International approaches and considerations for innovation policy – A perspective from OECD

IEA CERT-EGRD thematic discussion
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OECD
BETTER POLICIES FOR BETTER LIVES

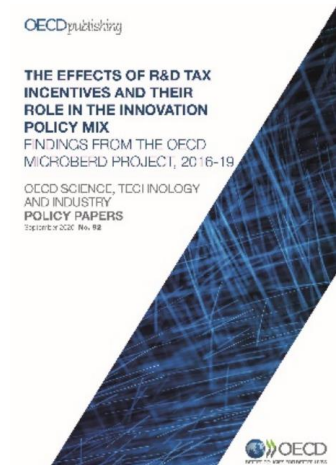# My tasks for today (thank you IEA team…)

To do list

- ❑ Why evaluate innovation policies? What are the main reasons to do so?
- ❑ What are some common types of evaluations (e.g. scope, coverage of the evaluation and methodologies)
- ❑ What considerations should programme managers take into account when commissioning evaluations of innovation policies and programmes?
- ❑ What considerations should the evaluators take into account when designing the study?
- ❑ Are there any notable examples of good practice to highlight? (For example, linking *ex ante* impact assessments to *ex post* evaluations?) Where can governments go for more information?

Brief intro to work we do in OECD/STI

- **Co-develop tools** for countries to map and make sense of, in comparison to other countries, their innovation systems (concepts, definitions, meas. guidelines, …)
- **Provide information public goods** based on international co-ordination around the use of these tools and other resources
  - Descriptive statistical resources
  - Analytical exercises aimed at learning about policy impacts – e.g. microBeRD project
- **Provide advice and recommendations** for STI policy makers based on the evidence available

The Measurement of Scientific, Technological and Innovation Activities
Frascati Manual 2015
GUIDELINES FOR COLLECTING AND REPORTING DATA ON RESEARCH AND EXPERIMENTAL DEVELOPMENT

The Measurement of Scientific, Technological and Innovation Activities
Oslo Manual 2018
GUIDELINES FOR COLLECTING, REPORTING AND USING DATA ON INNOVATION

OECD   eurostat   4ᵗʰ Edition

OECDpublishing
THE EFFECTS OF R&D TAX INCENTIVES AND THEIR ROLE IN THE INNOVATION POLICY MIX
FINDINGS FROM THE OECD MICROBERD PROJECT, 2016-19
OECD SCIENCE, TECHNOLOGY AND INDUSTRY POLICY PAPERS

Evaluating innovation policies: more than difficult, more than necessary

- Features inherent to innovation make innovation pol eval. particularly difficult
  - Timelines well beyond political cycle
  - Inherent uncertaint(ies)
  - Spillovers of all sorts and multiple contributions (inc policy) required in the value generation chain
  - Mutability of actors / subjects
  - Diffuse ownership of policy problem
  ➔ attribution of merit / fault ; intertwined with attribution of cause/effect
  ➔ definition of social value vis a vis private values

