



Elsevier Research Intelligence

University 2.0とその先へ

- なぜ、今こそ日本が行動をおこすべきなのか

アンデーシュ・カールソン

バイス・プレジデント、グローバル・アカデミック・リレーションズ、エルゼビア

ルディービーヌ・アラニヤ、アナリスト、グローバル・アカデミック・リレーションズ、エルゼビア（共著）

Empowering Knowledge



Elsevier Research Intelligence

University 2.0 and beyond

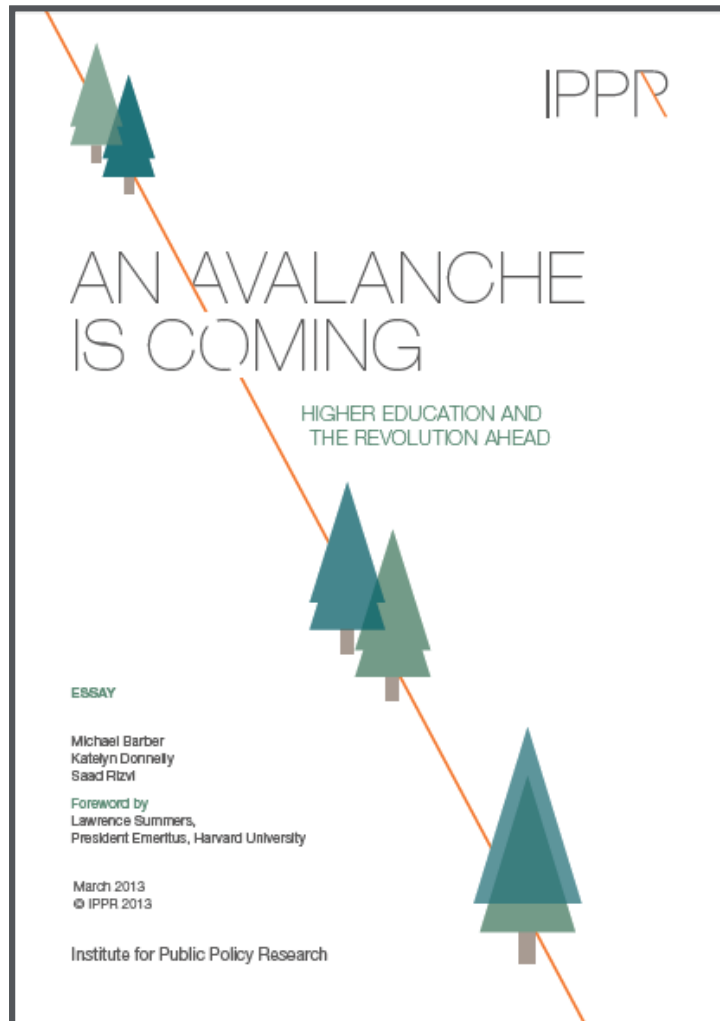
- Why Now is the Time for Japan to Act

Anders Karlsson, VP Global Academic Relations

With the support from Ludivine Allagnat, Strategy Analyst

Empowering Knowledge

Challenges for Universities in the 21st Century



“Just as globalization and technology have transformed other huge sectors of the economy in the past 20 years, in the next 20 years universities face transformation”

Globalization

- Universities in global competition

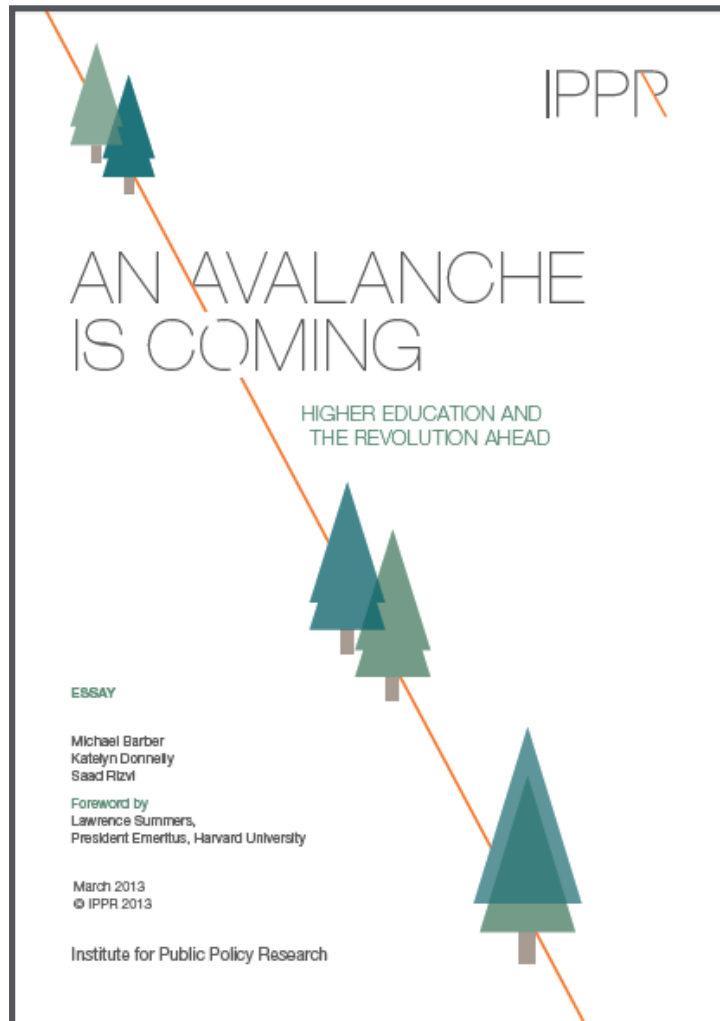
Localization

- Universities as engines of regional growth

Marketization

- Students and researchers “shop around”

