How to assess the impacts of knowledge transfer on innovation?

Channels for knowledge transfer:
- Collaborative research
- Intellectual property
- Research publications
- Conferencing & networking
- Geographic proximity
- Facility sharing
- Training
- Academic spin-offs
- Labour mobility
- incumbent employees
- Labour mobility
- spin-offs

Challenges in assessing knowledge transfer:
- Data quality: Data gathered for analysis needs to be representative of research & industry, also to allow to exploring the impacts at micro and macro levels.
- Comparability: Qualitative studies provide rich information on specific cases, but concerns regarding external validity arise. Quantitative studies allow for comparability but capture only a limited number of knowledge transfer channels (e.g. patenting).
- Causality: Establishing whether public research caused an observed effect (e.g. identifying whether impacts are due to research policies in place or local business dynamics) is challenging.
- Broader societal impacts: Impact analysis should also consider societal impacts of public research (such as impacts on public health or the environment), in addition to economic impacts.

Data quality:
- Surveys & case studies
- Patent data
- Publications data
- Labour force surveys
- Training

Data sources for the assessment:
- Collaborative research
- Collaborative research (co-patenting) & informal linkages (citations to non-patent literature)
- Labour mobility
- All channels

Advantages:
- Availability of comprehensive, long-term & internationally comparable data
- Representative samples of total labour force across countries, conducted regularly across countries
- Allow gathering rich information on industry-science relations
- Allow studying specific science disciplines & industry sectors

Drawbacks:
- Industry-research co-publications capture only a small share of collaborative research
- Rates of patenting differ across fields
- Co-patents only capture a small share of collaborative research
- Only capture the flow of human capital from university to industry
- Sometimes do not allow assessing individuals’ contribution to innovation
- Costly to implement at large scale
- Often confined to specific examples, limiting representativeness