- But needs to be done for several reasons
  - Anecdotes will only get so far – and data is not plural of anecdote.
  - Discretionary funds most at risk; but not only…
  - Rising standards of impact proof for those holding public purse and in charge of public sector accountability
  - Even "innovation believers" can deem that things can be done better
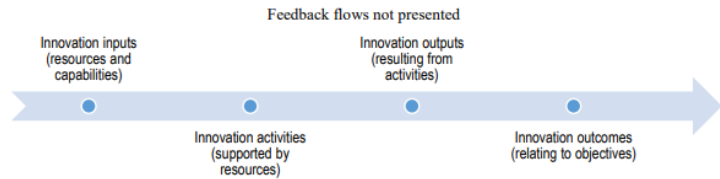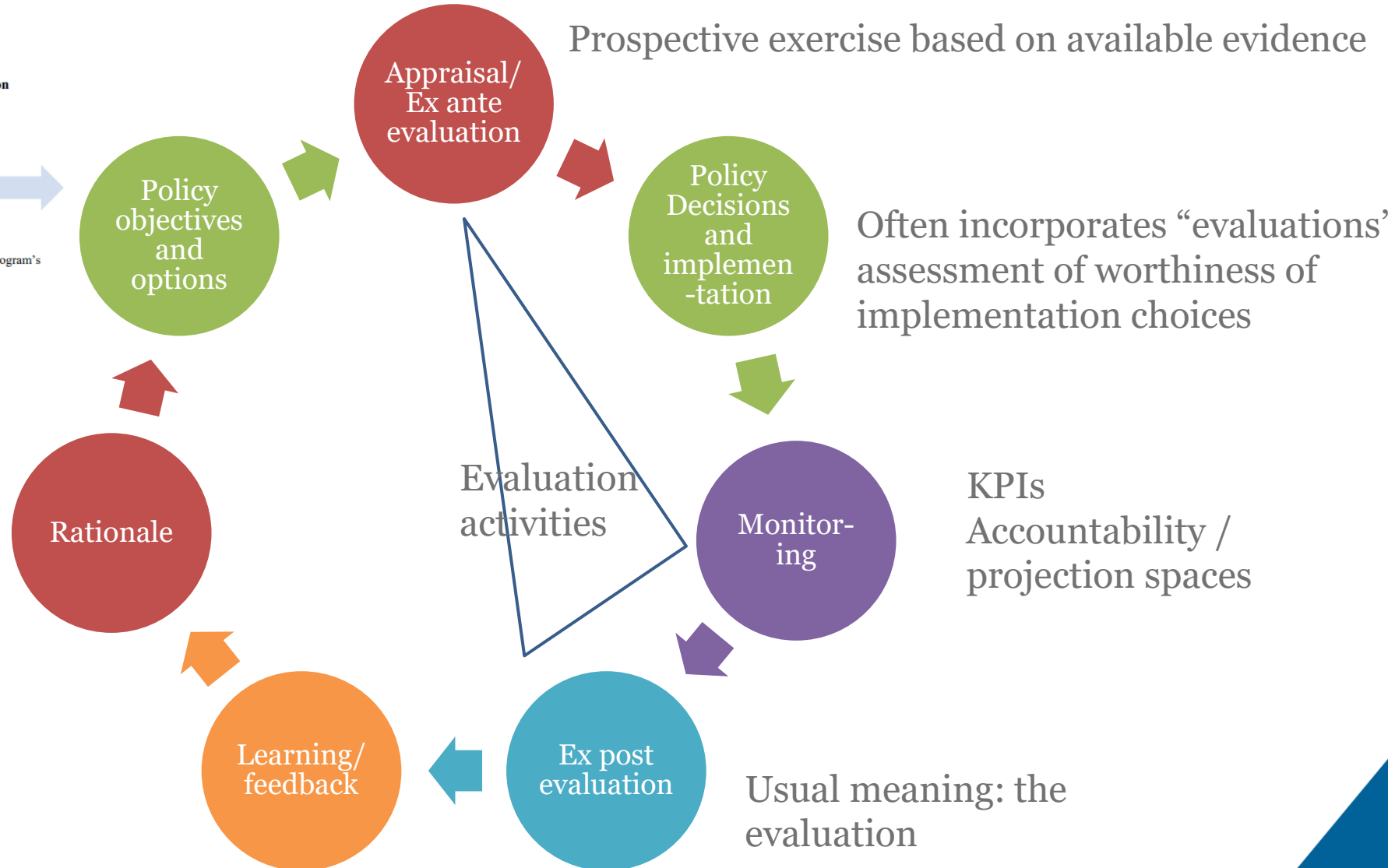 - Social demand

What do we mean by policy evaluation? Various concepts in the policy cycle

Figure 11.1. Logic model used in evaluation literature applied to innovation

Prospective exercise based on available evidence

Often incorporates "evaluations" – assessment of worthiness of implementation choices

KPIs
Accountability / projection spaces

Usual meaning: the evaluation

- Appraisal/Ex ante evaluation
- Policy Decisions and implemen-tation
- Monitor-ing
- Ex post evaluation
- Learning/ feedback
- Rationale
- Policy objectives and options

Evaluation activities

Types of ex post evaluation by design

Legal basis

Who does it

- Internal (where?)/external to govt/agency // consortia // intermediation roles

Purpose

- Summative/formative

Design approach

- Experimental (ness), benchmarks

Methods

- Quant/qual – types of data and types of data analysis - methods for ultimate assessment (e.g. CBA)

Assessment aspects covered

- Goal attainment, effectiveness, additionality, appropriateness of measures, value for money,