21世紀に大学が直面する課題



「これまでの20年間でグローバル化と技術革新の波が多様な経済部門に変革を迫ったように、今後20年間で大学も変革を迫られることになるだろう。」

グローバル化

- 世界規模の競争にさらされる大学

地域化

- 地域発展の原動力としての大学

自由主義市場経済への移行

- 学生と研究者による大学の「品定め」

Global University Trends

How Universities React

URAs to drive the Change



大学の世界的な **トレンド**
大学はどのように **対応** しているか
変革 を推進するURA





Global University Trends

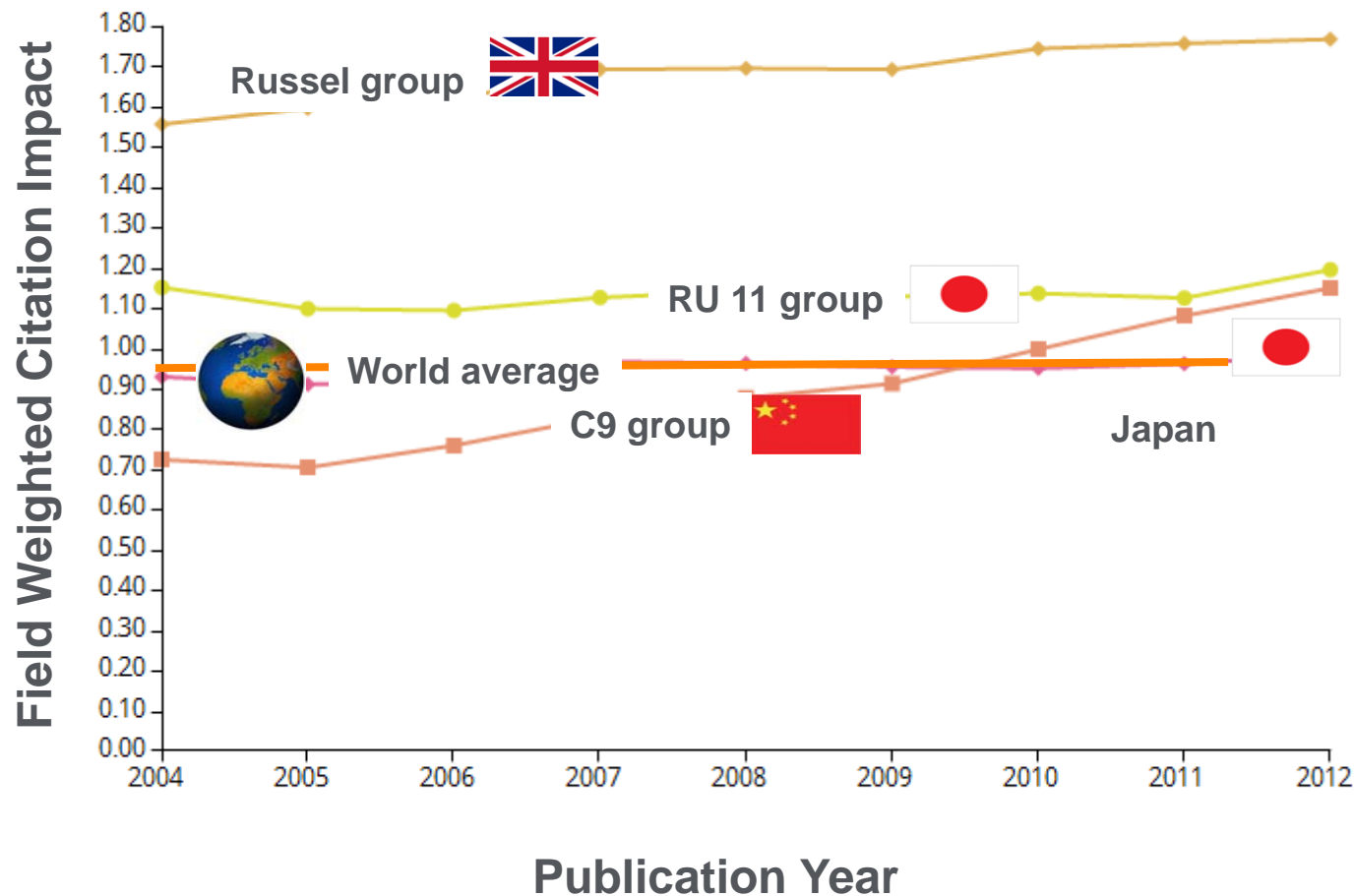
Empowering Knowledge



大学の世界的なトレンド

Empowering Knowledge

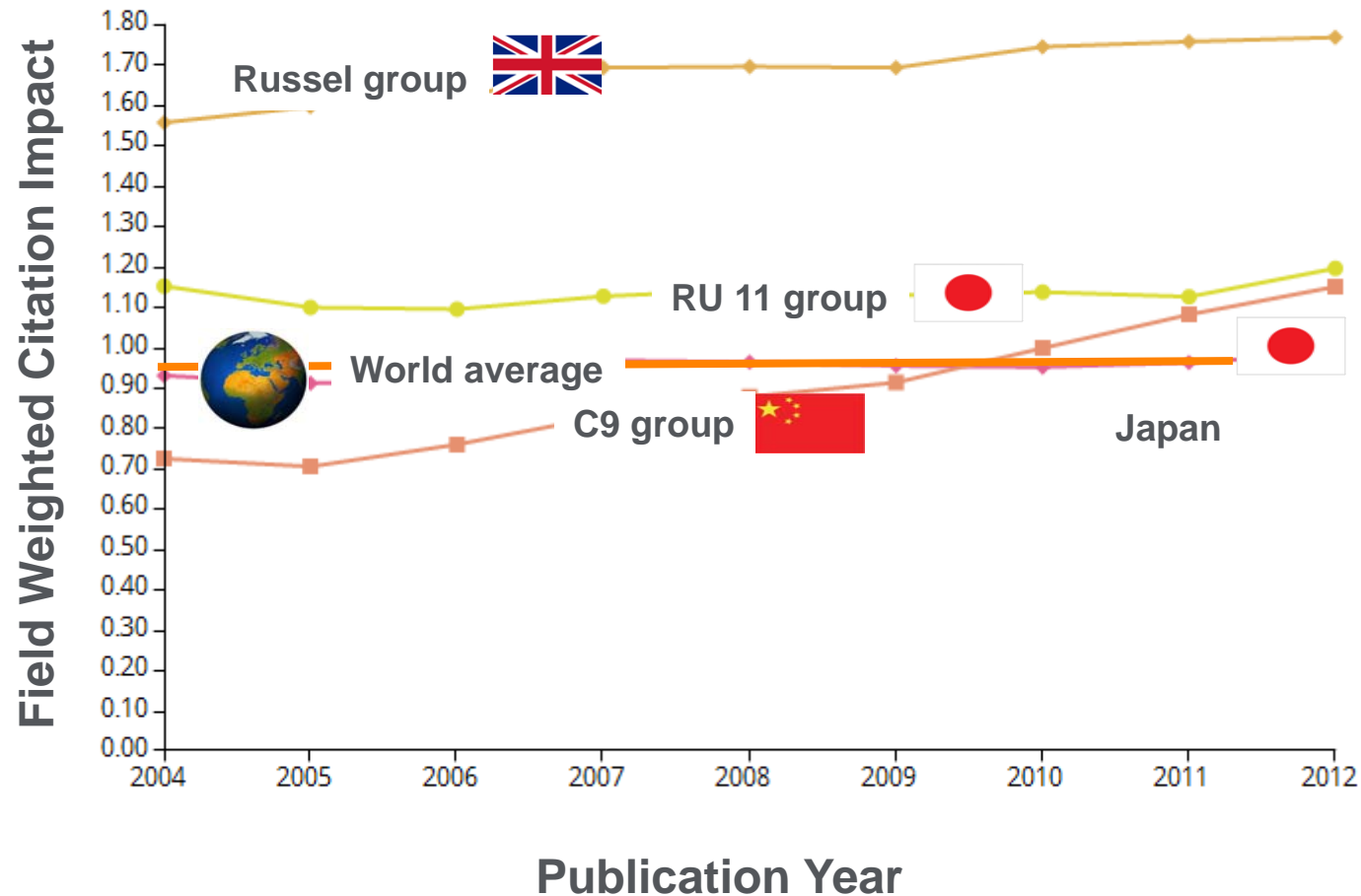
Competition Increasing Among Top Universities



FWCI
- normalized citation impact

- Russel group (UK) high impact
- Japan and RU11 group relatively flat
- C9 league China climbing fast

