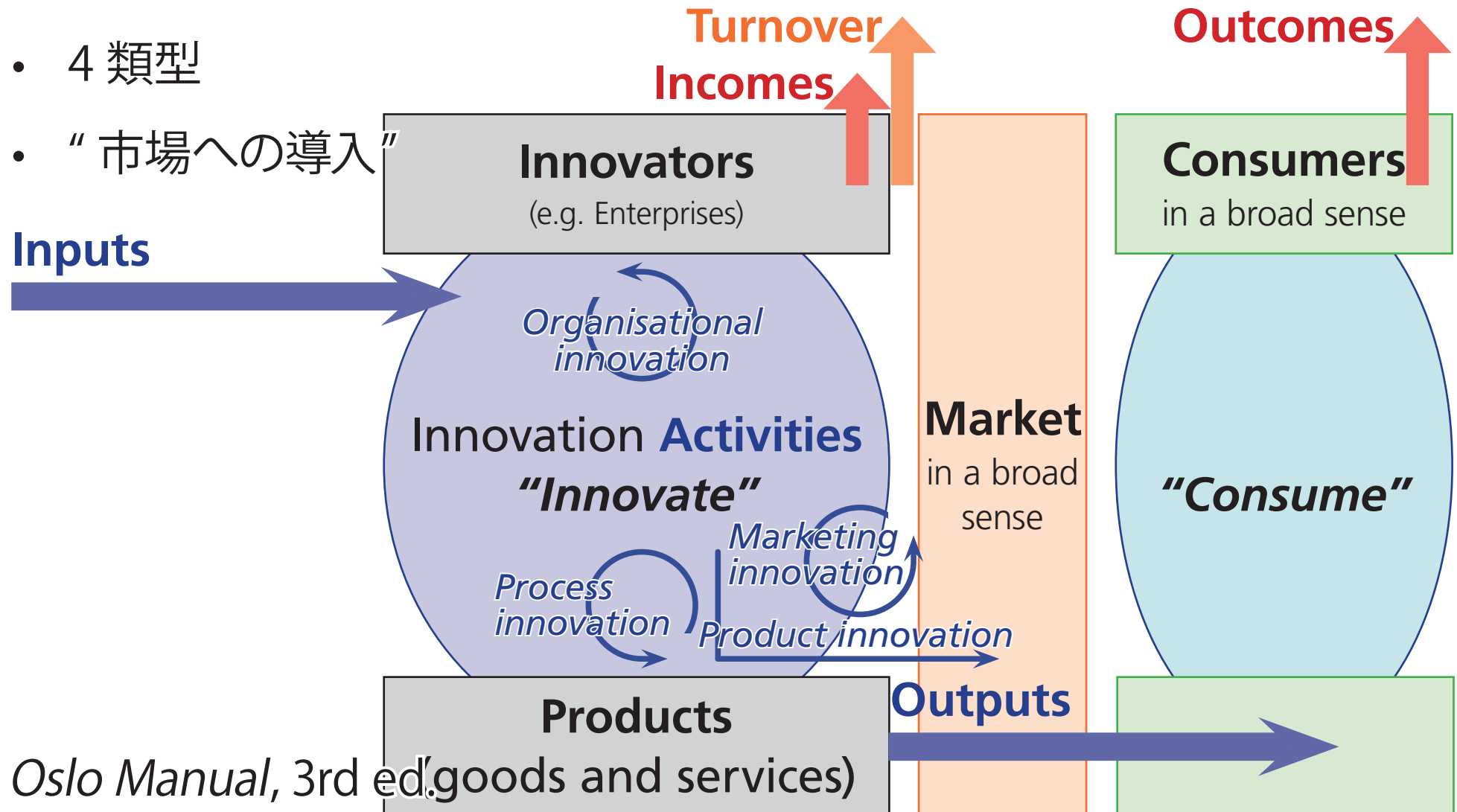


A Conceptual Framework of Innovation for Measurement at the Firm Level based on that of Programme Planning and Evaluation

- 4 類型

- “市場への導入”