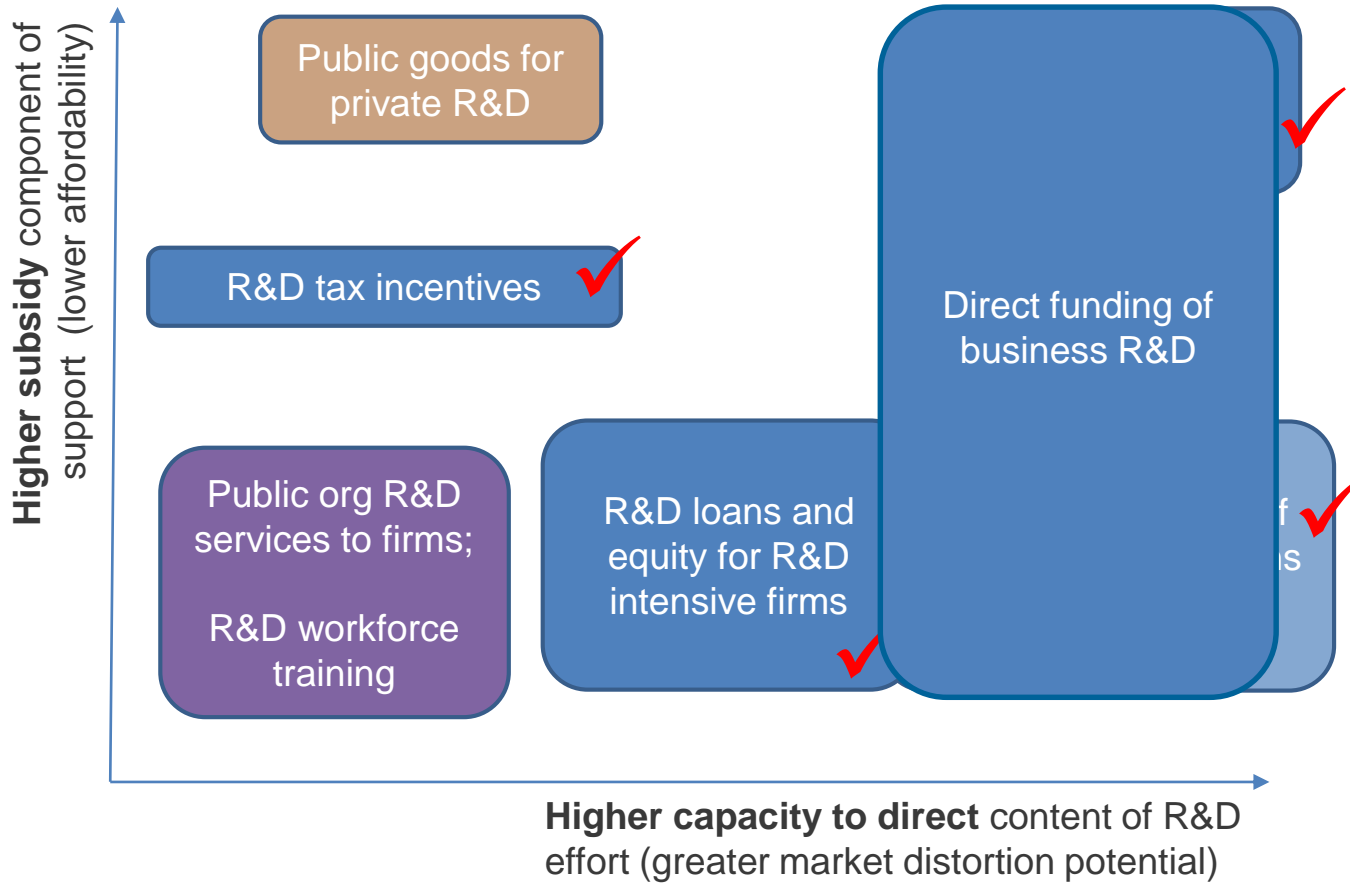Other dimensions can characterise the actual outcome and their impact. Evaluating evaluations…

Evaluation implementation mechanics

- Fit with policy cycle
- Generic evaluation plan in the actual policy design
  – Evaluate what when?
- Policy design "sacrifices" for learning – trade offs
- Information infrastructure in place – don't leave too late?
  – Access and capacity to process
- Programme and policy owners buy-in
  – Set aside budget
- Role of external/independent evaluation
  – Procurement procedure
- The art of interpreting results into actionable briefing material

Stylised overview of business R&D support instruments in the subsidy/directionality space

Public goods for private R&D

R&D tax incentives

Direct funding of business R&D

Public org R&D services to firms; R&D workforce training

R&D loans and equity for R&D intensive firms

Higher subsidy component of support (lower affordability)

Higher capacity to direct content of R&D effort (greater market distortion potential)

OECD project on measurement and analysis of government support for business R&D and innovation (MABIS)

