The Partnered Research Roundtable Report

Ottawa, Canada, 1 June 2017

National Research Foundation

IDRC | CRDI
International Development Research Centre
Centre de recherches pour le développement international

Canada

Contents

Report of the Workshop

Prepared by Fred Carden
Using Evidence, Inc.
fred@usingevidence.com

Introduction

The emergence and growth of partnered research programs reflects a sea change in how research funding agencies support research, who they support as well as what they support (see Table 1 below). Such programs engage a range of partners, shift the focus to societal issues and related to this, are keenly interested in the impacts of research on socio-economic development. In these ways, they differ from academic-led research projects that seek to advance scholarship. Partnered research programs have evolved from a focus on academy-industry partnerships and academy-community partnerships to include partnerships with a broad range of non-academic partners such as civil society organizations and municipalities. These developments call for a shift in thinking about how partnered research programs are managed and how their contributions to socio-economic development are assessed.

To learn from emerging experiences, the National Research Foundation of South Africa and the International Development Research Centre (Canada), convened a roundtable with representatives of research councils from 18 countries (see participant list, Annex I). Its purpose was to exchange perspectives on how agencies design, monitor and evaluate partnered research programs that seek to address social, economic and sustainability issues, and to explore areas for future collaboration and learning (see background note, Annex III).

Domain	Where we began	What are we expanding to
Focus	R&D focus - disciplinary	Problem focus - interdisciplinary
Relationships	Direct counterpart (e.g., health sciences linked to research hospitals; engineers linked to private sector firms)	Multi-level partnerships (supporting ecosystems of innovation rather than individual firms)
Benefit flows	From universities to firms	Benefits are mutual; they accrue to academic and non-academic partners
Impact domains	Formal economy	Also: ➢ Informal economy ➢ Public sector innovation ➢ Public goods (environmental sustainability)

Table 1. The evolving nature of partnered research.

The day began with a context setting discussion and was followed by two roundtables, the first on agency experiences of partnered research programs, followed by a roundtable on monitoring and evaluating the outcomes and impacts of these programs (see agenda, Annex II).

This report is organized around three key themes that emerged over the course of the day: 1) the need to think differently; 2) data and all its challenges; and 3) evaluation. Forward looking suggestions are included in the final section of this report. They are of course interconnected and reflect the recognition that partnership programming brings new challenges as well as new opportunities. Partnering pushes the granting councils in new directions both in their programming and in how they monitor and evaluate such programs.

Thinking Differently about . . .
The Roundtable recognized several areas where new thinking is needed to develop strong partnership programs. Each of these areas raises questions and suggests potential areas for collaboration and joint action.

Research
Underpinning the development of partnered research programs is a change in thinking about research itself. There is a shift in partnered research away from a primary focus on supporting research in the academy to an expanded appreciation of the role of research in building knowledge societies and in promoting systems of innovation.
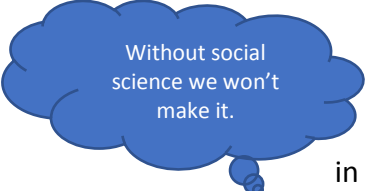
Partnership
University-industry partnerships continue to be prevalent but this model has expanded to support collaboration with community organizations, farmer groups, NGOs, municipalities, government research institutes, among others. This has implications for program design as experience points to the need consult with partners, learn their strengths and needs, and build insights into the design and delivery of partnership grants. It also means recognizing that different groups have different incentives and are looking for different outcomes. For example, non-academic partners are likely to have shorter time horizons for realizing potential benefits (e.g., recruiting new talent, product / process innovation) than academics. Rewarding academic participation also needs to be considered. As well, there is a need to consider the absorptive capacity of partners to use the results of partnered research (such as policy recommendations, intellectual property, new knowledge). These considerations complicate the design, monitoring and evaluation processes.
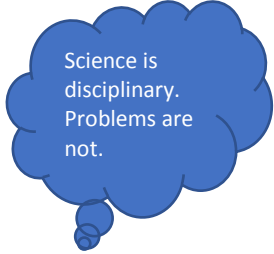
Innovation

Most programmatic attention and analysis has focused on the role of public research institutions in catalyzing firm-level innovation. There was a strong endorsement for supporting an innovation agenda that includes social and public policy innovation. This will require investment in new programs and building the data on these dimensions.

