

## **Firms' access to knowledge for innovative entrepreneurship**

### **How does access to knowledge affect innovative entrepreneurship?**

As for innovative businesses in general, access to knowledge is essential for innovative entrepreneurship; it is a key source of innovation-driven opportunities. It helps businesses recognize the value of new knowledge, assimilate it and apply it to commercial ends.

Co-operation and the flow of knowledge between universities and public research institutes (PRIs) can particularly support innovative entrepreneurship:

- Research organizations can be a source of innovative entrepreneurship with the creation of research spinoffs.
- SMEs may particularly benefit from knowledge spillovers arising from public research organizations as they typically lack the assets and resources to invest in formal R&D.

Technological co-operation with firms can also be particularly beneficial for innovative new ventures:

- Knowledge untapped by existing enterprises may provide the basis for innovative start-ups, such as in the case of corporate spinouts.
- The often smaller scale of start-ups may require a greater reliance on networks of knowledge flows provided by technological collaborations to overcome competitive disadvantages with larger businesses.
- In addition, due to limited assets and resources, SMEs invest less in R&D than large companies, in both absolute and relative terms, and may therefore benefit more from collaboration with other firms.

Effective Information and Communication Technologies (ICT) access can also play a key role in innovative entrepreneurship. Yet, the effects of firm size on the potential gains from better ICT access are mixed.

### **What are the key policy dimensions regarding access to knowledge and innovative entrepreneurship?**

As for innovative businesses in general, common policy challenges across five policy dimensions are particularly relevant and include:

- How can governments help firms have greater access to knowledge produced by universities? How can an incentive system support public research organisations in sharing knowledge, data and research results? (see [Interface with universities and public research institutes](#) [1])

→ Interface with universities and public research institutes (see [Interface with universities and public research institutes](#) [1]), which deals with co-operation and flow of knowledge between universities

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and the private sector.

- How can governments improve the capabilities of innovative businesses to engage in effective co-operation with other firms? (see [Technological co-operation between firms](#) [2])

→ Technological co-operation between firms (see [Technological co-operation between firms](#) [2]), which refers to the linkages between innovative businesses and suppliers, competitors, business customers and other companies.

- How can governments encourage innovative businesses' investments in innovation? (see [R&D and other investments in innovation](#) [3])

→ R&D and other investments in innovation (see [R&D and other investments in innovation](#) [3]), which refers to R&D and non-R&D investments undertaken by companies in assets, as these are crucial inputs for innovative activities.

- What is the adequate regulatory framework needed to support effective knowledge diffusion via the use of ICT (e.g. access conditions to big databases)? (see [ICT access](#) [4])

→ ICT access (see [ICT access](#) [4]), which focuses on innovative firms' access to the internet, as well as ICT infrastructure (including cloud computing).

### **What are the main rationales for policy interventions in support of access to knowledge?**

As in the context of innovative businesses in general, several types of failures imply the need for policy attention to knowledge transfers and networking problems in innovation systems.

Coordination failure may arise in the presence of positive externalities (i.e. when agents may not reap all of the benefits of an investment, resulting in an investment level below what is socially desirable). The existence of coordination failures implies that collective action through public intervention, such as public investment in infrastructure, may lead to productivity gains and increase welfare.

Several kinds of system failures may also affect knowledge exchange and, subsequently, interactive learning (Potter, 2005). These include lack of infrastructure for knowledge generation and transfer (e.g. universities and science parks), lack of capabilities in firms to absorb external knowledge (e.g. workforce skills for identifying and collaborating with partners and using external information about promising markets and technologies), lack of complementarity between the knowledge exploration and exploitation sub-systems (e.g. lack of fit between university research and firms' research needs, and their capacities to absorb such research inputs), and lack of intellectual property protection leading to a high risk of involuntary knowledge leakage, such as during technological collaboration between firms.

### **What are the main policies that influence access to knowledge in the context of innovative entrepreneurship?**

**As for innovative businesses in general, public policy can influence:**

**Interface with universities and public research institutes** (see [Interface with universities and](#)

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[public research institutes](#) [1]) by:

- Providing legislative and administrative framework that encourage universities to commercialise their IP (e.g. by providing effective incentive structures for universities and researchers).
- Building institutional capacities for universities to strengthen their links with business through bridging and intermediary organisations (e.g. technology transfer offices).

**Technological co-operation between firms** (see [Technological co-operation between firms](#) [2]) by:

- Encouraging clusters (e.g. by providing financial and non-financial support to collaboration at regional levels).
- Promoting the cross-fertilisation of technologies with multiple industrial applications involving diverse actors.
- Raising awareness of the benefits of co-operation (e.g. by providing firms with information on the risks and costs of national and international networking).

**R&D and other investments in innovation** (see [R&D and other investments in innovation](#) [3]) by:

- Addressing potential biases in existing innovation-incentivising policies (e.g. offering support to innovative businesses for enforcing IP).

**ICT access** (see [ICT access](#) [4]) by:

- Further deploying broadband across and within countries, and investing in next generation, high-capacity broadband networks.
- Developing ICT skills (e.g. through e-skills and digital literacy policies that provide firms with the means to develop and improve the skills that are required to exploit the opportunities offered by ICT).

**Within the context of innovative entrepreneurship, public policy can specifically influence:**

**Interface with universities and public research institutes** (see [Interface with universities and public research institutes](#) [1]) by:

- Easing access for start-ups to inventions and technology developed within universities (e.g. by offering unlicensed patents to start-ups at reduced cost).
- Providing incentives for researchers in universities to start new ventures. For instance, professors may be granted leaves of absence to commercialise a technology and to freeze

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the tenure clock.

- Providing support for university spin-offs to bridge the gap between technological invention and commercial innovation. Support for university spin-offs can take the form of financial support (e.g. “proof-of-concept” support for testing the technical and commercial viability of early-stage innovative ideas, pre-competitive research support, seed funding programmes) and non-financial support (e.g. access to university infrastructure and services).

**R&D and other investments in innovation** (see [R&D and other investments in innovation](#) [3]) by:

- Supporting R&D and innovation investment by implementing targeted grant support aimed at innovative entrepreneurs.

**Technological co-operation between firms** (see [Technological co-operation between firms](#) [2]) by:

- Strengthening the capabilities of SMEs since lack of capacities and motivation on the part of SMEs often proves to be the most important barrier to effective inter-firm collaboration. Skills development or innovation-purchasing initiatives can address this need, as can staff exchanges and secondments. The voucher scheme implemented in the Netherlands is an example of an innovation-purchasing initiative that has enabled SMEs to get their first exposure to technology upgrading.

## References

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