

Assessing the impact of research - ex post

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Outline

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What do we understand by impact

2

How impact occurs

3

Methodological problems

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Examples of analysis



Definitions of Impact: UK Research Excellence Framework 2014

An effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia.





Definitions of Impact: UK Research Excellence Framework 2021

The 'reach and significance' of impacts on the economy, society, culture, public policy or services, health, the environment or quality of life that were underpinned by excellent research conducted in the submitted unit.





Definitions of Impact: UK Research Excellence Framework 2021

Reach:

The extent and/or diversity of the beneficiaries of the impact, as relevant to the nature of the impact.

Reach will be assessed in terms of the extent to which the potential constituencies, number or groups of beneficiaries have been reached.

Significance:

The degree to which the impact has enabled, enriched, influenced, informed or changed the performance, policies, practices, products, services, understanding, awareness or wellbeing of the beneficiaries.



Definition UK Research and Innovation (UKRI)

Academic impact

The demonstrable contribution that excellent research makes to academic advances, across and within disciplines, including significant advances in understanding, methods, theory and application.

Economic and societal impacts

The demonstrable contribution that excellent research makes to society and the economy. Economic and societal impacts embrace all the extremely diverse ways in which research-related knowledge and skills benefit individuals, organisations and nations by:

- fostering global economic performance, and specifically the economic competitiveness of the United Kingdom,
- increasing the effectiveness of public services and policy
- enhancing quality of life, health and creative output