Interdisciplinarity

Among the granting councils participating, some cover all disciplines while others are disciplinary granting councils. All acknowledged the growing importance of interdisciplinary research, particularly in partnered research. This presents a challenge to all councils, but in particular to councils with a disciplinary mandate that may limit what they can fund. New thinking is evident in the formation of joint programs between research councils other agencies to overcome such limitations.

Without social science we won't make it.

Science is disciplinary. Problems are not.

Mandate

Partnered research programs often raise mandate questions about who can participate and the nature of activities that research councils can support. Framing research as problem-driven expands the intended purpose from advancing scholarly activity and training to furthering private sector interests or public sector innovation. Clarity on who is served and who benefits also has implications for data collection. In terms of research management and monitoring practices, many felt that such programs create additional demands and opportunities for staff to support impact. In addition to the common task of managing competition processes, there is often a need to facilitate and support partnerships.

Infrastructure

Bringing new partners into the research enterprise means our thinking about research infrastructure needs to change. Collaborative platforms that promote the exchange of ideas and knowledge represent a new kind of 'laboratory'. [What Works Centres](#) in the UK is one example of a new platform that challenges established ideas of research infrastructure. All forms of infrastructure need ongoing maintenance and support to ensure a strong research environment. This is particularly true for infrastructure that facilitates networking because of the broad range of organizations and agencies that can be involved.
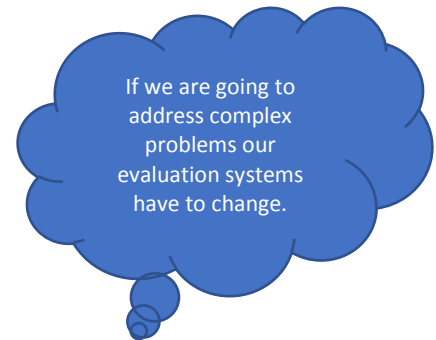
Data

Data challenges were discussed throughout the day. The main issues in collecting data about partnered research programs, along with observations and questions, are outlined below.

Data Issue	Observations and Questions
Comparability, Inter-operability and Consistency	Data on and from partnered research programs are often developed in isolation from each other. There are standardized indicators of innovation but research councils have not applied these or adopted common meta data to facilitate comparison of impact and effectiveness of national programs. Could we define some common meta data standards that would permit more comparison and consistency?
Accessibility/Open Data	Much of the relevant data on the operations and outcomes of partnered research are detailed in reports commissioned by granting councils. More could be done to make these accessible and promote open data. Similarly for research data generated from research partnerships, there is an opportunity to promote fair and equitable sharing as per the Nagoya Protocol.
Quality and Reliability	Data about partnered research programs are often characterized as unreliable and therefore of limited value. How do we measure the quality of partnered research (where in many cases peer reviewed publications is an inadequate or an inappropriate measure)?
Relevance	There are significant gaps in partnership data. Academic-industry programs tend to capture firm-level data but how representative is that data of the productive sector? One participant noted that in some countries the informal economy constitutes 70-80% of economic activity.
Ethics	To what extent and in what contexts is it appropriate to use public funds to generate proprietary knowledge? Is there a tension in promoting open data on research programs and privacy or appropriate use of data?
Standardization	Partnered research involves a broad range of organization types and generates different outcomes. This makes performance indicator standardization a challenge. Participants acknowledged that while greater standardization of outcome indicators is advantageous and feasible, a full assessment of partnered research programs requires both a numbers and narrative approach. Collecting gender disaggregated data, for example, would be amenable to common collection across funding agencies.
Use of Data	Data about partnered research programs is used internally by funding agencies to improve their operations. Data may also be of interest to governments for accountability purposes. For program improvement, data on program operations and reach are important; for accountability, both process and impact data is likely required. However, as impact seldom occurs within the timeframe of a research competition, capture at some period beyond the life of the partnership is important. Such considerations influence what data agency's capture and when.

Table 2. Data issues.

Evaluation

The field of evaluation emerges from project and program evaluation at a time when these were largely disciplinary undertakings. As partnered research programs are problem-oriented, new methods are needed that cut across disciplines and that can address impact more effectively.

If we are going to address complex problems our evaluation systems have to change.