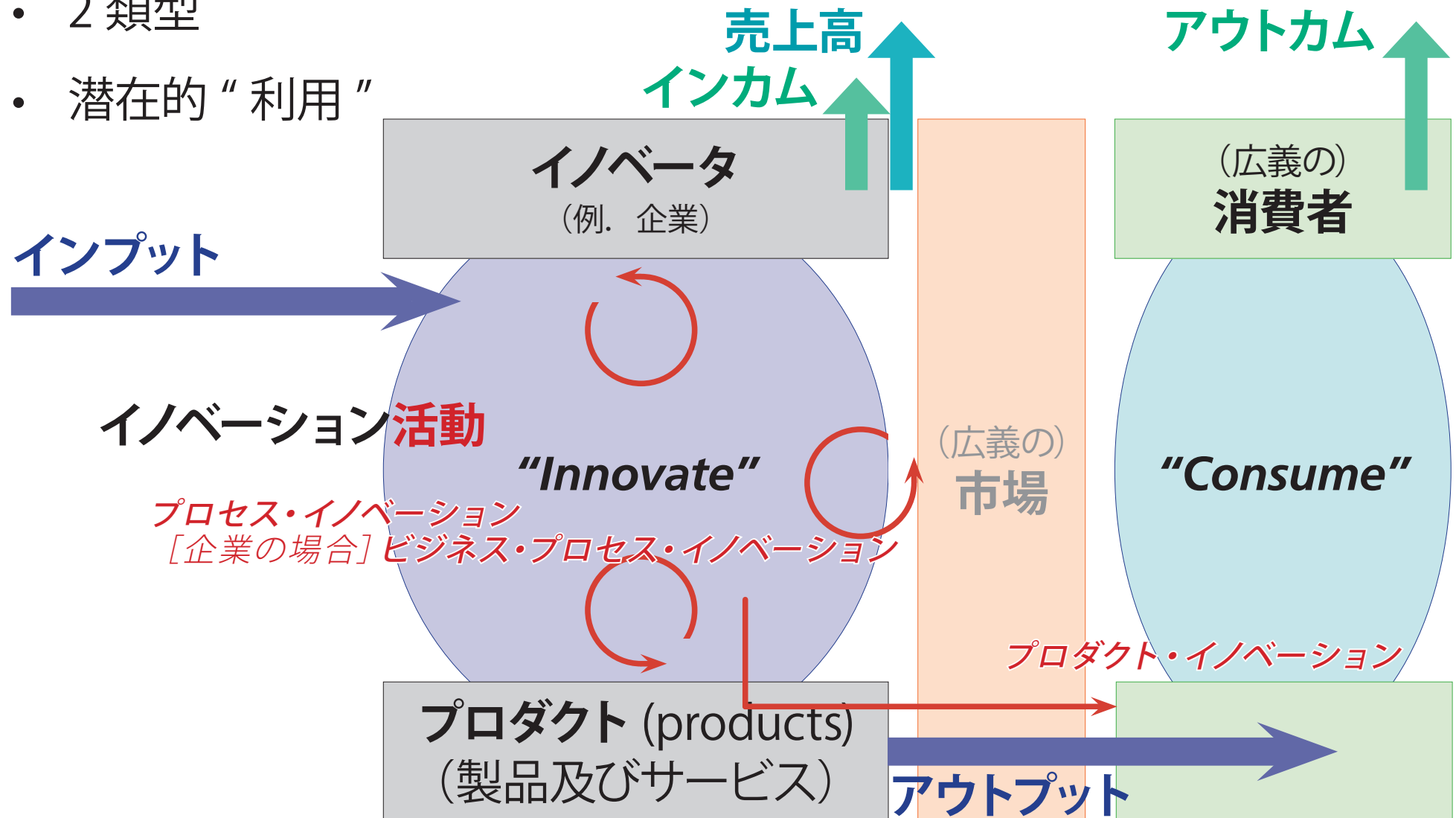
Inputs



Oslo Manual, 3rd ed. goods and services)

Oslo Manual 2018 におけるイノベーションの類型についての概念図

- 2 類型
- 潜在的 “ 利用 ”