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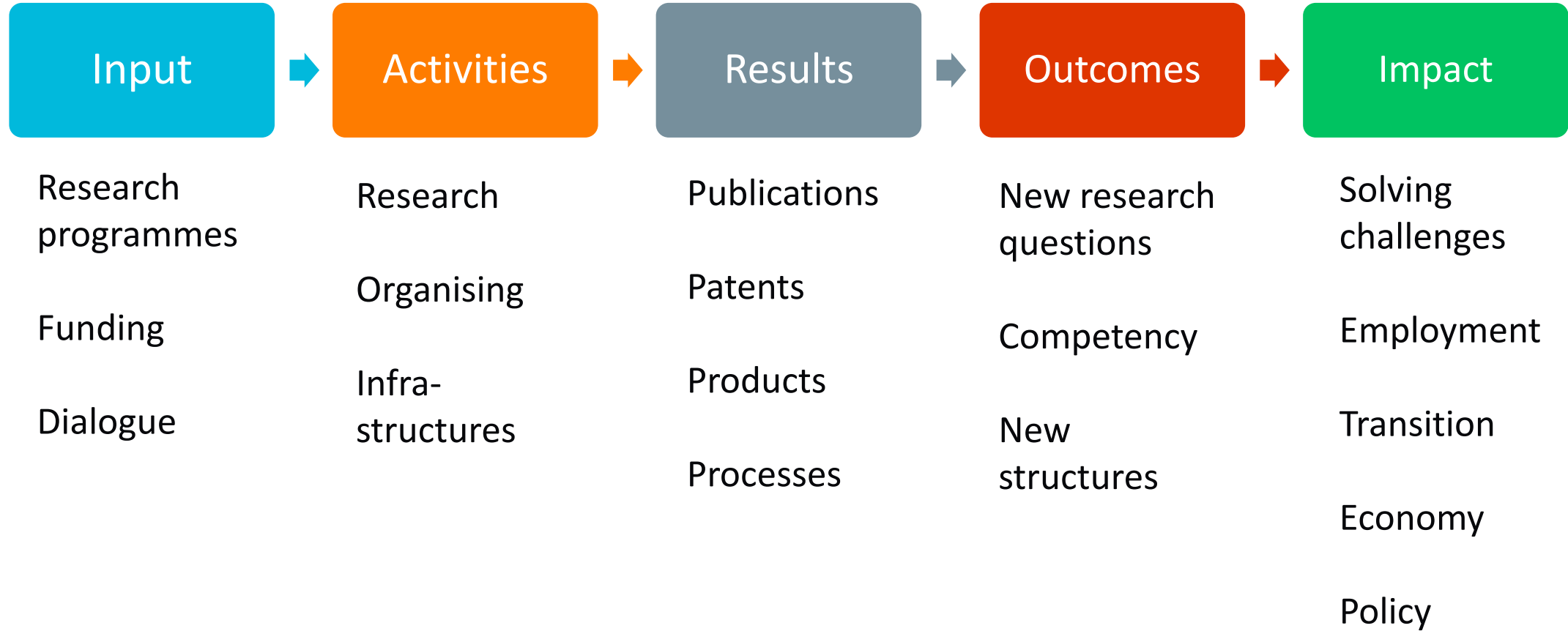
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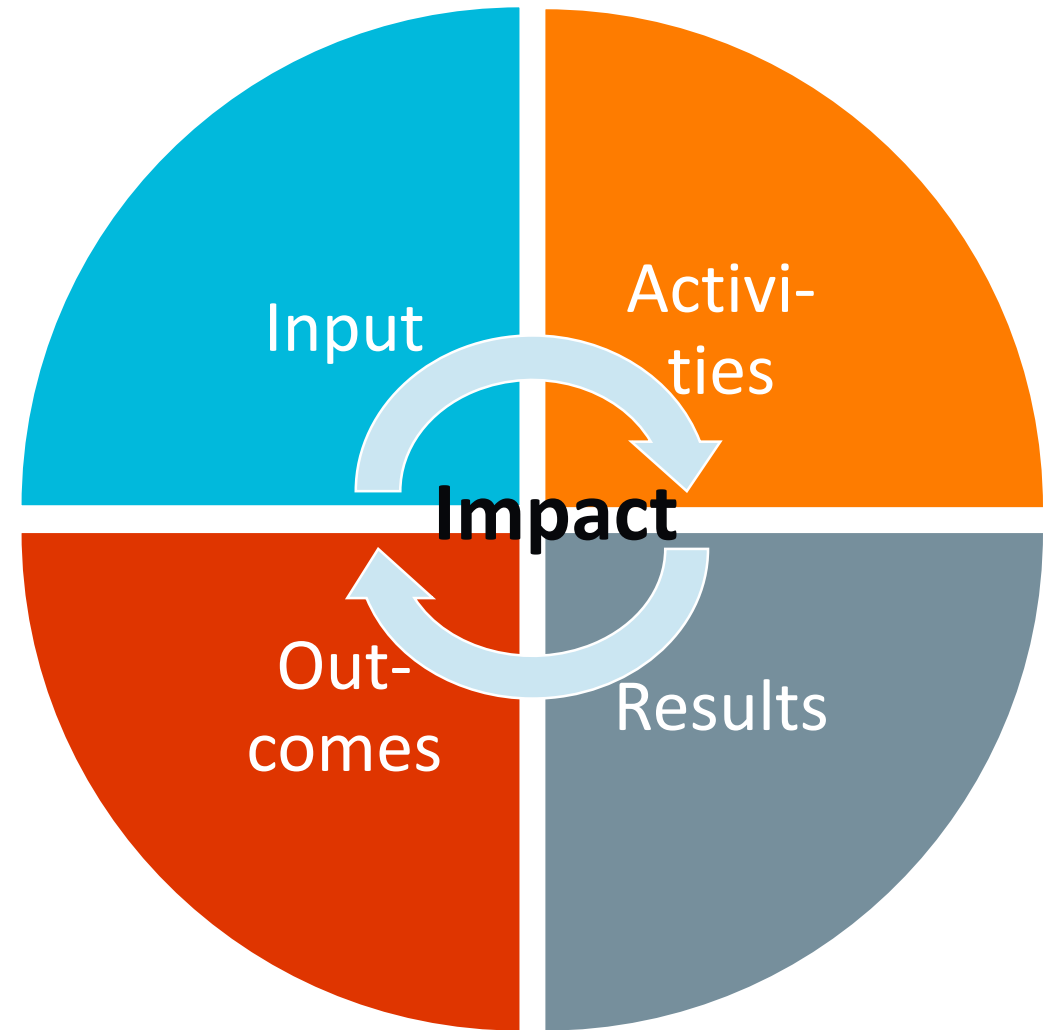