Building Knowledge Systems

An approach to evaluating complex problems includes both 'numbers and narratives'. Numbers give perspective on how much change has taken place – it allows us to count innovation and type of innovation. This will remain important but increasingly there is interest in the cumulative impact of such programs and understanding their contribution to building knowledge systems. Narratives present insights on how that change happens. The combination allows us to track over time where there has been influence even when impact cannot be claimed.

Evaluating Partnerships

Partnered research programs need to evaluate outcomes and impacts but they also need to evaluate the partnerships themselves: are the partnerships adding value, if so, how so? Are partnered research programs any better at addressing societal challenges or public policy priorities than other research granting programs?

Assessing partnership research is hard.

Evaluating Impacts

Assessing for impact is an ongoing challenge. The debate is no longer about whether to assess for impact but how and when to do so. The recognition that the impacts of research are long term is leading to experimentation with new approaches. Recognizing that impacts happen at different times, one research council is encouraging researchers to let them know when an impact happens, whether during or after a project, rather than at one point in time. Another agency is developing predictors of impact as a way to deal with the timing challenge. The timing and approach to evaluation processes is an open question.

Using Evidence

Evaluation can be seen as a collective resource for councils to improve program design. Building a common evaluation platform would support comparison and benchmarking. Using evidence in this way could help identify determinants of success and inform how an agency might design

their programs. It could also be useful for accountability purposes, and identify common issues or questions for future investigation.

Context

As a collective resource, it is important that the evaluation of partnered research programs explores not only what works but what works for who and in what context. Programming that is successful in one place may not be successful in another context. Tracking both numbers and narratives can promote the contextual sensitivity that is needed.

Accountability

Importantly, evaluation is also used for accountability purposes. Here, the methods imposed by the funder need to satisfy government standards but should encourage learning and benchmarking. Including multiple voices and avoiding an undue evaluation burden also needs careful consideration.

Opportunities

This Roundtable was a beginning, an exploratory discussion to elicit some of the strengths and challenges of partnered research, and to explore interest in collaboration to better design and assess the impact of such programs. The existing knowledge base is helpful for informing university-industry programs but there is considerable scope for agencies that fund such programs to support comparison across countries and types of programs.

The discussion identified several potential benefits and opportunities for mutual learning and problem solving. Because partnered research is not only about knowledge generation, new ways are needed to design, monitor, and evaluate impact. These should take account of the range of potential benefits such as contributions to socio-economic development at national, regional or local levels, capacity building for student participants, or strengthening the research and outreach agendas of academic institutions. Experience with partnered research is lower in some research councils, but learning within and across all councils was seen as advantageous.

Following is an overview of the potential areas for collaboration emerging from the discussions.

1. *Data: Access and comparability*

Data limitations discussed during the day suggests there is an opportunity to create and share data to inform the design and management of partnered research programs. Related to this,

the development and use of common indicators would increase the comparability of data and the ability to learn from each other. Comparison was viewed as a valuable tool for learning and for assessing the value of partnered research. The discussion pointed to a number of data considerations that would need to part of such an effort (e.g., the relevance issues of capturing formal and informal sector data). An exploration of how data could yield a more complete picture of innovation at appropriate scales and how partnered research programs contribute, would be a challenging but a constructive undertaking.

A working group could investigate the merits and feasibility of developing a core common data set that could be used across councils. An initiative to explore the use of open data was promoted by some participants. A common approach to open data would improve transparency and also contribute to learning.

2. *Methods for Evaluation of Impact*

Recognizing that measuring impacts cannot be fully measured in the lifetime of a granting program, collaboration on when and how to measure progress was discussed. Several agencies mentioned initiatives they were working on (e.g., predictors of impact) and welcomed collaboration and sharing of practices.

Systematic review is the standard approach to learning across evaluations but it is likely an inappropriate methodology for current purposes. Because context is so important to effective partnered research, new approaches and new thinking on how to learn across programs is needed. Three suggestions for promoting comparison include: 1) identifying or developing case studies from past competitions that examine the pathways to impact; 2) developing of common indicators to complement council's established criteria for evaluating partnered research programs; and 3) piloting a common methodology on a shared platform.