Oslo Manual, 3rd ed. におけるイノベーションの定義

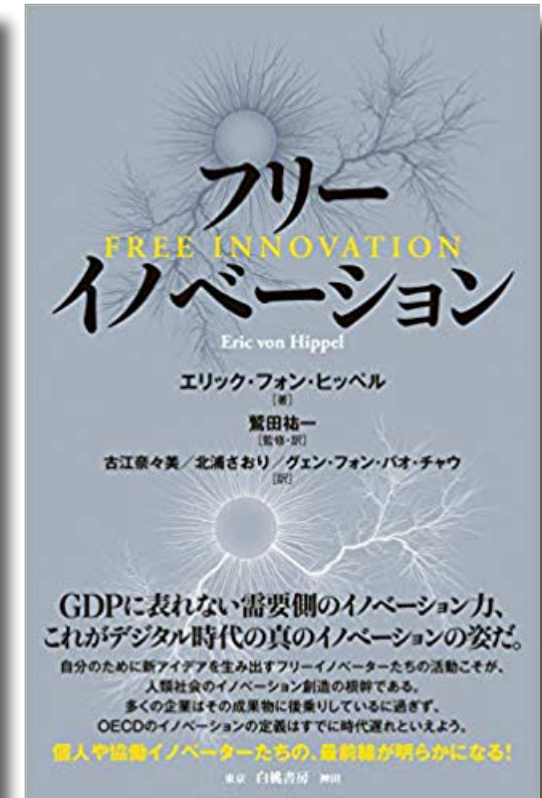
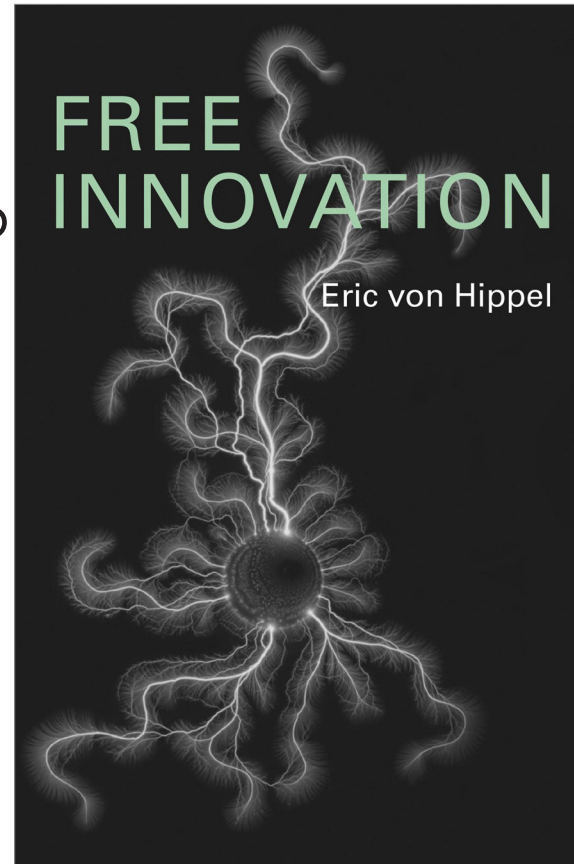
2. Innovation

146. An **innovation** is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations.

150. A common feature of an innovation is that it must have been *implemented*. A new or improved product is implemented when it is introduced on the market. New processes, marketing methods or organisational methods are implemented when they are brought into actual use in the firm's operations.

Cf. *Free Innovation* [von Hippel, 2017] における批判

- *Oslo Manual*, 3rd ed.
における innovation の
定義について批判している
↓
- *Oslo Manual 2018* では
(個人<家計>を含む)
あらゆる部門に対応する
ように定義している



Oslo Manual 2018 におけるイノベーションの定義

2.99. Innovation activities occur in all four SNA sectors. Consequently there is a need for a general definition of innovation that is applicable to all institutional units or entities, while retaining consistency with the definition in Chapter 3 for business enterprises. The general definition of an innovation for all types of units is as follows:

*An **innovation** is a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process).*