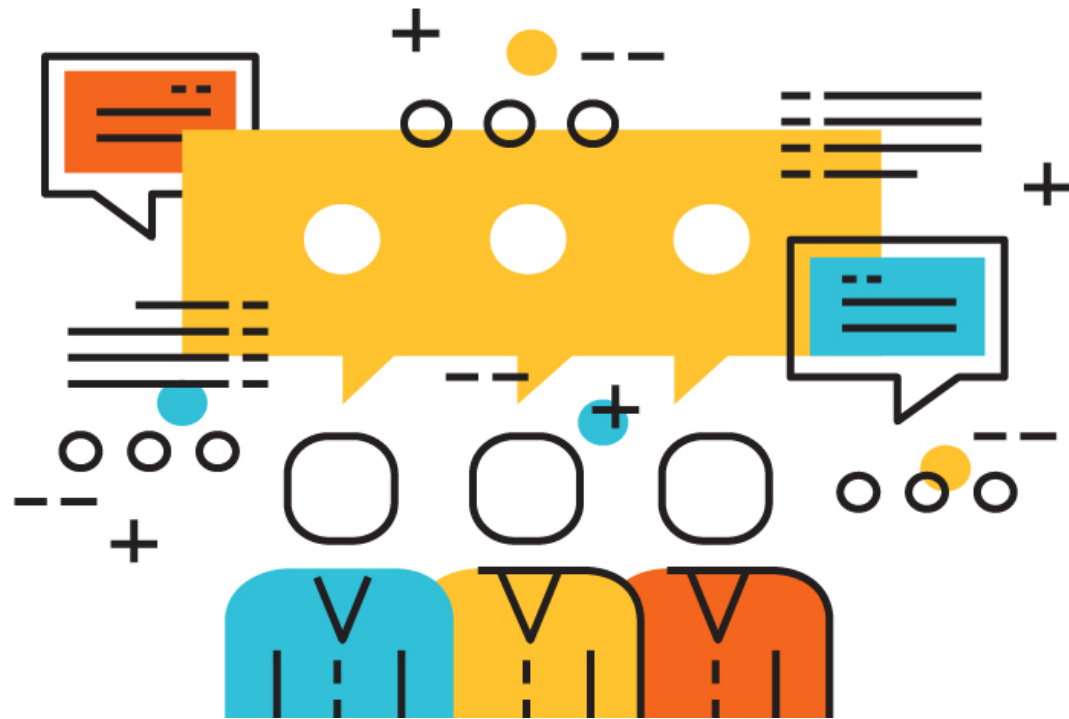
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Impact chain from a research council's perspective