3. *Strengthening Granting Councils*

Many of the agencies participating in this Roundtable are involved in the Science Granting Councils Initiative (see box). This Initiative is currently developing a workplan to fund partnered research programs. This creates an opening to learn from implementation and to pilot a common M&E framework to enable comparison. There is also an opportunity for the proposed areas of collaboration identified during the Roundtable to inform activities of this Initiative and other agencies seeking to develop partnered research portfolios.

4. *Process Evaluation*

In addition to understanding impact, learning good practices in the functioning of partnered research programs would benefit from shared research and evaluation. A synthesis paper summarizing the design similarities and differences in partnered research programs and their intended impacts, would help map the current landscape and promote discussion.

For example, we know very little about what it takes to collaborate effectively across academic and non-academic institutions. An in-depth look at successful partnerships and other determinants of success would contribute to learning on how to best support various partnerships.

> **The Science Granting Councils Initiative in Sub-Saharan Africa**
>
> … is a multi-funder initiative that aims to strengthen the capacities of 15 science granting councils in Sub-Saharan Africa in order to support research and evidence-based policies that will contribute to economic and social development.
>
> The SGCI contributes to strengthening the ability of science granting councils to: manage research; design and monitoring of research programmes based on the use of robust science, technology and innovation (STI) indicators; support knowledge exchange with the private sector; and strengthen partnerships between Science Granting Councils and other science system actors.
>
> The Initiative presents an opportunity to address many of the challenges that were discussed at the Roundtable.
>
> *www.sgciafrica.org*

The discussion indicated that much could be gained through collaboration and the participants saw opportunities to benefit. The co-hosts concluded the meeting by stating they will follow up with those attending and other who have expressed interest in collaborating to improve how councils deliver, monitor and evaluate partnered research.

Annex I   Participant List

Aldo Stroebel	National Research Foundation, South Africa
Alfred Sumani	National Science and Technology Council, Zambia
Alshayea Shayea	King Abdulaziz City for Science and Technology (KACST) / Office of the Vice President for Scientific Research Support, Saudi Arabia
Ann Weston	International Development Research Center, Canada
Annette Ouattara	Programme d'Appui Strategique a la Recherche Scientifique, Ivory Coast
Anouk de Hoogh	Netherlands Organisation for Scientific Research
Anthony Muyepa	National Commission for Science and Technology, Malawi
David O'Brien	International Development Research Center, Canada
Dirce Madeira	Fundo Nacional de Investigacao, Mozambique
Edson Faria	Fundo Nacional de Investigacao, Mozambique
Filipo Zulu	National Science and Technology Council, Zambia
Fred Carden	Using Evidence Inc, Canada
Hassan Mshinda	Tanzania Commission for Science and Technology
Jacques Critchley	Social Sciences and Humanities Research Council of Canada
Jean Luc Barras	Swiss National Science Foundation
Jean Saint-Vil	Networks of Centres of Excellence, Canada
Joerg Schneider	German Research Foundation
Jorge Tezon	Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina
Julia Taguena	Consejo Nacional de Ciencia y Tecnología, Mexico
Martin Schaaper	UNESCO, Institute of Statistics
Matthew Wallace	International Development Research Center, Canada
Michael Bright	Research Councils UK
Michael Lam	Natural Sciences and Engineering Research Council of Canada
Mike Kachedwa	National Commission for Science and Technology, Malawi
Molapo Qhobela	National Research Foundation, South Africa
Moses Rugutt	National Council for Science, Technology & Innovation, Kenya
Myriam Grégoire-Zawilski	International Development Research Center, Canada

Nakatsuka Atsuko	Japan Society for the Promotion of Science
Naser Faruqui	International Development Research Center, Canada
Peter Clifford	Science Fund of Ireland
Sangare Yaya	Programme d'Appui Strategique a la Recherche Scientifique, Ivory Coast
Shaun Baron	Natural Sciences and Engineering Research Council of Canada
Susan Muzite	Research Council of Zimbabwe
Tricia Wind	International Development Research Center, Canada
Vitoria Langa de Jesus	Fundo Nacional de Investigacao, Mozambique

Annex II   Agenda

Time	Session
9:30-10:00	**Welcome and Introductions: Naser Faruqui**
10:00-10:45	**Setting the Context: Naser Faruqui** • David O'Brien & Matthew Wallace: Rationale for the meeting: observations from the GRC regional meetings - gaps and opportunities • Molapo Qhobela: Highlights from the GRC meeting and situating the discussion from a research council perspective • Agency reflections on their priorities
10:45-11:00	**Coffee / Tea**