3.9. The basic definition of a business innovation is as follows:

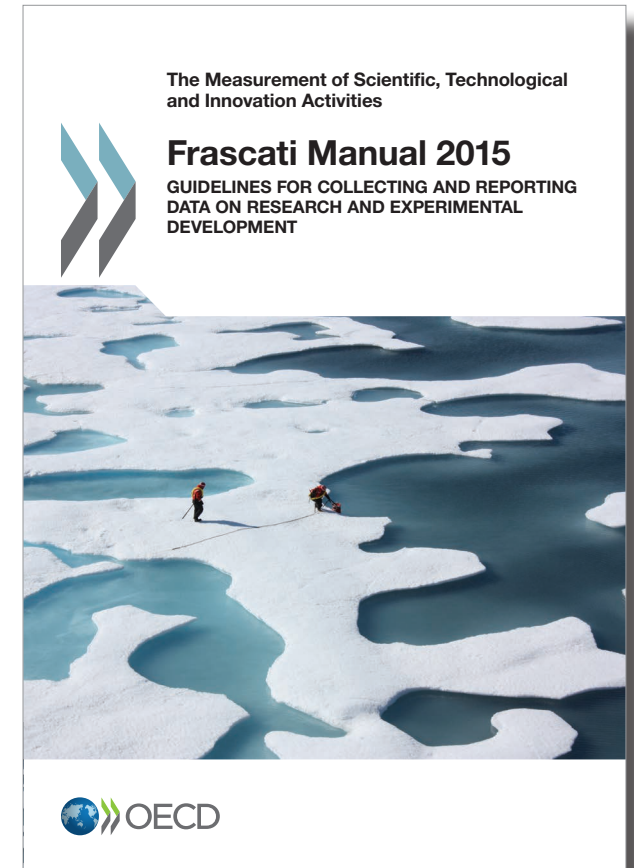
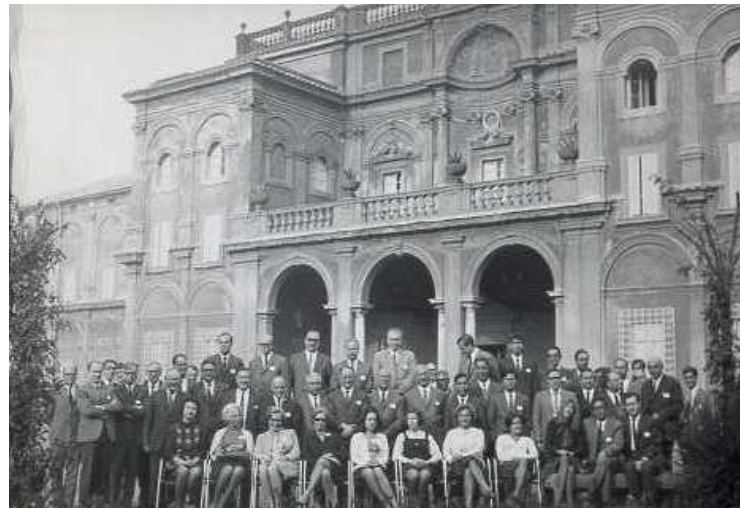
*A **business innovation** is a new or improved product or business process (or combination thereof) that differs significantly from the firm's previous products or business processes and that has been introduced on the market or brought into use by the firm.*

3.10. As introduced in Chapter 2, a **product** is a good or service (or combination thereof). **Business processes** include all core activities by the firm to produce products and all ancillary or supporting activities.

3.11. A product is introduced when it is made available for use by its intended users. A business process is introduced when it is brought into actual use in the firm's operations. The act of introduction is defined as **implementation** and is the point in time when a significantly different product or business process is first made available for use. Firms will often make further adjustments to an innovation after its implementation (see Chapter 4), for instance to the characteristics of a new service. Some of these can be sufficiently different to count as an additional innovation.

