Flow of People Flow of Ideas?

Measuring indirect impacts of research through the allocation of individuals across organization

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Flow of people, flow of ideas?

- Principal investigators
  - Julia Lane, American Institutes for Research
  - Erling Barth, Institute for Social Research, Oslo and ESOP, UiO
- Utilize and develop Norwegian research data
- Partner in an international coordination effort: «NORDSTJERNEN»
- Contribute to the study of the impact of the allocation of research resources:
  - The impact of the allocation and sorting of researchers into different research units
  - The impact of the allocation of individuals who have worked in research units (including PhD's) across firms, also outside of the research sector.

Data

- Combine research and education data with labor market and business data
- Research data from CRIStin and Research Council of Norway
- Education data from education registers
- Labor marked data and business data from Statistics Norway

Data:CRIStin & NFR

- **The Research Information System CRIStin**
- CRIStin (Current research information system in Norway) is a research information system for hospitals, research institutes, and universities and university colleges.
  - Pimary purpose: to collect all the registration and reporting of research activities of institutions within the three sectors in a common system.
  - This gives researchers a place to capture and simplify the registration of common publications.
  - Linked to funding incentives for institutions
  - CRIStin works closely with the University Centre for Information Technology (USIT) at the University of Oslo.
- Research results (publishes the Norwegian Science Index)
- Research Units (research groups, organizational units and research centers)
- Researcher profiles
- Project Module
- **The Research Council of Norway's Project Data Base**

Data: Statistics Norway

- Longitudinal Linked employer-employee data
  - Covers every registered job in Norway
    - Combination of tax data and employer reported data
- R&D and Innovation Surveys
- Accounting Data and Business Surveys
  - Production functions

- Education data base
  - National Education data base (all courses) (grades primary and secondary)
  - Data from data owners (Universities)
  - Norwegian State Educational Loan Fund

Flow of ideas 1:
Allocation of researchers across research units

- Measure of traditional output: Publications
  - By research unit
  - By individual researcher
- Contribution of individuals and organization
- Different measures of research unit: organization, teams
- Research design:
  - Fixed individual and unit effects
  - Research careers in terms of publications
    - Wihtin research units (complementarity between individual and unit effects)
    - Between research units (role of assortative matching)
  - Characteristics of successfull units
  - Characteristics of successfull indiviuals
- Requires sufficient mobility within common research area

- Policy Implications:
- Centers of excellence, size, incentivice collaboration across units

Flow of ideas 2: Research experience and firms' productivity

- Develop measures of research experience of individuals in the labor market:
  - Follow people who have worked in research units into private sector firms
  - Follow people who have worked in R&D firms across private sector firms
  - Follow PhD's from different research units into private sector firms
  - Utilize quantitative measures of research input: research units performance, kroners invested in R&D, research performance of PhD institutions
- Measure impact of research experience on productivity
  - Methodological challenges:
    - Standard endogeneity problem in production functions (Olley and Pakes with R&D)
    - Sorting of people across reseach units and firms (utilize grades)

- Ultimate goal: Identify indirect effects of research