11:00-12:30	**Round 1: Agency experiences of Partnered Research Programs : Aldo Stroebel**
	• Intended results and designs of partnered research programs: case studies followed by round-table discussion
	• Opening remarks:
	   ○ Jacques Critchley – Social Science and Humanities Research Council
	   ○ Hassan Mashinda - COSTECH
	   ○ Jorge Tezon - CONICET

12:30-13:30	**Lunch**

13:30-15:00	**Round 2: Monitoring, Evaluating Outcomes and Impact of Partnered Research Programs: David O'Brien**
	• Ways to monitor, plus approaches and designs for evaluating outcomes and impact: case studies followed by round table discussion
	• Opening remarks:
	   ○ Michael Lam - NSERC
	   ○ Martin Schaaper – UNESCO
	   ○ Ann Weston - IDRC
	   ○ Peter Clifford – Science Foundation of Ireland
	
	Round 3: Forward looking agenda
	• Identify opportunities to build from today's discussion individually and collaboratively
	• [discussion]
	• Summary: Fred Carden, Using Evidence

Discussion Points

Round 1: During this session, we will invite you to provide a short overview of your agency's / country's experience in supporting research involving academic and non-academic partners. Please highlight key design features (intended results, eligibility and who participates, scope of programs in your agency / other agencies in your country). What strategies are used to attract, retain and strengthen relations with non-academic partners; which groups of non-academic partners are involved and why/ what type of engagement; and what are some of the ways that partnered research programs are currently structures/ designed?

Round 2: We will invite you to outline how your agency assesses the performance of these programs (methods and metrics), and identify your learning / accountability objectives. If you have utilized monitoring data or evaluation findings to change the scope or scale of your programs, what was changed and why?

Round 3: We will use this session to reflect on the gaps and opportunities identified in opening session and in the Roundtable backgrounder. We will identify future work on this topic in the Science Granting Councils Initiative, and prioritize topics of mutual interest where research or peer-learning are viewed as having the potential to add value to our work.

Focus of Analysis

There are numerous terms used to describe partnered research programs: 'collaborative grants', 'matching programs', 'academic engagement' etc. Such programs require the participation of non-academic partners in the design of research projects, their implementation and/or in the testing or application of research findings. The following examples highlight just a few of the programs supported by research councils. The list includes programs that involve for-profit and not-for-profit partners.

Programmatic examples of partnered research:

Academic – Industry programs	Academic – Community programs / initiatives
South Africa 'Technology and Human Resources for Industry Programme'	Canada 'Connection Program'
Denmark 'Innovation Consortia'	Colombia 'Culture' programs
Thailand 'Researchers for Industry Program'	
References: Perkmann (2013) OECD (2016)	Hall (2015) and Kruss (2015)

Background References

There is a large literature on academic-industry dynamics and community-based research. The list below selects a few reference to illustrate some of the issues to be discussed in the Roundtable. The Perkmann (2013) article provides a meta-analysis of the main findings from empirical studies, and implications for

future research and practice. The surveyed journal articles analyzed by Perkmann (2013) do not utilize funding agency data, and are largely restricted to high income countries. The book by Albuquerque et al (2015) widened the geographic analysis of firm-university interaction by examining patterns and channels of interaction in emerging economies. A conclusion of this book is that while collaboration between universities and firms is wide spread, country specific factors (cultural practices, economic structure) shape how interaction is initiated and maintained.

There is also a long tradition of publicly funded researchers co-constructing knowledge with the not-for-profit sectors (Hall 2015, Kruss 2015). The nature of interaction is similar but the outcome measures differ (private vs. public goods). There would also appear to be fewer dedicated programs supported by research councils to promote university-societal interactions than there are to promote university-firm interactions.

In terms of evidence informing policy guidance and practice, data availability and comparability are an obstacle. The OECD (2016) report, for example, provides policy guidance on the effectiveness of incentives to promote commercialization but the contribution of other programming approaches (e.g., partnered research programs) to public policy goals is lacking. Gaps in our understanding have led to calls by governments to increase our understanding of the 'science of science policy'. The report by Harland and O'Connor (2015) illustrates a deliberate effort by six countries to build the evidence base on the impacts of public investments in research.