Frascati Manual 2015 への改訂

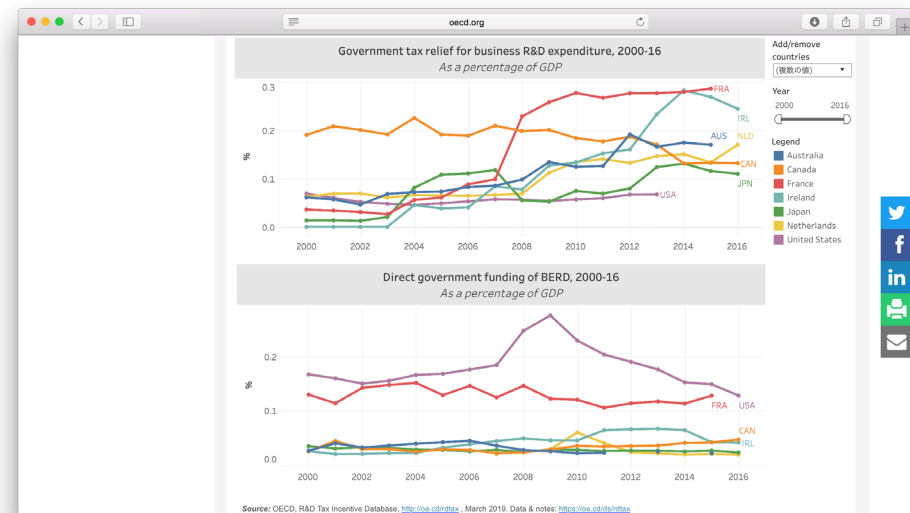
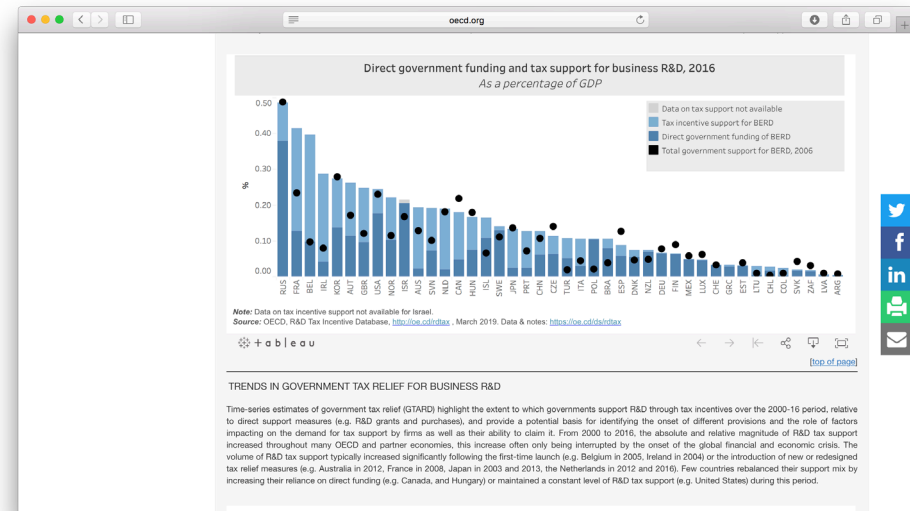
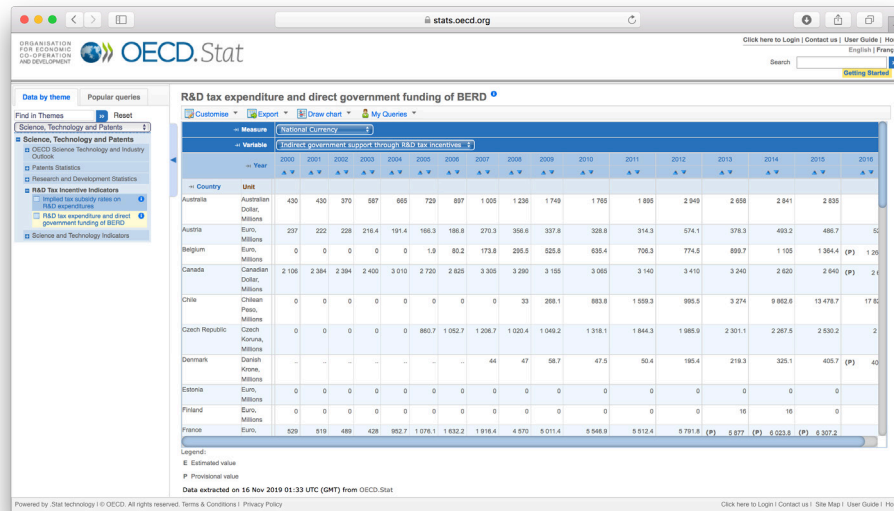
- *Oslo Manual 2018* と同じく全面改訂



研究開発税制優遇措置に関するデータ及び情報の収集・編纂 (1/3)

The screenshot shows the OECD.org website. The top navigation bar includes links for Data, Publications, More sites, News, and Job vacancies. The main header features the OECD logo and a search bar. The breadcrumb trail reads: OECD Home > Directorate for Science, Technology and Innovation > Measuring Tax Support for R&D and Innovation: Indicators. The page title is 'Measuring Tax Support for R&D and Innovation: Indicators'. A sidebar on the left lists various policy areas: Science, technology and innovation policy; Industry and globalisation; Emerging technologies; Digital economy; Broadband and telecom; and Consumer policy. The main content area includes a link to the 'Measuring R&D tax support homepage', a 'Latest news' section dated March 2019 about the 2018 edition of OECD R&D tax incentive country profiles, and a section titled 'A MORE COMPLETE PICTURE OF GOVERNMENT SUPPORT FOR BUSINESS R&D'. This section explains that in 2018, 30 OECD countries provide preferential tax treatment to business R&D expenditures, up from 19 in 2000. It also mentions that the Russian Federation, France, and Belgium provide the largest support as a percentage of GDP in 2016. A table is partially visible at the bottom, titled 'Direct government funding and tax support for business R&D, 2016' and 'As a percentage of GDP'.