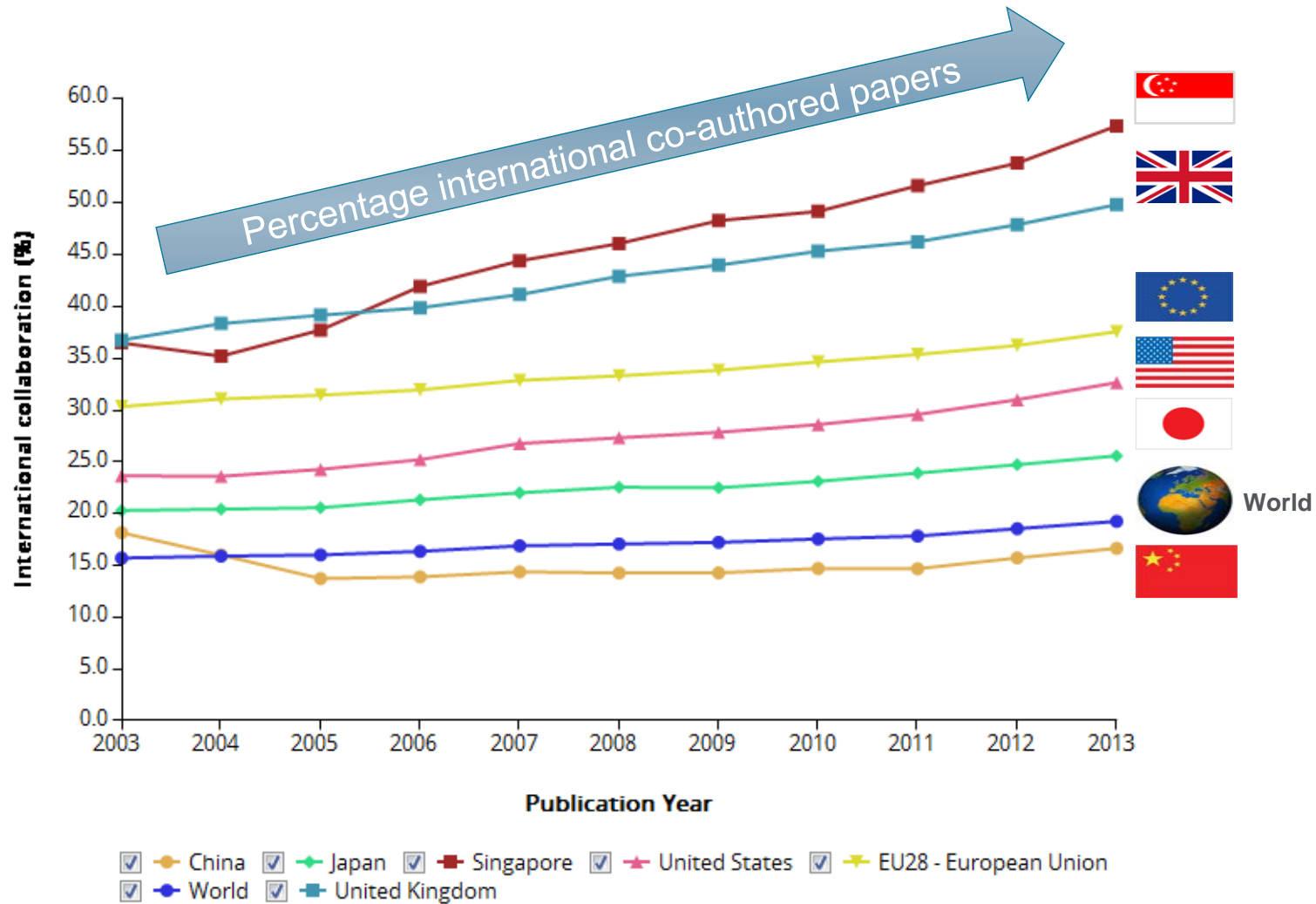
トップ大学間での競争の激化



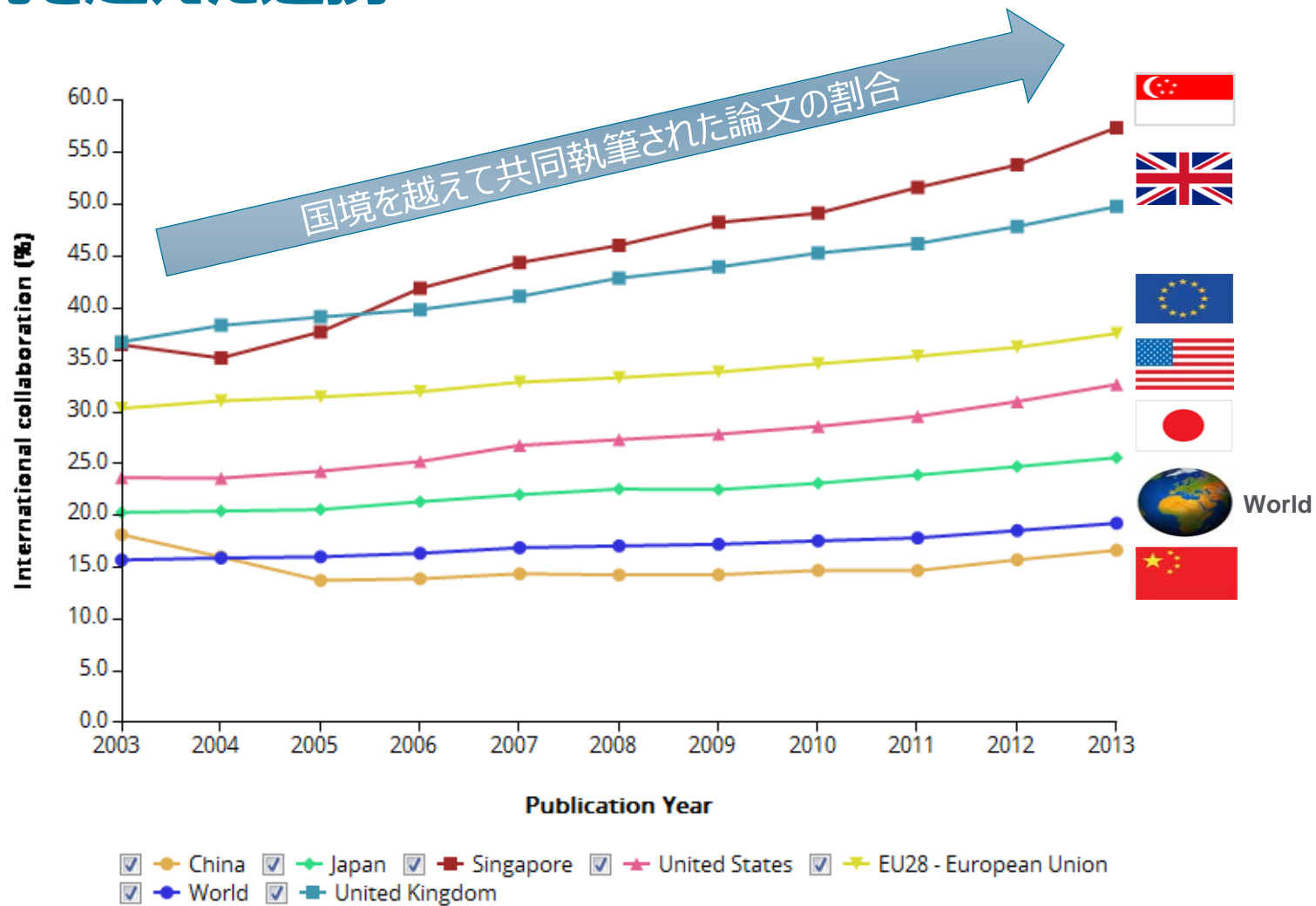
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Collaboration Across Borders