Co-funded by the Horizon 2020 Framework Programme of the European Union
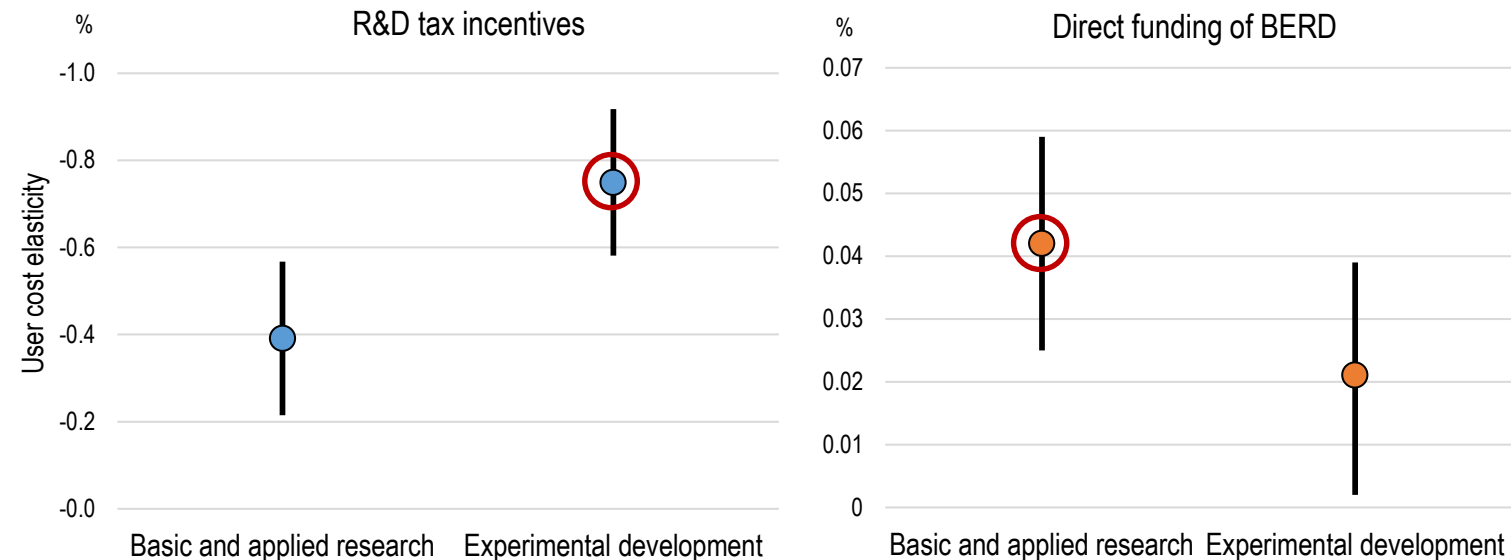
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How effective are different business R&D support instruments?
What do we know and what are the key evidence gaps?

microBeRD analysis of R&D tax incentives and direct funding ([OECD, 2020](#))

Responsiveness of R&D by type of policy instrument

Note: Elasticity of R&D to the user cost of R&D (R&D tax incentives) and direct funding of business R&D.
Source: OECD (2020).

microBeRD+ (2020-23):

- From input to output additionality
- **OECD conference on impact analysis of innovation support policies** (Sept 2022)

https://www.oecd.org/sti/microberd.htm

The evaluation record thus far…
Findings from the OECD/EU STIP-Compass database

- 6500 policy initiatives (2021 version)
  - One third of initiatives newly added.
- 922 (14%) reported as having been evaluated (ex-post, mid-term)
- 410 (6%) have hyperlinks to an evaluation PDF file

STIPCOMPASS
INTERNATIONAL DATABASE ON STI POLICIES

https://stip.oecd.org/stip.html

STIP Data Lab
Analysis
Use cases
Stories

Additional resources on innovation evaluation

OECD Confernce on Policy Evaluation in Innovation and Technology: Towards Best Practices – OECD (1997 publication)
https://www.oecd.org/sti/inno/policyevaluationininnovationandtechnologytowardsbestpractices.htm

- Innovation policies (ex-post) evaluation repository
  - Characteristics of evaluations
  - Access to evaluations
  - Publications

https://si-per.eu/siper-en/

And several others

Possible implications for energy innovation policies

- A task for next speaker …
- Some additional remarks
  - Several energy domain specificities, allow for focus
  - Some energy programmes have plenty in common with major R&T programmes, including demand uncertainty aspects, upstream vs downstream knowledge
  - Challenging relationship with KPIs – they are not substitutes for evaluation, but inputs into it.
  - Embed evaluation outputs into system transition models and use models to inform evaluation
  - Aim to consider innovation implications of all energy policies

THANK YOU

For additional information:

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