研究開発税制優遇措置に関するデータ及び情報の収集・編纂 (2/3)




Award Lecture, JSRPIM Award

34th Annual Meeting, Japan Society for Research Policy and Innovation Management (JSRPIM), GRIPS, Tokyo, 26 October 2019; revised 28 October 2019

Tomohiro Ijichi, Faculty of Innovation Studies, Seijo University, and National Institute of Science and Technology Policy (NISTEP)

研究開発税制優遇措置に関するデータ及び情報の収集・編纂 (3/3)




BETTER POLICIES FOR BETTER LIVES

Main features of R&D tax incentives in selected OECD, EU and other countries

Expenditure-based R&D tax incentives		
Tax relief redeemable against CIT		
R&D tax credit	R&D tax allowance	
Volume	Incremental/hybrid	Non-taxable base and incremental for simplified credit
<i>Taxable:</i> Australia, Canada, Chile, United Kingdom (large firms) <i>Non-taxable:</i> Austria, Belgium (incompatible with allowance), Colombia, Denmark (deficit only), France, Hungary, Iceland, Ireland, Japan (volume and special R&D), Korea (investment), New Zealand (deficit only), Norway	<i>Taxable:</i> United States (credit on fixed, indexed base and incremental for simplified credit) <i>Non-taxable:</i> Italy, Japan (high R&D intensity), Korea, Mexico, Portugal, Spain	<i>Non-taxable:</i> Belgium, China, Croatia, Czech Republic, Denmark, Hungary, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Romania, Russian Federation, Slovakia, Slovenia, South Korea, Sweden, Switzerland, Taiwan, Turkey, United Kingdom, United States
Treatment of unused claims		
Refund option		
Australia (SMEs), Austria, Belgium (after five years), Canada (SMEs), Denmark, France, Iceland, Ireland, New Zealand, Norway, United Kingdom (large companies)	Italy, Spain (reduced, payable credit optional), United States (payroll tax offset for certain start-ups)	Poland (R&D tax credits), United Kingdom (large companies)
Carry-forward option		
Australia, Belgium, Canada, Chile, Colombia, France, Hungary, Ireland, United Kingdom	Korea, Portugal, Spain (unreduced, non-payable credit), United States	Belgium, China, Republic of Denmark, Hungary, Latvia, Lithuania, Romania, Russian Federation, Slovakia, Republic of Turkey, United Kingdom
Preferential tax incentive provisions or more favorable treatment		
SMEs		
Australia, Canada, France, Japan (volume), Norway	Korea, Portugal (start-ups), United States (qualified small business, certain start-ups)	Belgium, China, Republic of Denmark, Hungary, Latvia, Lithuania, Romania, Russian Federation, Slovakia, Republic of Turkey, United Kingdom
Collaboration		
France	Iceland, Japan	Hungary
Limitation of R&D tax relief		
Threshold-dependent credit rates		
Canada (CCPCs), France		
Ceilings on amount of eligible R&D expenditure or value added		
<i>R&D expenditure:</i> Australia, Austria (subcontracted R&D), Chile, Denmark, France, (subcontracted R&D), Iceland, Ireland (subcontracted R&D), Norway <i>R&D tax relief:</i> Colombia, Hungary, Japan (volume and special R&D), New Zealand (deficit only)	<i>R&D expenditure:</i> Portugal (subcontracted R&D), Turkey (subcontracted R&D) <i>R&D tax relief:</i> Italy, Japan (incremental and high R&D intensity), Korea (large firms), Spain, United States	<i>R&D expenditure:</i> Hungary (volume and special R&D), United Kingdom (SMEs) <i>R&D tax relief:</i> Slovakia (volume-based tax allowance)
Accelerated depreciation provisions for R&D capital		
Belgium, Brazil, Chile, China, Denmark, France, Ireland, Israel (non R&D specific), Lithuania, Poland, Romania, Russian Federation, Spain, Turkey, United Kingdom		
No expenditure-based R&D tax incentives		
Bulgaria, Cyprus, Estonia, Finland, Germany, Latvia, Luxembourg, Switzerland		


Notes: No details available for Malta. No call for R&D tax incentives in Argentina in 2018.

