



New directions for R&I policy in the EU

Designing the next FP “Horizon-for-Europe” budget fit for purpose

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Some principles for a next EU R&I budget

- ▶ **Evaluate whether effective (to reach the objectives that matter)**
 - ▶ Both ex ante for new instruments and ex post for existing instruments
 - ▶ Independent, scientifically sound, counterfactual, RCT
 - ▶ Open government data
 - ▶ Use results of evaluation: what does not work: fix, decrease budget, exit; what work: increase budget;

Some principles for next R&I budget

- ▶ Evaluate the whole funding escalator from idea to social value: parts missing? Parts connected?
 - ▶ Public funding escalator: eg ERC, SMEInstrument/EIC/EIF
- ▶ Focus better the different parts of the FP budget
 - ▶ Each program should have a clear distinct mission (not covered by other instruments)
 - ▶ Avoid conflicting multiple missions in one program: eg excellence and cohesion in ERC
 - ▶ Each program should assess its leverage on other parts (to see scope for complementing, closer coordination)
- ▶ More effectiveness from better connecting, leveraging other funding
 - ▶ EU FP with structural funds
 - ▶ Eg use structural funds for investing in R&D infrastructure, institutions & people to catch up for EU (ERC) excellence competition
 - ▶ MS PubR&D funding
 - ▶ Eg MS funding for runner's up to ERC
 - ▶ Private funding;
 - ▶ assess additionality, crowding in;
 - ▶ Also requires other policy instruments to increase the RoR to private R&D: framework conditions

Some principles for a next EU R&I budget

- ▶ **Closer aligned to the priorities of EU policies: smart, sustainable, inclusive growth**

- ▶ Not the same as “grand challenges”
- ▶ Sufficiently broadly defined to allow for bottom-up proposal
- ▶ Balance between sufficiently flexible (some room for “strategic initiatives ‘eg defense, security, migration”) but also sufficiently stable LT for actors to anticipate

- ▶ **Closer aligned to the priorities of EU policies: innovation based growth**

There are many highly innovative European companies,
but on average

Europe has consistently failed to exploit its potential for innovation-based growth,
despite a series of innovation policy strategies and targets.

Diagnosing EU's innovation deficit

- ▶ The nature of EU's industrial structure is a major reason for the persistent business R&D investment deficit/divide:

A DEFICIT IN THE CAPACITY FOR CREATIVE DESTRUCTION

- ▶ EU fails to specialize in innovation based growth sectors
- ▶ EU misses « yollies » in high-growth sectors

Innovation Based Growth Sectors: sectors which (i) have an R&D intensity above average, (ii) an R&D growth rate above average and/or (iii) an above average share of young companies among its leading innovators.

aerospace, biotech, computer hardware&services, health care equipment & services, internet, pharmaceuticals, semiconductors, software, telecom equipment.

Yollies: young companies who have made it into world leading innovators

Amazon, Google, Microsoft, Qualcomm, Amgen...

Joint work with Michele: eg:

Cincera, M. & R.Veugelers, 2014. Differences in the rates of return to R&D for European and US Young Leading R&D firms, **Research Policy**, 43, 1413-1421.

Cincera, M. & Veugelers, R., 2013, Young Leading Innovators and the EU's R&D intensity gap, **Economics of Innovation and New Technologies**, 22,2, 177-198.

The Policy Agenda

- ▶ **WHAT WE NEED:**
 - ▶ more focus on improving capacity for structural change through Schumpeterian creative destruction:
 - ▶ *new leading firms in new markets;*

▶ **Will the current EU emphasis on framework conditions**, -improving access to finance, improving access to skills, improving access to a large market and strengthening partnerships – although **necessary, be sufficient to address the specific barriers for development of new innovation based growth markets and firms** - access to *early risk* financing, access to *frontier science*, access to risk-taking *lead customers and complementary suppliers, specialized know-how and skills?*

A close monitoring of emerging innovative markets

Public funding for creative destruction capacity

How effective and efficient is public R&D funding to address creative destruction capacity?

Policy take-aways from SIMPATIC (structural) micro R&I funding evaluation

- **Substantial heterogeneity in effects across countries**
- Target should be firms that are impeded to develop R&D projects where social rates of return are substantially exceeding private rates of return.
- In view of the diminishing private returns to R&D investment
 - Inducing firms that are already spending on R&D to spend more, is costly for public budgets
- **A more promising target for public R&D programs would be to entice 'new' firms to engage in innovative projects, conditional they have socially valuable projects**
- **An important impediment for the effectiveness of public R&D programs, is the low application rate;**
 - **Reduce application costs**
 - **Improve the private returns of R&D projects:**
 - **framework conditions for innovation**

EIC

- ▶ An important bridging programme, is a Small Business Innovation Research (SBIR) type of programme, which would fund proposals from young innovative firms that would help bridge the gap between idea and market.
- ▶ It should be a bottom-up programme, which funds entrepreneur-driven proposals.
- ▶ The quality of the selection is crucial because it provides a form of certification to the beneficiaries, which will help them to access other financing and partners.
- ▶ The European value added comes from the economies of scale in selection and evaluation.
- ▶ It should be connected to other parts of the funding escalator;
- ▶ A proper *ex-post* evaluation should be included in the design of the programme

EFSI

- ▶ Loans; bigger investment projects with still too much risk
- ▶ Critical VA is through selection; importance of private co-funding
- ▶ Leverage other funding, rather than crowding out;
- ▶ Evaluate
- ▶ Closer aligned to the EU policy priorities; along grand challenges
 - ▶ Green pillar; Digital pillar; ...
 - ▶ But note that more delicate balance to match private RoR requirements;
- ▶ Room for this program in the funding escalator;
- ▶ Is complementary to FP rather than substitute: not iso subsidies: grants; but grants for next steps of basic research and precompetitive research;
- ▶ Its funding should not come from other parts of the FP which are complements;