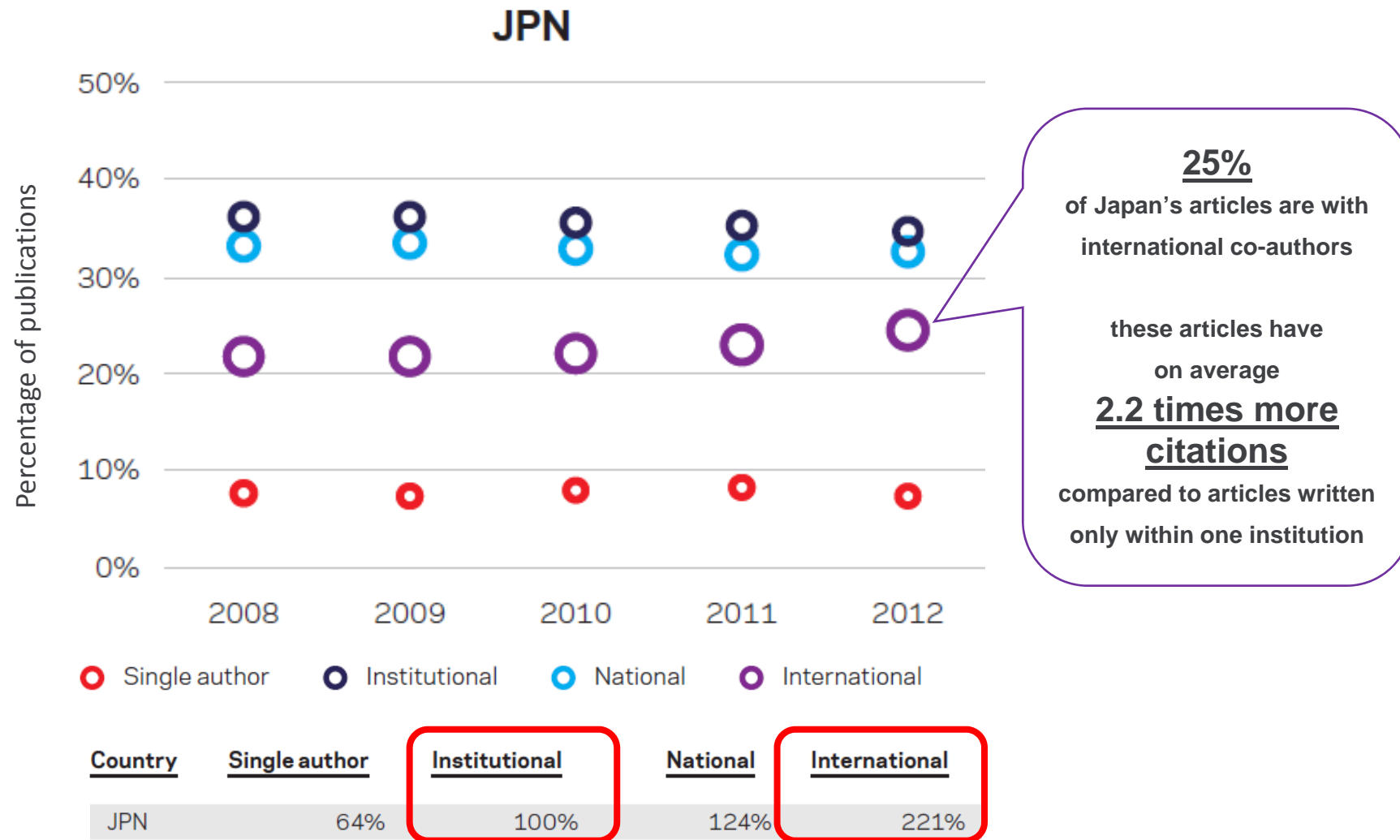
国境を越えた連携



データ：エルゼビアSciVal：論文、カンファレンスペーパー、およびレビュー論文から算出

Collaboration Increases Impact

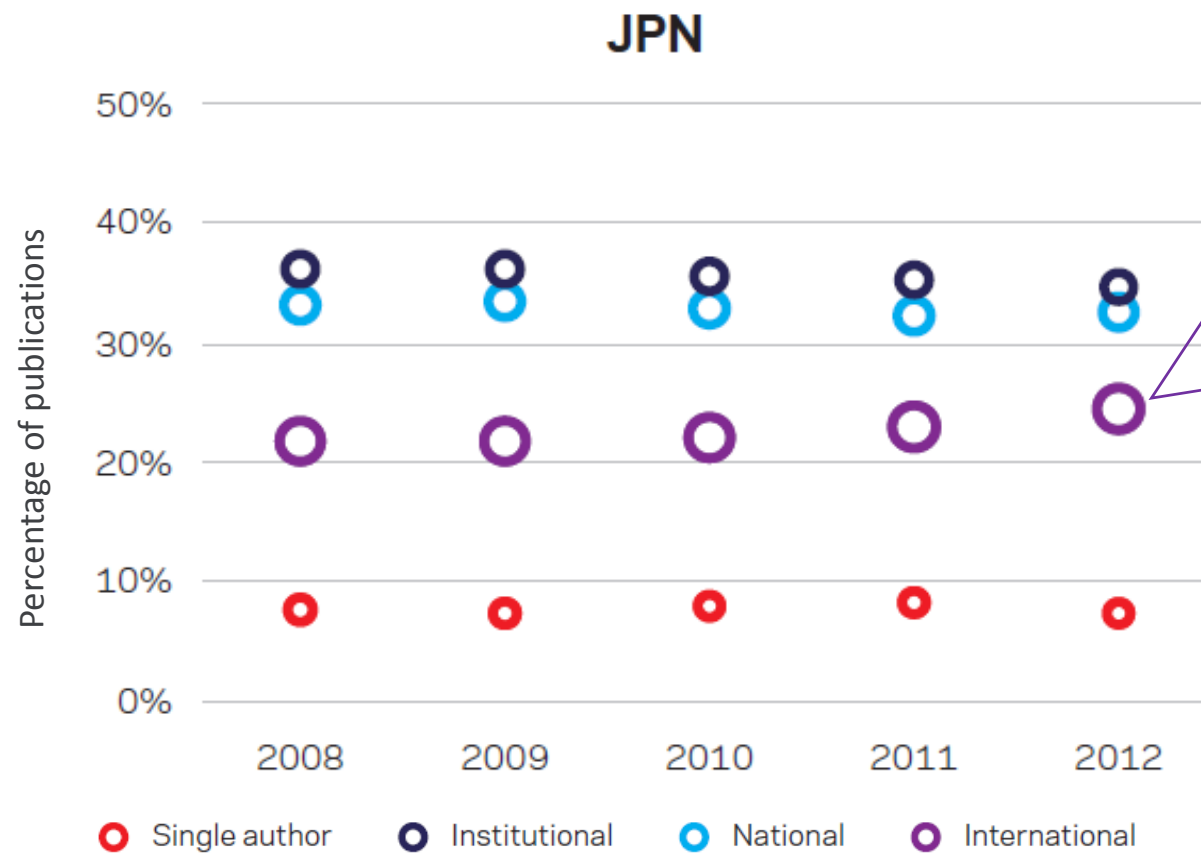
(Elsevier UK BIS Report 2013)



Source: "International Comparative Performance of the UK Research Base 2013", Elsevier and UK Department of Business Innovations and Skills (UK BIS)

連携を通してもたらされる影響の大きさ

(Elsevier UK BIS report 2013)