Source: OECD R&D Tax Incentive Database, <http://oe.cd/rdtax>, March 2019.



BETTER POLICIES FOR BETTER LIVES

COMPENDIUM OF R&D TAX INCENTIVE SCHEMES: OECD COUNTRIES



BETTER POLICIES FOR BETTER LIVES

MEASURING R&D TAX INCENTIVES

<http://oe.cd/rdtax>

MEASURING R&D TAX INCENTIVES

<http://oe.cd/rdtax>

Country	Type of tax incentive	Current R&D expenditure						Capital R&D expenditure		
		Wages and salaries of researchers and other R&D personnel	Payments for R&D services provided by consultants and other third parties	Payments for other services	Contributions to R&D carried out with 3 rd parties (e.g. collaboration agreements)	Materials and other consumables	Overheads	Acquisition of plant and machinery used for R&D	Acquisition of software, licences and IP rights used for R&D	Depreciation /amortisation of assets used for R&D
Hungary	R&D tax allowance	x (3rd/a)	x (3rd/a) ^h	x (3rd/a)	x (3rd/a) ^h	x (3rd/a)		x (3rd/a)	x (3rd/a)	x (3rd/a)
	R&D tax allowance in innovation contribution	x (3rd/a)	x (3rd/a) ^h	x (3rd/a)	x (3rd/a) ^h	x (3rd/a)		x (3rd/a)	x (3rd/a)	x (3rd/a)
	SSC exemption	x ^a								
Iceland	R&D tax credit					x ^a		x ^a	x ^a	x ^a
	R&D tax credit	x (a)	x (a)		x	x (a)	x (a)	x (a) ^h	x (a) ^h	x (a) ^h
Ireland	R&D tax credit	x (3rd/a)	x (3rd/a) ^h		x (3rd/a) ^h	x (3rd/a)	x (3rd/a) ^h	x (3rd/a)	x (3rd/a)	x (3rd/a) ^h
Israel	Accelerated depreciation (ME, B)									x ^a
	Accelerated depreciation (ME, B)									x (3rd) ^h
Italy	R&D tax credit (incremental)	x (a)	x (a) ^h		x (a)				x (a) ^h	x (a) ^h
	R&D tax credit (volume-based)	x (a) ^h	x (a)		x (a)	x (a)	x (a)			x (a) ^h
Japan	R&D tax credit (special R&D)	x (a) ^h	x (a)		x (a)	x (a)	x (a)		x (a) ^h	x (a) ^h
	R&D tax credit (high R&D intensity)	x (a) ^h	x (a)		x (a)	x (a)	x (a)			x (a) ^h
Korea	R&D tax credit	x (a)	x (a) ^h		x (a)	x				
	R&D tax credit (investment)							x		x
Lithuania	R&D tax allowance	x ^a	x (3rd) ^h	x (3rd) ^h		x (3rd)				
	Accelerated depreciation (ME)									x (a) ^h
Mexico	R&D tax credit (incremental)	x	x	x ^a	x ^a	x ^a	x			x ^a
Netherlands	Payroll withholding tax credit	x (a) ^h				x (a)		x (a) ^h	x (a)	x (3rd) ^h
New Zealand	R&D tax credit (deficit)	x	x		x	x				x ^a
Norway	R&D tax credit	x (a) ^h	x (a) ^h			x (a)	x (a)	x (a) ^h		
	R&D tax allowance	x	x	x ^a		x ^a			x ^a	x ^a
Poland	Tax deduction for R&D Centres	x	x		x	x	x	x	x	
	Accelerated depreciation (ME, B)									x ^a
Portugal	R&D tax credit	x (a) ^h	x (a) ^h	x (a) ^h	x (a) ^h	x (a)	x (a) ^h	x (a) ^h	x (a) ^h	

2

Award Lecture, JSRPIM Award

34th Annual Meeting, Japan Society for Research Policy and Innovation Management (JSRPIM), GRIPS, Tokyo, 26 October 2019; revised 28 October 2019

Tomohiro Ijichi, Faculty of Innovation Studies, Seijo University, and National Institute of Science and Technology Policy (NISTEP)

国内における研究開発統計改善への協力の例

The screenshot shows the official website of the Statistics Bureau of Japan (総務省統計局). The page is titled "科学技術研究統計研究会" (Science and Technology Research Statistics Research Council). The header includes the bureau's logo, a search bar, and navigation links. The main content area features a blue banner with the title "科学技術研究統計研究会" and a paragraph explaining the council's purpose. Below this, a section titled "研究会の開催状況" (Status of the Research Council) lists the dates and links for the 27th and 28th sessions.

