EU research & innovation funding schemes

Using project-level data for monitoring & evaluation

Julia Bachträgler-Unger

EVIDENCE-BASED POLICY MAKING
A collaborative event of WIFO, IHS and CEU
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Why project-level data?
...for the analysis of EU (R&I) policies

- Transparency
- Exploring heterogeneous regional effects by „zooming in“
- Insights on policy implementation in terms of projects and beneficiaries in multi-annual financial frameworks 2007-13 and 2014-20
- Small-scale analysis
  - e.g. link with remote sensing data
- Micro-level analysis
  - Effects on performance of supported firms
- Detailed thematic information at project level
  - e.g. helpful for evaluation of the implementation of smart specialization strategies
Main EU funding instruments for R&I in the MFF 2014-2020

- Horizon 2020: € 80 bn
- European Structural and Investment Funds (ESIF): € 43 bn (9.4% of ESIF)
- European Regional Development Fund (ERDF): € 41bn

- Further R&I funding e.g. from R&I programmes within Euratom Treaty, Galileo, Copernicus, ...
Funding principles of main R&I funding schemes

- **Horizon 2020:**
  - **Excellence-based:** competitive tenders
  - **Not place-based,** international cooperation as an asset
  - **Centralised selection procedure and administration** (European Commission, national contact points)
  - **Central monitoring** (CORDIS)

- **ERDF:**
  - ESIF aims at **smart, sustainable and inclusive growth** in European regions
  - **Place-based:** project selection local strengths and structural characteristics (RIS3!), mostly non-competitive tenders
  - Administration and project selection (mostly) at the **regional level**
  - **No central database** of projects available
Combination of R&I funding schemes

- EC encourages regions to combine different funding schemes, e.g. JRC’s Stairway to Excellence (S2E) project
  - Critical mass of funding in specific industries (and related industries), technological or policy areas (in line with RIS3)

- Prerequisite to investigate combination of R&I funding in EU regions:

  DETAILED DATA ON DISTRIBUTION OF FUNDS

- Ways to link Horizon 2020 and ERDF funding data:
  - Beneficiary
  - Thematic area

ISSUE #1: No central database of ERDF beneficiaries
ISSUE #2: Different thematic classification systems
New dataset of R&I-related ERDF projects

- Design of a database of projects co-funded by the ERDF (in the course of the Stairways to Excellence project by JRC)

- R&I viewer: https://s3platform.jrc.ec.europa.eu/synergies-tool
  - Regional Dashboard – ERDF, Regional Dashboard – Horizon 2020

- Technical documentation:

ISSUE #1: No central database of ERDF beneficiaries
ERDF dataset at a glance

- More than 238,000 projects co-funded by the ERDF in EU-27 and the UK
- ERDF co-funding amount: €133.8 bn (67% of total ERDF budget)
- Coverage: 199 of 207 operational programmes and 58 of 87 INTERREG programmes
- Information required by Common Provisions Regulation available for over 90% of projects
- NUTS-2 (NUTS-3) information for 99% (89%) of projects
- Update ongoing
Share of ERDF co-funding amounts committed to R&I-related projects

- More than a third of 238,000 projects in the dataset (= around ¼ of the total ERDF co-financing amount) are related to R&I activities

Note: Hungary has only provided detailed project data for R&I activities. See https://cohesiondata.ec.europa.eu/countries/HU.

Source:
Bachtrögler-Unger, Julia and Doussineau, Mathieu (2020) EU research & innovation funding schemes: Using project-level data for monitoring & evaluation. fteval Journal for Research and Technology Policy Evaluation (51), pp. 5-10. ISSN 1726-6629. https://repository.fteval.at/541
New dataset of R&I-related ERDF projects: Enrichment

- Translation of project names and descriptions
- Linking the data set with business data (e.g. AMADEUS/ORBIS)

Ways to link Horizon 2020 and ERDF funding data:
- Names of ERDF beneficiaries are matched with Horizon 2020 beneficiaries
- Key enabling technologies (KET) and societal grand challenges (SGC) are assigned to ERDF projects based on project descriptions
  - Using the KNOWMAK ontology

Keep in mind ...
- Various issues due to varying degree of detail of original data (e.g. project descriptions), differing quality of AMADEUS matches, etc.
Interlinkages between Horizon 2020 and ERDF R&I funding

Beneficiaries

- Share of ERDF beneficiaries carrying out R&I-related projects that also receive Horizon 2020 funds

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Source: ERDF beneficiaries’ database (https://s3platform.jrc.ec.europa.eu/synergies-tool) as described in Bachtrögler et al. (2020a), own analysis.
Interlinkages between Horizon 2020 and ERDF R&I funding

**Thematic area**

- Number of ERDF projects being assigned a specific KET or SGC
  - Total number of R&I projects in ERDF beneficiaries' database: 84,500

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<th>Key enabling technologies (KET)</th>
<th>Number</th>
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<tr>
<td>Biotechnology</td>
<td>28,800</td>
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<td>Advanced materials</td>
<td>13,900</td>
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<tr>
<td>Nanoscience and technology</td>
<td>12,300</td>
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<td>Micro- and nanoelectronics</td>
<td>9,000</td>
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<td>Optics and photonics</td>
<td>7,900</td>
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<tr>
<td>Advanced manufacturing technology</td>
<td>6,400</td>
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Total number KETs assigned to 42,700 R&I projects: 78,300

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<th>Societal grand challenges (SGC)</th>
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<td>Europe in a changing world - inclusive, innovative and reflective societies</td>
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<td>Smart, green and integrated transport</td>
<td>27,400</td>
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<td>Secure, clean and efficient energy</td>
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<td>Climate action, environment, resource efficiency and raw materials</td>
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<td>Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy</td>
<td>21,400</td>
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<td>Health, demographic change and wellbeing</td>
<td>18,500</td>
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<tr>
<td>Secure societies – protecting freedom and security of Europe and its citizens</td>
<td>16,100</td>
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Total number SGCs assigned to 69,800 R&I projects: 178,700

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Interlinkages between Horizon 2020 and ERDF R&I funding
Thematic focus of funding by area (I)

- Is regional Horizon 2020 and ERDF R&I funding directed at the same technological areas?
Interlinkages between Horizon 2020 and ERDF R&I funding

Thematic focus of funding by area (II)

- Is regional Horizon 2020 and ERDF R&I funding directed at the same policy areas?

To conclude...

- Project-level analysis is a powerful tool to complement the regional analysis of the effects of EU cohesion and R&I policy
  - Link with other European and national funding programmes
  - Small-scale analysis at municipality level
  - Micro-level analysis at beneficiary level

- Future research questions in the context of R&I policies and smart specialisation
  - Is there a overlap of funding for similar activities, or are different tasks of the very same project funded by different funding schemes?
  - By bridging project categories: Is Horizon 2020 and ERDF R&I funding directed at priority areas (industrial, technological, policy areas) as defined in regional RIS3?
  - ...

Recent research using project-level data


- Bachtrögler-Unger, J., Doussineau, M. (2020), *EU research & innovation funding schemes: Using project-level data for monitoring & evaluation*, fteval Journal for Research and Technology Policy Evaluation (51), pp. 5-10. ISSN 1726-6629. [https://repository.fteval.at/541](https://repository.fteval.at/541)


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