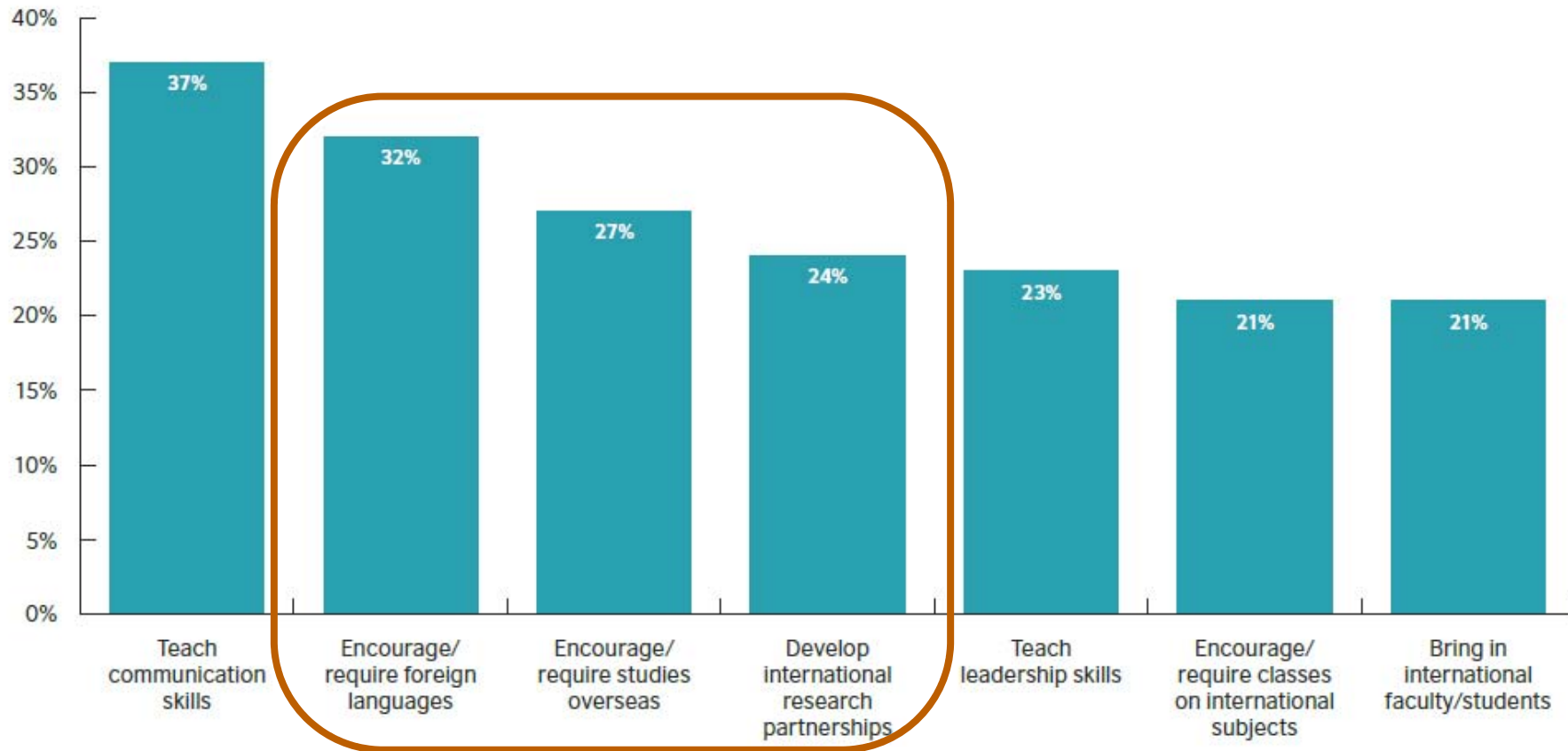
日本で発表される論文の実に
25%は、海外の研究者と
共同執筆されたものである。

日本の著者と海外著者の
国際共著論文は、著者の単独
機関のみで執筆される論文より
2.2倍多く引用される。

<u>Country</u>	<u>Single author</u>	<u>Institutional</u>	<u>National</u>	<u>International</u>
JPN	64%	100%	124%	221%

The Need for Intercultural Skills

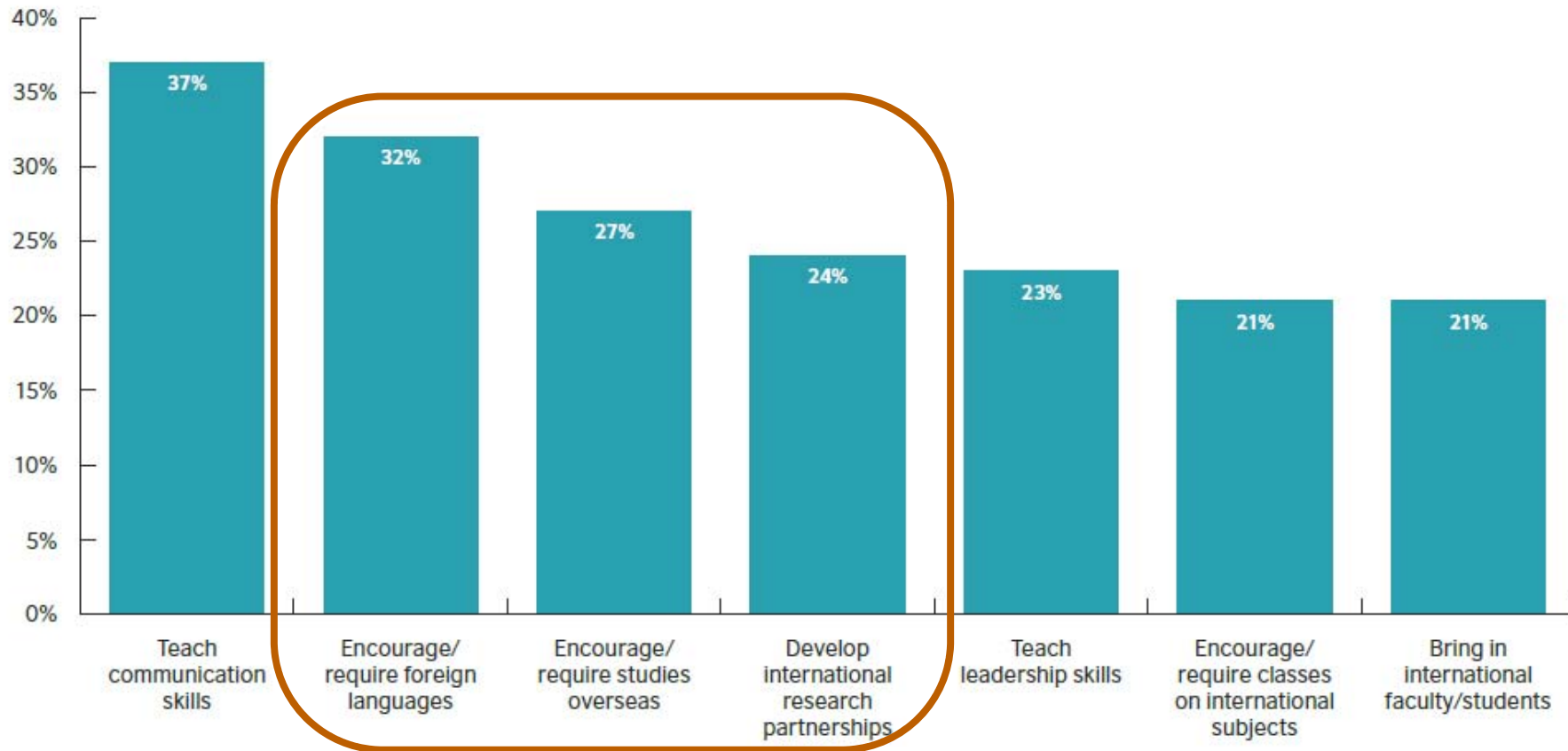
Chart 13: Contributions that education can make to improving intercultural skills as seen by employers (top eight suggestions from employers)



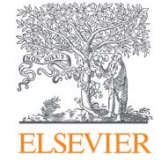
Source: Telephone/face-to-face surveys of public sector, private sector and NGO employers responsible for employment decisions. Base: Global (n=367)

異文化対応スキルの必要性

Chart 13: Contributions that education can make to improving intercultural skills as seen by employers (top eight suggestions from employers)



Source: Telephone/face-to-face surveys of public sector, private sector and NGO employers responsible for employment decisions. Base: Global (n=367)



How Universities React




Empowering Knowledge




大学はどのように **対応** しているか

University 2.0 - Digitally Connected


Altmetric | 2013 Top 100

Which academic research caught the public imagination in 2013?

At Altmetric, we track papers that received... You can find out more



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It's time to change the way we do research.