Difficulties for analysis and measurements

- **Time lag:** Lag between research and impact varies from a few months to 50 years.
- **The developmental nature of impact:** Impact will develop and change over time, may be an increase or decrease in the current degree of impact
- **Attribution:** The exploitation of research to provide impact occurs through a complex variety of processes, individuals, and organizations
 - attributing the contribution made by a specific individual, piece of research, funding, strategy, or organization to an impact is not straight forward
- **Micro vs macro level:** More difficult to observed impacts at macro level
- **Impacts may be positive, negative or absent.** Much R&D has none or very little impact, or impact may be different from what is expected.



Examples on impact analysis

Impact case studies

Econometric studies

Backtracking

Project analysis





Example from the evaluation of the humanities, 2017

Early Music societal developments in Trondheim, Faculty of Humanities, NTNU

“Research in the history of early music by members of the Prima Musica research group since 2010 has led to several company start-ups. The research impact is partly behind a tangible change in public opinion concerning the consumption of historical music, leading to increased sales for the companies involved. The activity has led to changes in policy making through an increase in public funding of early music within the cultural sector on a regional and a national level. Scholarship on specific areas, such as in particular the eighteenth-century musical novel, has led to international impact on users in early music.”



Example from the evaluation of the social sciences, 2018

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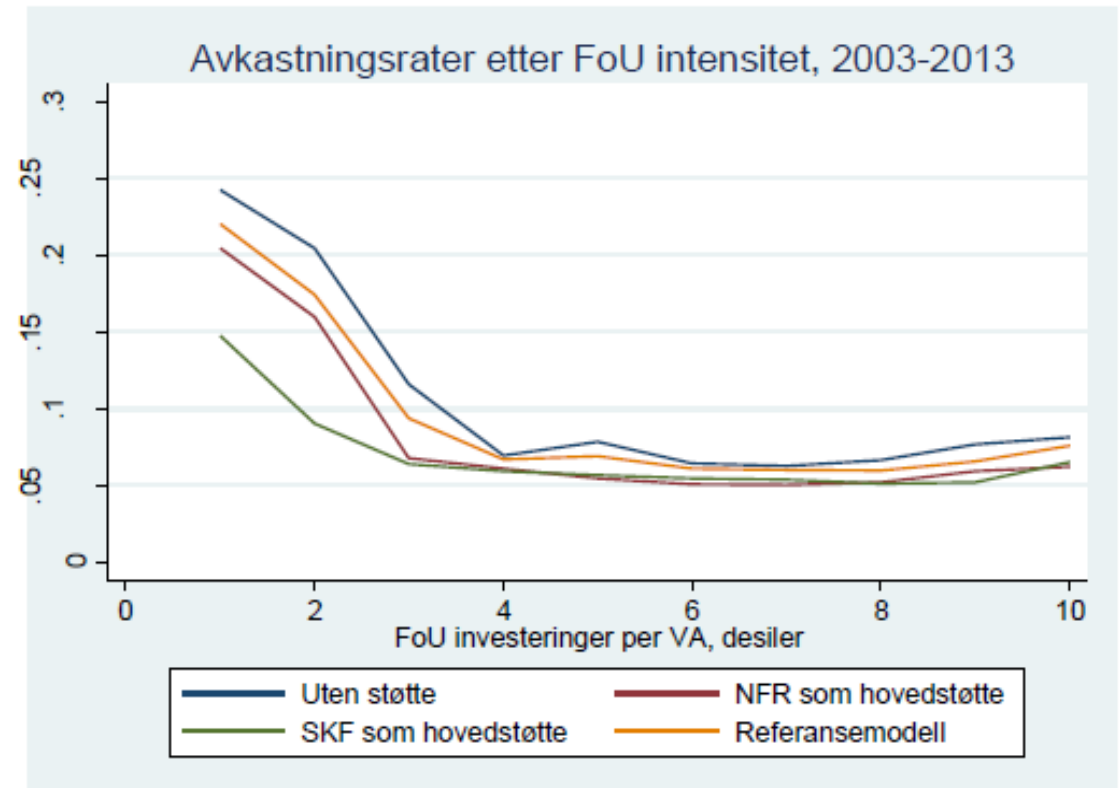
Defining Global Policy on Climate and Conflict, Peace Research Institute Oslo (PRIO)

Increased conflict and instability are arguably among the gravest possible consequences of climate change. Unfortunately, the early policy debate on the topic suffered from speculative reasoning, selective referencing, and a poor understanding of historical climate-conflict connections. PRIO research has been instrumental in providing rigorous scientific evidence on security implications of climate change and thereby making human and national security an integral part of the mandate of the UN's Intergovernmental Panel on Climate Change (IPCC) – the agenda setter on climate change adaptation and mitigation policies.



Example: Econometric analysis

- Analysing economic impacts of R&D investments
- Rather complicated analysis including many variables
$$y_{it} = a y_{i,t-1} + b_0 i + b_1 D_t + c_2 f_{it} + b_2 f_{i,t-1} + c_3 h_{it} + b_3 h_{i,t-1} + \sum_j b_{4j} D_{ijt} + e_{it}$$
- Often difficult to establish comparative population of non-supported firms
- Analysis normally show investments pays off, but to a variable degree





Example: Backtracking

What impact has research had on Norwegian development policy?