Eduardo Albuquerque, Wilson Suzigan, Glenda Kruss, and Keun Lee (2015). Developing National Systems of Innovation: University-Industry Interactions in the Global South. Edward Elgar Publishing, IDRC.

Budd Hall, Rajesh Tandon, Crystal Tremblay (2015) Strengthening community university research partnerships: global perspectives. University of Victoria.

Kate Harland and Helen O'Connor (2015) Broadening the Scope of Impact: Defining, assessing and measuring impact of major public research programmes, with lessons from 6 small advanced economies.

Glenda Kruss and Michael Gastrow (2015). Linking Universities and Marginalised Communities: South African Case Studies of Innovation Focused on Livelihoods in Informal Settings. HSRC Press, IDRC

OECD (2016), "Commercialisation of public research" in *OECD Science, Technology and Innovation Outlook 2016*, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_in_outlook-2016-38-en.

Markus Perkmann *et al* (2013). 'Academic engagement and commercialisation: A review of the literature on university–industry relations'. *Research Policy* (42).

The Partnered Research Roundtable
1 June, 2017
Ottawa, Canada

David O'Brien (IDRC), Matthew Wallace (IDRC) and Aldo Strobel (NRF)

Background

Numerous research councils support 'partnered research' programs to promote social and economic innovation. Such programs differ considerably in their scope and scale but at their core, partnered research programs bring together academic and non-academic organizations to design and undertake research to address social, economic, technological and environmental challenges.

Research councils supporting partnered research programs indicate that such programs tend to enjoy both political support from government and demand from universities, industry, and the not-for-profit sectors. The evidence on the impact of such programs is emerging but there is little consensus on methods and indicators used in such assessments. This owes, in part, to the methodological challenges of quantifying and qualifying performance.

To deepen our understanding and improve practice, several research councils expressed their interest during the GRC regional meeting consultations (2016) in exploring further how agencies design, monitor and evaluate partnered research programs, and potentially draw on that knowledge to refine and/or harmonize monitoring, evaluation and learning frameworks for application in future programs they support. Work in this direction has the potential to create more robust and comparable evidence on the contribution of partnered research programs to wider public policy goals. Even in the more researched field of the commercialization of public research, a recent review by the OECD points to the practice and data gaps, stating that there is a "concern among policy makers and practitioners about the effectiveness of existing approaches to technology transfer and commercialisation as well as questions about the measurement of knowledge and technology transfer given that intellectual property-based channel – patents and licenses– are only one channel of knowledge and technology transfer".[i]

Aim and Purpose

This roundtable seeks to exchange perspectives on how agencies design, monitor and evaluate partnered research programs that seek to address social, economic, and sustainability issues. Discussion also seeks to be forward looking by identifying areas or topics for future research and/or collaboration.

A *tentative forward looking proposal* for discussion, based on apparent needs and interests, includes the following topics and actions:

(a) review existing agency practices for monitoring, evaluation and learning (MEL) to understand how national agencies design their partnered research programs and assess performance

- Synthesis paper summarizing the design similarities and differences of partnered research programs and their intended impacts (e.g., firm-level product innovation, public policy innovation, process innovation for community organizations, social enterprises, not-for profit organizations)

(b) identify appropriate metrics and methods to assess such programs

- Develop a tool box of metrics and methods currently in use, and assess the merits / feasibility of standardized approaches.

(c) utilize existing or revised methods to assess the impact of past or active programs

- For agencies interested in launching new partnered research programs there would be an opportunity to utilize outputs from (a) and (b) to inform program design and evaluation of such programs. A similar opportunity exists to retroactively apply new or refined approaches to concluded programs

- As partnered research programs are implemented using this approach, there would be a learning opportunity for participating research councils to compare monitoring and evaluation findings.

(d) disseminate results among partners and research community

- Workshops / conferences (potential to share findings / methods from (a), (b) and (c) with research councils who express interest in piloting new partnered research programs and with agencies and academics with an interest in performance evaluation and research policy.

Collaboration on such topics would create a learning space for research councils to understand the theories of change and impact of partnered research programs in a comparative context. Such outputs could also a unique contribution to the emerging field of the 'science of science policy'.

---

[i] OECD (2016), "Commercialisation of public research" in *OECD Science, Technology and Innovation Outlook 2016*, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_in_outlook-2016-38-en.