Policy intervention on technology transfer and commercialization

What are the policy rationales grounding policy intervention in technology transfer and commercialization?

The potential benefits stemming from the transfer of technology to different users and its commercialisation justify policy makers' interest in planning supporting instruments. Public intervention in this area has followed different yet complementary rationales which can be summarized as follows:

- tackling with misalignments in agents' objectives,
- dealing with incomplete markets for technology and IP transfer,
- addressing system failures relevant to the links between key actors, their interactions and the coordination of policy action in a manner that ensures the supply of adequate support to the technology transfer process and considers the factors affecting the demand for the transfer and application of publicly funded research.

How do policy-making contexts affect technology transfer and commercialization?

The variety of policy actions required to support Technology Transfer and Commercialisation and the plethora of actors involved in the process requires a sound, incentive-compatible policy making context with adequate capacity to plan and coordinate policy instruments, align the interests of key-stakeholders, mitigate asymmetries of information and institutionalize the process.

What policies assist the technology transfer and commercialization process?

Governments have been actively searching for new ways to improve technology transfer and plan policies to (i) alleviate funding barriers, (ii) support science-industry links, (iii) provide knowledge services, (iv) improve regulations to support the commercialisation of intellectual property and (v) enhance education for business and entrepreneurship.

Which policy tools assist in the alleviation of development funding gaps?

The Technology Transfer and Commercialisation process has idiosyncratic funding requirements that require governmental support throughout its different stages. Alleviating funding gaps can be achieved through the combination of instruments that stimulate the demand for new technologies, i.e. innovation procurement schemes, direct funding schemes that supply firms the necessary credit to fuel the R&D process. Towards this end, gap funds become an important tool for orientating research efforts towards directions of potential commercial utility and investment interest. In the same vein, proof of concept and scale-up centers bridge the financial gap that often exists between exploring a new concept and developing a product or service prototype and accelerating technology commercialisation.

Which policy tools strengthen science-industry links?

Strengthening the science-industry links is the core path for technology transfer and commercialisation and requires time and sustained public efforts. Public support to endorse such path includes:

- Cluster policies: are based on the premise that a company can realize higher levels of competitiveness when it strategically partners with others. Clusters contribute to the generation of innovations through the further development of knowledge spillovers, coordination between actors, reduction of coordination failures, and a better pooling of physical, human and financial resources for innovation.
- Grants for collaborative R&D: include competitive research and development and partner matching grants the former aiming at near-to-market technology generation and the latter promoting research partnerships for the development of novel products or services.
- Centres of excellence (CoEs): aimed at stimulating creative and efficient research and training environments. Establishing concentrations of researchers and resources in CoEs is considered as a means to increase quality and relevance of public sector research at the international level.
- Innovation vouchers: small lines of credit provided by governments to SMEs for the purchase of services from public knowledge providers (universities, PRIs) in order to promote collaboration and stimulate the creation of small-scale innovations at firm-level.
- Technology platforms and fora: industry-led stakeholder forums that aim to define research priorities and action plans in a broad range of strategic technological areas where achieving competitiveness at the national or regional level requires major research and technological progress in the medium to long term.
- Provision of knowledge services: consulting and knowledge transfer, including case studies and policy briefs.
- Technology matching services: virtual problem solving mechanisms (web-based platforms) that connect knowledge intensive organizations and bring together expertise on new product development while increasing the potential of future tangible partnerships.
- Market intelligence services: information collected by organizations to assess market opportunities, develop strategies to access markets, and make marketing decisions.
- Technology foresight: a process of intense iterative periods of open reflection, networking, consultation and discussion, with the aim of drafting and exploiting long term technological opportunities.

How can regulation facilitate technology transfer and commercialization?

Creating a clear legal framework is critical for fostering technology commercialisation, especially IPR-based. Such processes require the capacity of national intellectual property institutions to clarify IPRs, such as ownership of IP from publicly funded research, and facilitate their effective oversight and IP-based commercialisation. Policy and legal frameworks for IPR creation and exploitation can take diverse forms: they can be conceived as ad-hoc technology transfer laws with emphasis on IPR creation and exploitation (e.g. U.S. Bayh-Dole Act), they can be integrated into intellectual property laws or other common laws such as employment laws and those dictating firm creation; or, they can take the form of Ministerial Decrees.

How does business and entrepreneurship education contribute to technology transfer and commercialization?

Education policies can promote the development of business and entrepreneurship skills and endorse links between education institutions and the private sector through various mechanisms such as: the participation of entrepreneurs in the delivery of education (i.e. guest lectures, coaching and mentoring students), the presentation of entrepreneurship experience into higher education institutions, entrepreneurship chairs and incubation facilities at universities, business-education institution partnerships and personnel exchanges, and a better integration between the private sector and university start-up support facilities.

Related Link: Public Policy and Governance
Policy making contexts
Policy instruments
Strategy and policy coherence