Analysed by a variety of methodologies:

- Funding and funding programmes
- Available human resources
- Bibliometrics
- Reports, newspaper articles, unpublished or submitted manuscripts, lectures etc
- Researchers participation in expert committees etc
- Interviews



Pathways to global impact

Tracing the impacts of development research funded by the Research Council of Norway

Espen Solberg, Silje M. Tellmann, Siri Aanstad, Dag W. Aksnes, Inge Ramberg and Pål Børing

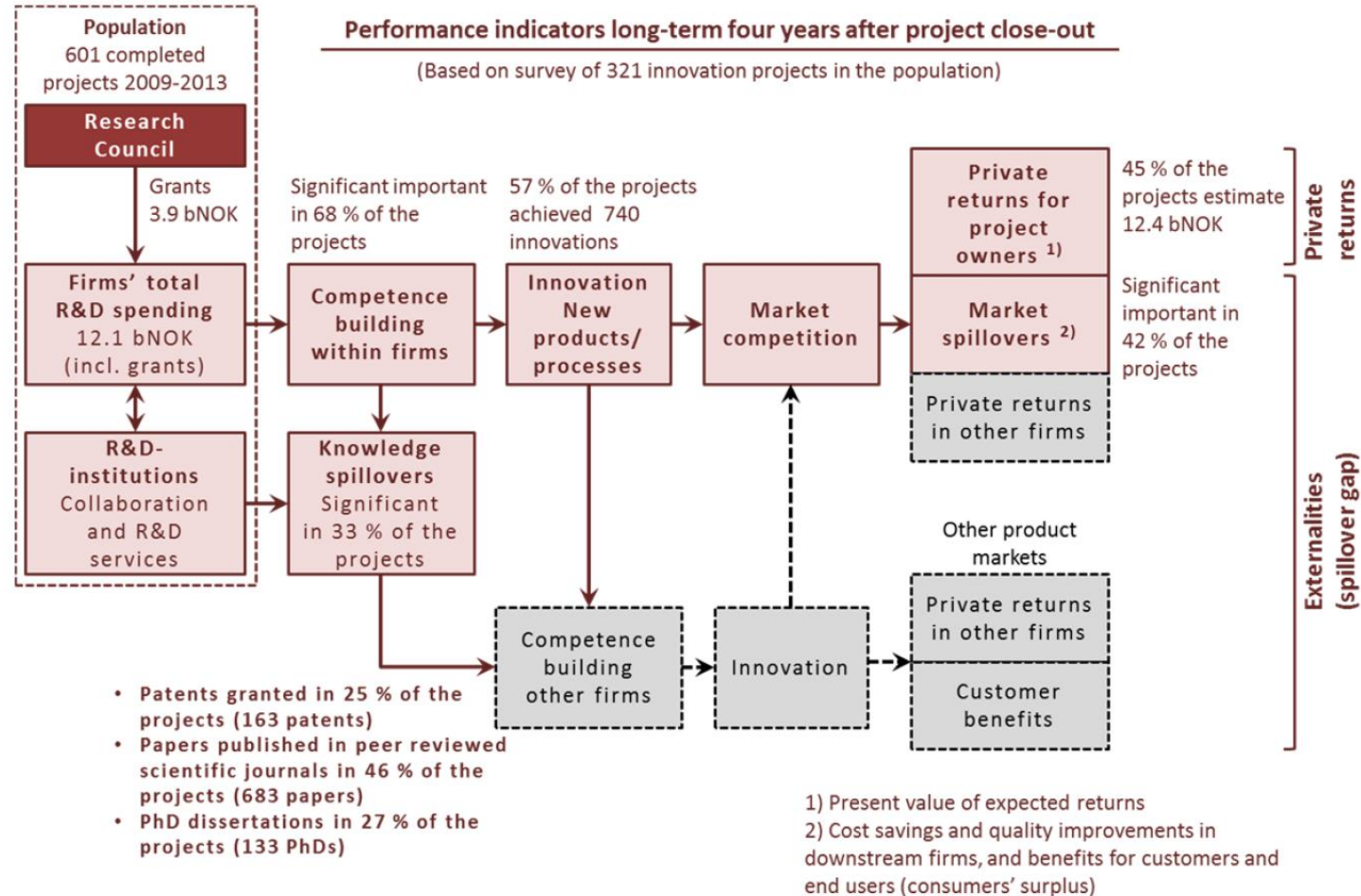
Report 2017:13

NIFU



Example: Follow the research project over time

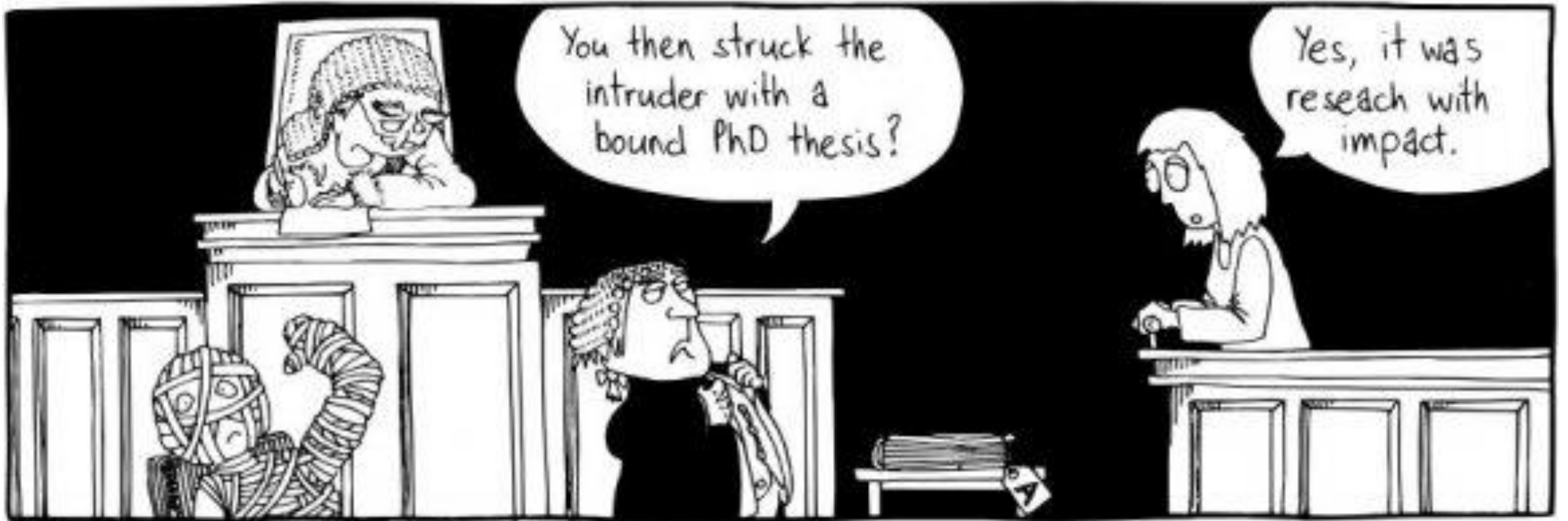
Figure 1 Overview of R&D input, long-term output and outcomes from surveys of Innovation Projects for the Industrial Sector completed in the years 2009-2013.





Conclusions

- Excellent research is the basis for impact
- Impact can be on all parts of society
 - *economy, society, culture, public policy or services, health, the environment, quality of life and creative output*
- *Impact can be specific or broad, significant or less significant*
- *Impact can be difficult to observe and verify, but it is not impossible*
- *Due to the variations in form and content, impact should be analysed by a variation of methodologies – no size fits all*



Thanks for your attention!