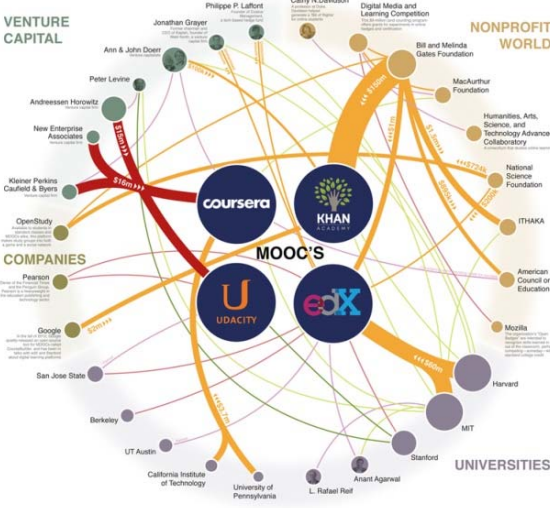
Mendeley is a free reference manager and academic social network that can help you organize your research, collaborate with others online, and discover the latest research.

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- Access your papers from anywhere online
- Read papers on the go, with our new iPhone
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Major Players in the MOOC Universe

Millions of students have signed up for Massive Open Online Courses, and hundreds of universities are offering some form of web-based curriculum. Most students aren't paying much for these classes, if they're paying anything at all. So where is all that knowledge—and all the cash—coming from?

Investor
Donor
Professor
Alumni/fellow
Technology service
Board service



VENTURE CAPITAL

NONPROFIT WORLD

COMPANIES

MOOC'S

UNIVERSITIES

courses
This for-profit MOOC partners with 100 colleges and is funded by its donors. The company is...
edX
Harvard and MIT set up the original \$60-million...
Udacity
Stanford Professor Sebastian Thrun partners with...
Udacity
This for-profit MOOC, started by Stanford professor...
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Stanford Professor Sebastian Thrun partners with...

Concept and text by XARISSA HOLLOWAY. Illustration by NIGEL HAMPTON. Source: The Chronicle of Higher Education, Financial Times, National Science Foundation, The New York Times, TechCrunch, CNN, Wired, and Yahoo! Finance

- **Altmetrics**
Digital Recognition
- **Academic Networks**
Data driven connections
- **MOOCs**
Unbundling learning
“where and when”

University 2.0 – インターネットを通じたつながり

Altmetric | 2013 Top 100

Which academic research caught the public imagination in 2013?

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- Collaborate easily with other researchers online
- Easily import papers from other research as
- Find relevant papers based on what you're
- Access your papers from anywhere online
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"What [Mendelely] c... nothing less than c..."

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Investor Donor Professor Alumni/fellow Technology service Board service

VENTURE CAPITAL

NONPROFIT WORLD

COMPANIES

MOOC'S

UNIVERSITIES

courses

Khan Academy

Udacity

edX

Companies to watch

MOOCing

Course Networks

Universities

Investors

Thanks

Resources

Concept and text by XARISSA HOLLOWAY. Illustration by NIGEL HAMPTON.
Source: The Chronicle of Higher Education, Financial Times, National Science Foundation, The New York Times, TechCrunch, CNN, Wired, and Yahoo! Finance

- **オルトメトリクス**
インターネット上での影響のトラッキング
- **学術ネットワーク**
データ主導型の研究者の連携
- **MOOCs**
(大規模オンライン大学講座)
「いつでもどこでも」学習機会を個別に提供

Evidence Based Decision Support

- Benchmarking, the Example of Snowball Metrics



Initiators – UK top universities

USA

- Arizona State University
- MD Anderson Cancer Center
- University of Minnesota
- Washington University
- University of Illinois at Urbana-Champaign
- University of Michigan

Early interest from

- Japan
- European Commission / H2020 evaluation
- Canada
- Portuguese National Assessment - FCT

Australia / New Zealand

- University of Queensland
- University of Tasmania
- University of Wollongong
- University of Western Australia
- University of Auckland
- Massey University
- The University of Canberra
- Charles Darwin University

エビデンスに基づく意思決定支援

- ベンチマーキング、スノーボールメトリクスの例



創始者 - 英国の一流大学



米国

- アリゾナ州立大学
- MDアンダーソンがんセンター
- ミネソタ大学
- ワシントン大学
- イリノイ大学アーバナ・シャンペーン校
- ミシガン大学

早くから興味を示した国と地域

- 日本
- 欧州委員会 / H2020 評価
- カナダ
- ポルトガル全国評価 - FCT

オーストラリア / ニュージーランド

- クイーンズランド大学
- タスマニア大学
- ウーロンゴン大学
- 西オーストラリア大学
- オークランド大学
- マッセー大学
- キャンベラ大学
- チャールズ・ダーウィン大学



Snowball Metrics recipes v2 - Impact

	<u>Research Inputs</u>	<u>Research Processes</u>	<u>Research Outputs and Outcomes</u>
Research	Applications Volume Awards Volume	Income Volume Market Share	<p><u>Publications & citations</u> Scholarly Output (enhanced) Citation Count h-index Field-Weighted Citation Impact Outputs in Top Percentiles Publications in Top Journal Percentiles</p> <p><u>Collaboration</u> Collaboration Collaboration Impact Academic-Corporate Collaboration Academic-Corporate Collaboration Impact</p> <p><u>Societal impact</u> Altmetrics Public engagement</p>
Enterprise Activities	<p>Academic-Industry Leverage Business Consultancy Activities</p>	<p>Contract Research Volume</p>	<p>Intellectual Property Volume Intellectual Property Income Sustainable Spin-Offs Spin-Off-Related Finances</p>
Post-Graduate Education			

Having “Apple to Apple” comparison universities can benchmark better





スノーボールメトリクス の例 - インパクト

	<u>Research Inputs</u>	<u>Research Processes</u>	<u>Research Outputs and Outcomes</u>
Research	Applications Volume Awards Volume	Income Volume Market Share	<p><u>Publications & citations</u> Scholarly Output (enhanced) Citation Count <i>h</i>-index Field-Weighted Citation Impact Outputs in Top Percentiles Publications in Top Journal Percentiles</p> <p><u>Collaboration</u> Collaboration Collaboration Impact Academic-Corporate Collaboration Academic-Corporate Collaboration Impact</p> <p><u>Societal impact</u> Altmetrics Public engagement</p>
Enterprise Activities	Academic-Industry Leverage Business Consultancy Activities	Contract Research Volume	Intellectual Property Volume Intellectual Property Income Sustainable Spin-Offs Spin-Off-Related Finances
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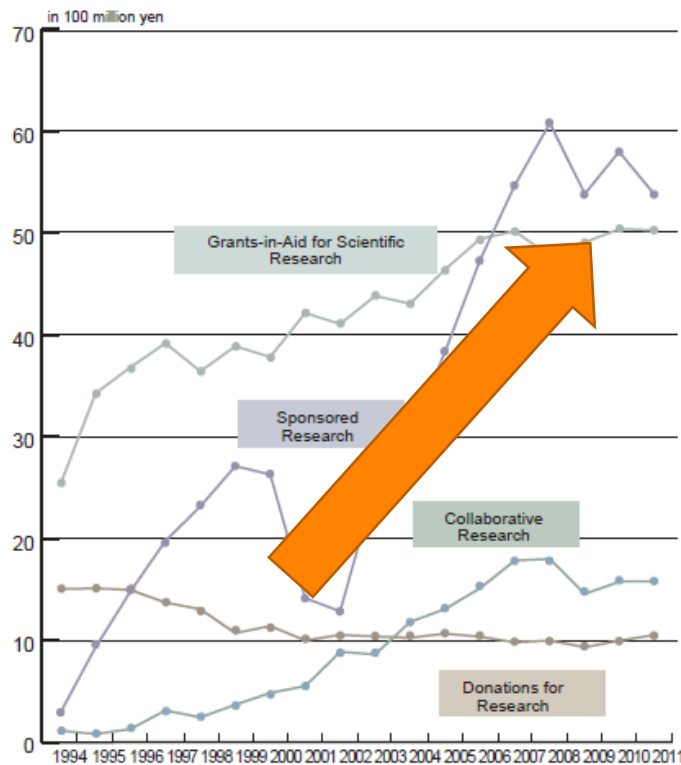


