



Policy Incentives for the Creation of Knowledge:
Methods and evidence



Policy Incentives for the Creation of Knowledge: Methods and Evidence (PICK-ME)

Policy Incentives for the Creation of Knowledge, an EU-funded research project exploring the key role of public demand in innovation policies aimed at fostering the multifaceted dynamics of technological knowledge.

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Highlights

- Nowadays consumers are more creative than passive, and demand tends to be the pull for the adoption of new superior technologies
- Demand-side innovation policies are then necessary at the EU level as they help create lead markets
- “Bottom up” and “top down” initiatives are to be combined for an effective innovation ecosystems development
- Industrial platforms, researchers mobility, labor mobility, high growth firms, MNEs, etc. should be used extensively, with the premise that demand pullers are ‘competent’ as primary sources of creation, i.e. that their identity, localization, relatedness is consistent with positive effects in terms of growth
- 21st century economic development within the EU should be based on consistent ‘branching’ of new industries with existing ones at the regional level
- Labor mobility across industries should be a key target, while intra-industry labor mobility may not foster demand-driven innovation and economic development

Statement

Innovation in the 21st century is more demand-driven than supply-driven. One of the major reasons is that nowadays consumers have a more active role to play in the development of new superior technologies. Demand-driven innovation policies have to be promoted, often in conjunction with supply-side innovation policies to be fully in line with the 21st century type of economic development. The combination of effective top-down innovation policies with bottom-up market-driven initiatives creates effective innovation systems. Rather than a traditional 'picking winners' supply-side innovation policy, demand can actually pull the introduction and adoption of new superior technologies only if it is 'competent', i.e. originated by creative customers. The identity of both the pulled (innovations) and the pullers (creative customers) is relevant in view of generating positive effects. This turns out to be centrally a matter of localization and relatedness. In the current EU world, regions tend to diversify into new industries that make an extensive use of the special capabilities available at the level of these regions, and the development of new industries also relies more on the regional capabilities than the national ones. Adequate diversification is based on a consistent branching of activities at the regional level, identifying the inter-industry relatedness. Equally, at the level of demand and skills matching in labor markets for knowledge, attracting valuable individuals with distinctive skill is required to be linked with local demand conditions. Positive externalities also emerge when multinational enterprises leak out into recipient industries through a process of learning through interactions.

Important implication is that this makes the EU demand-driven innovation policies more embedded into the EU regional economic context. From this follows 8 practical recommendations at the National-EU level and other 20 next connecting with the Regional level.

8 Practical recommendations at the National-EU level

1. Introduce effective consensual innovation policies which rest on an economy-wide understanding of the innovation system and its drivers.
2. Design a national innovation policy according to the strengths and weaknesses identified in the national innovation ecosystem based on a combination of top down policies with bottom up policies.
3. Construct visual innovation ecosystems.
4. Improve the business environment for innovative firms, which includes strengthening the legal environment, implementing anti-monopoly policies, improving standards that aim for product quality, and building human capital.
5. Use state-ownership as a tool for supporting innovation in key areas vital to state security and energy in which private businesses would not invest. Direct state control over R&D is considered to be essential.
6. Subsidize R&D in private companies using matching grants, loans, incubators, industrial parks, guarantees, share-risk in equity in venture capital funds, special economic zones etc.
7. Expand Public Procurement of R&D from private companies.
8. Adopt policies to encourage participation in global Research and Development, as cooperation with researchers and multinational corporations overseas is an effective way to tap into the global knowledge pool, enabling both the technological and intellectual transfer of know-how.

20 Practical recommendations connecting with the Regional Level

1. Policy should not support declining industries that take a peripheral position in the industrial portfolio of a region. Such support is not a smart policy from a relatedness perspective because these industries already have a high probability of exiting the region.
2. Yet, an intervention might be justified when a related industry is confronted with a (temporary) demand fall, resulting in serious damage to the dynamics of other local industries to which it is technologically related. Policy intervention might be needed to avoid such a cascade effect which might erode the whole underlying capability base.
3. Policy should aim at diversification, with the objective of broadening and renewing the industrial structure of regions by making them branch into new related activities. This is achieved by encouraging and enabling crossovers between related industries that can provide complementary assets.
4. Policy should avoid a 'one-size-fits-all' approach. Instead, tailor-made strategies that capitalize on region-specific assets that are linked to technologically related industries are recommended.
5. Policy could also focus on establishing collaborative research networks, with a focus on research cooperation between related partners within the same region or located in different regions. The latter underlines the importance of establishing linkages with partners outside the region to get access to external knowledge, in particular related knowledge.
6. Not all policy interventions should be conducted exclusively at the regional level, as many relevant policy areas are actually designed and implemented at the national scale (like labour market policy, education policy) and the international scale (like research policy), but the effects of policy will certainly have different impacts on different regions.

7. Policy makers should discourage companies from recruiting labor from the same industry because such recruitment is not conducive to the good performance and productivity of labor.
8. Policy makers should discourage workers from changing jobs within the same industry because moving across skill-related industries seems to be more beneficial.
9. Private labor consultancy businesses, labour mediation offices, public employment agencies and labor offices should be requested to encourage companies and workers to make moves between industries, because it seems to be more beneficial for all involved than changing jobs within the same industry.
10. Institutional bottlenecks (laws, rules) that prevent companies from connecting and exchanging labour across industries should be removed to encourage inter-industry labour mobility.
11. Local policy makers should be encouraged to pursue policies which attract industries that could boost mobility across (related) industries.
12. Policy initiatives aimed at attracting knowledgeable individuals in light of the positive effect coming from an enrichment of the local knowledge base need to be complemented by capacity building strategies.
13. Policies targeting local firms, with the aim of increasing their capability to absorb and exploit external sources of information through effective linkages with other co-located actors, are a necessary complement to fully embrace the benefits of mobility.
14. Policies should aim to encourage foreign enterprises to engage in innovation activities and effectively diffuse these innovations. In a demand driven context, this implies:
15. Upgrading human capital in line with demand and linking higher education programs to industries and specializations for which demand exists.

16. Undertaking a mapping out of the skills required by both domestic and foreign firms and well as improving cooperation between firms and other institutions.
17. Investing in public Research and Development in order to encourage existing subsidiaries to engage in high value added activities, while building domestic capabilities to take advantage of the uncompensated benefits associated with them.
18. Fostering long term research projects in key areas in order to generate outputs (e.g. patents or academic publications) that may act as relevant inputs for research establishments by MNEs and domestic firms.
19. Investing in particular sectors with the aim of developing specific innovations to meet the needs of the economic actors, both foreign and domestic, operating in these industrial contexts.
20. Putting in place an adequate system of incentives to favor the emergence of cooperation: this can be done by embedding the MNE's subsidiary into the local innovation system by introducing its role as potential partner rather than competitor.