総務省統計局

Google™ カスタム検索 検索

→ 採用情報 → リンク集 → ご意見・お問合せ → サイトマップ → 文字サイズ等の変更 → English

ホーム 実施中の調査 統計データ よくある質問 統計研究研修 広報・募集 組織紹介

ホーム > インフォメーション > 研究会・懇談会 > 科学技術研究統計研究会

科学技術研究統計研究会

総務省では、科学技術研究調査について、科学技術政策及び調査環境の変化に応じた調査事項、調査方法等の具体的かつ専門的な検討を行うことを目的として、「科学技術研究統計研究会」を開催しています。

研究会の開催状況

平成27年度

- 第1回会合（平成27年7月27日） [第1回会議次第及び資料](#)、 [第1回議事要旨（PDF：36KB）](#)
- 第2回会合（平成27年10月30日） [第2回会議次第及び資料](#)、 [第2回議事要旨（PDF：169KB）](#)
- 第3回会合（平成28年1月28日） [第3回会議次第及び資料](#)、 [第3回議事要旨（PDF：205KB）](#)

平成28年度

- 第1回会合（平成28年4月8日） [第1回会議次第及び資料](#)、 [第1回議事要旨（PDF：360KB）](#)

研究評価等に関する研究

高等教育・公的研究機関に関わる“評価”の枠組みの概略

研究開発評価

科学技術基本法（平成7年法律第130号）

科学技術基本計画

『国の研究開発評価に関する大綱的指針』
（平成28年12月21日内閣総理大臣決定）

『文部科学省における研究及び開発に関する評価指針』他府省における
（平成14年6月20日（最終決定平成29年4月1日）文部科学大臣決定）研究開発評価指針

適用

参考とすることを期待

総合科学技術・イノベーション会議

政策評価

内閣府設置法
（平成11年法律第89号）

行政機関が行う政策
の評価に関する法律
（平成13年法律第86号）

法人評価

独立行政法人通則法（平成11年法律第103号）
国立大学法人法（平成15年法律第112号）

自己点検・評価 認証評価

学校教育法
（昭和22年法律第26号）

自己点検・評価；
認証評価

認証評価機関

中（長）期目標，中（長）期計画

主務大臣／（研究開発に関する審議会）
国立大学法人評価委員会

文部科学省

国立研究開発法人等
（資金配分機関）

国立研究開発法人
（研究開発実施機関）

大学共同利用機関法人

国立大学法人（国立大学）等

私立大学，
公立大学等

研究開発プログラムの評価

研究開発課題の評価

研究開発機関等の評価

研究者等の業績の評価

参考：伊地知真博，2009，「我が国の公共セクターにおける研究とイノベーションのための評価システムとマネジメントの現状と課題」，『研究 技術 計画』，24，214-230。（図1）

34th Annual Meeting, Japan Society for Research Policy and Innovation Management (JSRPIM), GRIPS, Tokyo, 26 October 2019; revised 28 October 2019

Tomohiro Ijichi, Faculty of Innovation Studies, Seijo University, and National Institute of Science and Technology Policy (NISTEP)

おわりに

政策への示唆の導出に向けて：イノベーション・システムに関して

- システム：
構造的にどうであるか
 - 時間的に変化しているか
 - cf. 絶対量に関して判断することは難しい
- アクター：
どのように分布しているのか；どのように機能しているのか
 - 留意点：アクターの “不均質性 (heterogeneity)” / “多様性 (variety)”
 - cf. 暗黙的によく取られてしまっている仮定：
アクターの（ある条件から見た場合の） “均質性”
- アクター間でどのように相互作用しているのか

経験からの所感：統計調査や指標に係る活動に関連して

- 技術面：統計・測定
- 業務面：行政
- 内容・対象面：
 - 研究・知識創造，開発，イノベーション；技術
 - 企業・機関・組織等のありよう；マネジメント
 - 政策に係る（潜在的）課題や諸制度；資金配分，税制，...
 - 調査対象（客体）に係る諸制度：例．企業会計，...
- 国際面：国際協働：“国際比較可能性の確保”

» “ 集団知 ”