Impact – Cross-sector Collaboration



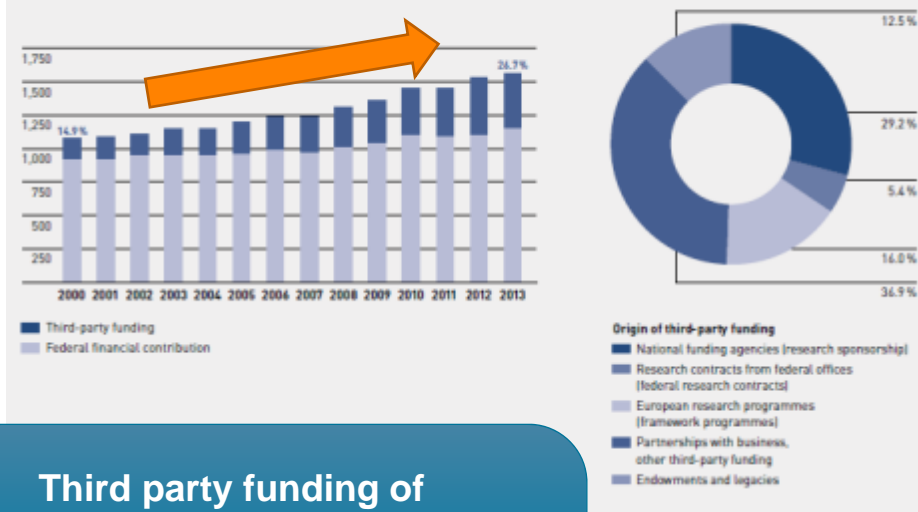
東京工業大学
Tokyo Institute of Technology

Trends of Funds



Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Development and structure of ETH Zurich's income



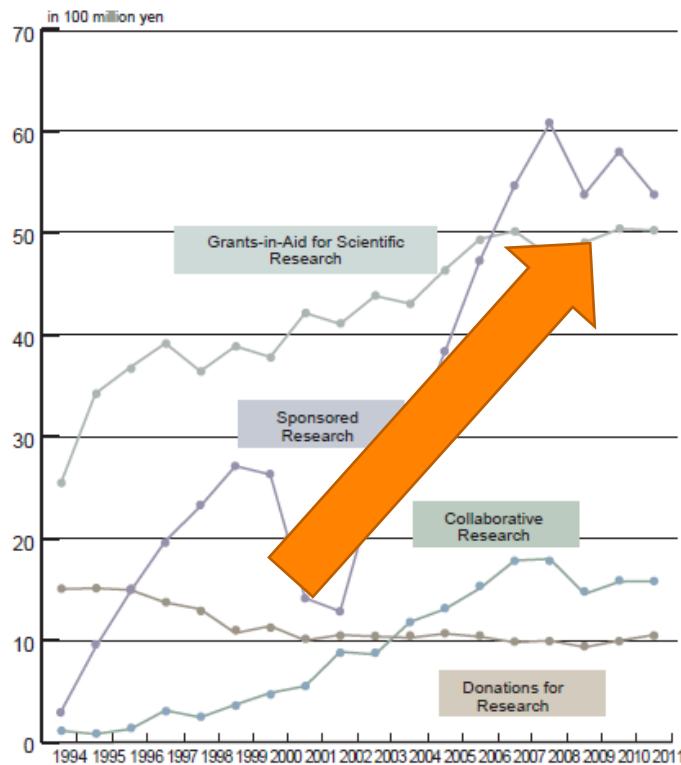
- Third party funding of increasing importance to differentiate and focus
- Basic funding as base for education & infrastructure

インパクトー産学官間の横断的な連携



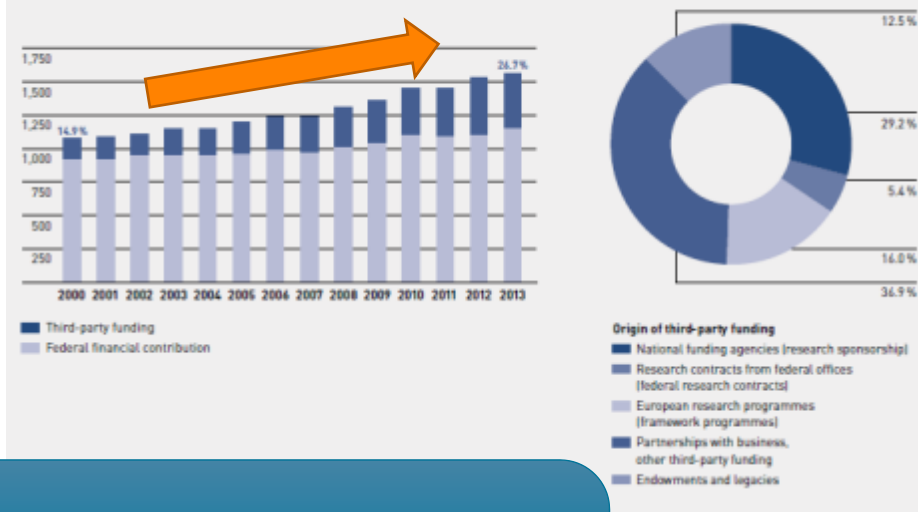
東京工業大学
Tokyo Institute of Technology

Trends of Funds



Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Development and structure of ETH Zurich's income

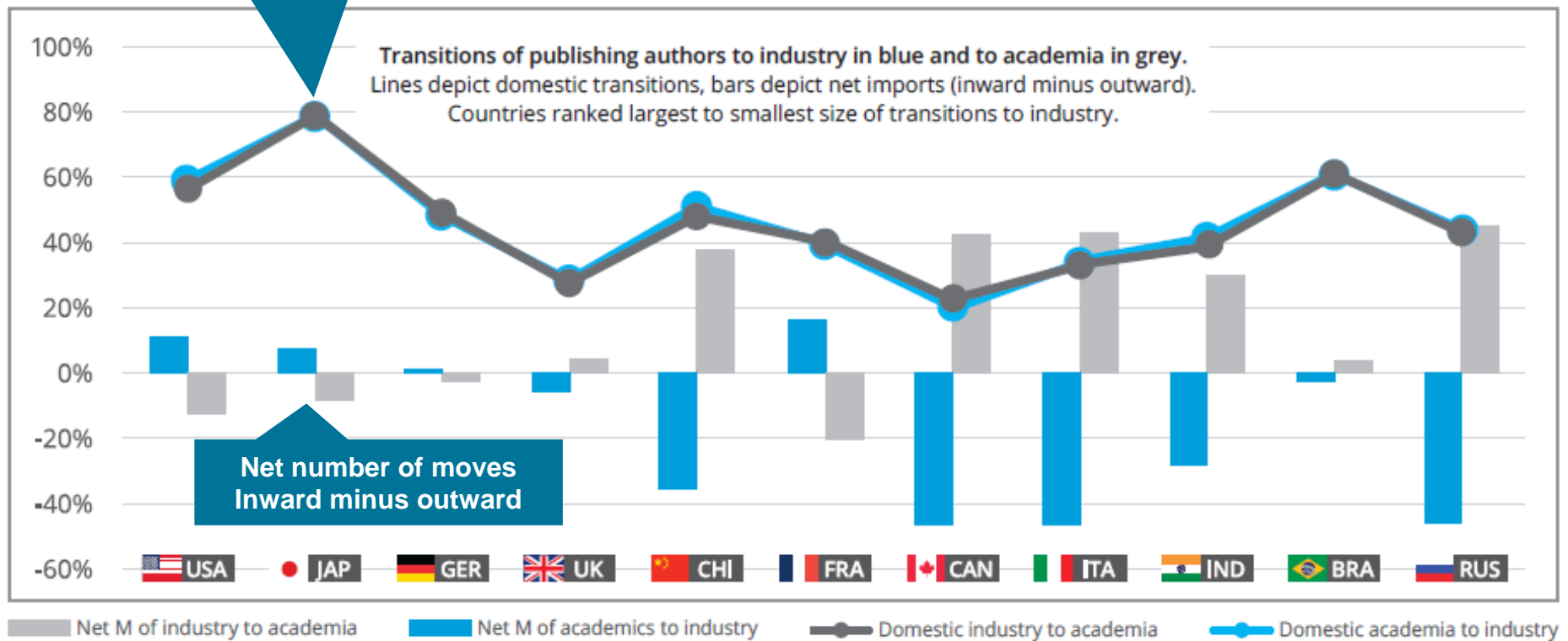


- 差別化と重点化を図るため、第三者による資金拠出の重要性の高まり
- 教育とインフラを支える基礎的資金

Impact - Mobility Across Sectors

(Elsevier UK BIS report 2013)

80% of cross sector moves in Japan, are domestic

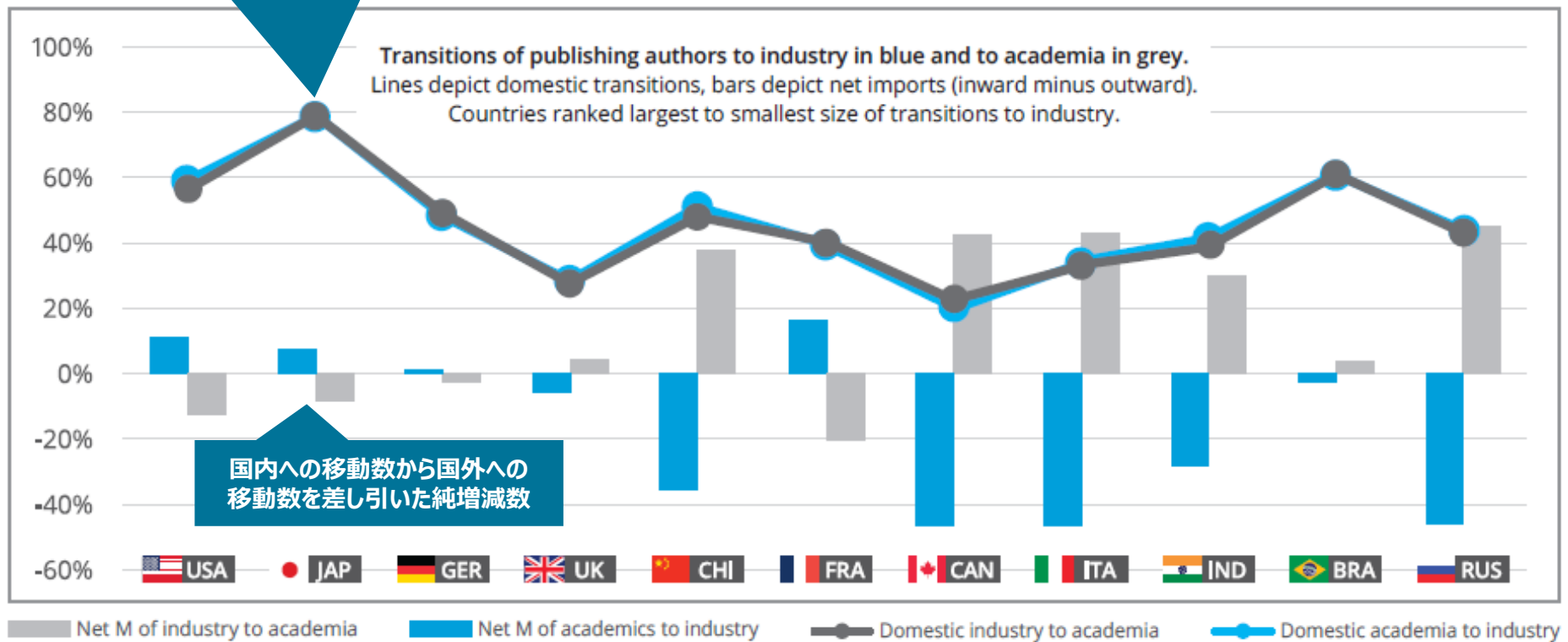


Source: "International Comparative Performance of the UK Research Base 2013", Elsevier and UK Department of Business Innovations and Skills (UK BIS)

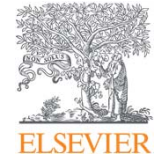
インパクト—産学官間の研究者の流動性

(Elsevier UK BIS report 2013)

日本では、産学官間の研究者の移動の
80%は国内間である



出典：「英国研究基盤実績国際比較、2013年」エルゼビア、および英国ビジネス・イノベーション・技能省（UK BIS）



URAs to drive Change



変革 を推進するURA

Empowering Knowledge

Recipes for Excellence – URA Support is Critical!



University Research Administrators - URAs

- Research strategy & benchmarking
- Be the match-maker between researchers
- Work across internal boundaries
 - Research office
 - International office
 - External Communications
- **Enable international collaboration**

卓越した成果を上げるには – URAの支援が必要不可欠



大学リサーチアドミニストレーター（URA）

- 大学の分析・戦略策定とベンチマーキング
- 研究者をむすぶマッチメーカー
- 組織内の境界を越えての活動
 - 研究支援部門
 - 国際連携部門
 - 大学の外部とのコミュニケーション
- **国際連携を活性化させる活動**

Networking and interactions

2014 Asia Pacific conference by Elsevier to explore research management challenges

- In partnership with Nanyang Technological University (NTU)
- Leading international speakers
- **Over a 100 attendees** (*Head of Institutions, Head of Research, Research Administrators, Researchers, Librarians*)



ネットワークの確立と交流

2014 Asia Pacific Research Intelligence Conference (エルゼビア主催)

研究戦略を最適化するための解決策や、測定・評価方法、ベストプラクティスに焦点

- 南洋理工大学 (NTU) との共同開催
- 世界を牽引する著明な講演者陣
- 100人以上の出席者 (研究機関の責任者、研究部門長、リサーチ・アドミニストレーター、研究者、図書館員)



Some final thoughts – University 2.0

- Successful universities are globally connected
- Successful universities internationalize building on local strength
- Successful universities embrace technology

*Exciting times for those brave enough to lead the way!
Will Japanese universities be global winners?*



Thank You!

- E-mail: a.karlsson@elsevier.com
- Twitter: [AKTokyo](#)
- www.elsevier.com

最後にお伝えしたいこと – University 2.0

- 成功している大学は、グローバルな連携を行っています。
- 成功している大学は、地域の力を足掛かりに国際化を図っています。
- 成功している大学は、技術の力を積極的に活用しています。

日本の大学は世界で成功を勝ち取ることができるでしょうか？
Exciting times for those brave enough to lead the way!



ご清聴ありがとうございます！

- 電子メール： a.karlsson@elsevier.com
- ツイッター： [AKTokyo](#)
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