International Linkages

What are international linkages?

International linkages are of various types, comprising migration, international trade, foreign direct investments (FDI), global value chains (i.e. the activities that firms perform in different parts of the world in order to produce a final product or service), and international R&D (e.g. R&D collaboration with foreign organizations, and use of R&D infrastructure located abroad).

Why are international linkages important?

International linkages are critical for innovation because they provide powerful learning opportunities and support innovation processes (e.g. through the acquisition of machinery and technology licensing from abroad) (see Linkages for innovation [1]). By pooling competencies (e.g. through technological cooperation between firms – see Technological co-operation between firms [2]), international linkages can allow overcoming barriers such as deficiencies in funding, management resources and technological competencies (Innovation Networks and Clusters for details - see Innovation Networks and Clusters [3]). International linkages can also benefit innovative businesses through technology and knowledge transfer, skills enhancement, and facilitating access to foreign markets. (See Technology Transfer and Commercialisation [4].)

These linkages are increasingly important as research is more and more globalized (see Patent data - Globalisation of research [5]). Multinational enterprises (MNEs) have expanded their R&D and innovation activities across the world (see Multinational enterprises (MNEs) [6]). At the same time, R&D linkages have grown steadily in recent years. The geographical pattern of international linkages has also evolved in recent years as new global players have emerged (see Patent data - The geography of invention [7], and A new context for innovation [8]).

Figure 1. R&D expenditures of foreign affiliates, % of total R&D expenditure of enterprises

What are the key policy dimensions regarding international linkages?

Key policy dimensions to be taken into consideration by policy makers to support international linkages include the following:

- **Education and skills.** Domestic firms must have the capacity to absorb and draw profits from knowledge spillover. This might be facilitated by fostering relevant skills development; exchanges of students, scientists and engineers; as well as by migrants, who can profit from contacts in their country of origin and from an understanding of its culture and markets (see International R&D linkages of universities and PRIs [9])
- **Access to finance.** Obstacles to access to finance may prevent innovative domestic businesses from collaborating with organizations located abroad; expanding internationally; implementing what they have learned from foreign companies, products and markets; and implementing foreign technologies.
- **Regulation and standards**. International standards support the diffusion of innovation

across borders by setting common rules, facilitating the interoperability between products, reducing risks for producers and consumers, and diminishing transactions costs. Harmonizing national procedures through international treaties and agreements is also important to foster international linkages, as differences in regulation and duplication of regulatory procedures among trading partners are potential impediments to trade. Effective international intellectual property rights systems (see International dimensions of IP systems [10]), including international bodies on IP (see International bodies on IP [11]) and international agreements on IP (see International agreements on IP [12]) are also essential to promote international linkages in the context of innovation (e.g. by ensuring the protection for patents, trademarks, and designs worldwide; by simplifying IP transactions across borders; and by facilitating the resolution of IP disputes), international competitiveness and trade (see IP and international competitiveness and trade [13]).

- **Access to foreign and domestic markets** (see Access to foreign and domestic markets [14]). Tariff and non-tariff barriers (e.g. quotas, administrative entry procedures) and other legal conditions that limit or encourage foreign firms' entry may affect foreign direct investments (FDI) and international trade.

- **Migration** (see Migration [15]). Migrants can stimulate international linkages including transfer of knowledge across countries and research collaborations between their host country and country of origin, due to their contacts and understanding of both cultures and markets.

References

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Links
[1] http://innovationpolicyplatform.org/content/what-sorts-linkages-can-foster-innovation?topic-filters=12071
[2] http://innovationpolicyplatform.org/content/technological-co-operation-between-firms?topic-filters=12057

[3] http://innovationpolicyplatform.org/content/innovation-networks-and-clusters
[4] http://innovationpolicyplatform.org/content/technology-transfer-and-commercialization?topic-filters=11388
[5] https://www.innovationpolicyplatform.org/patent-data-globalisation-research?topic-filters=8631
[6] https://www.innovationpolicyplatform.org/content/multinational-enterprises-mnes?topic-filters=8691
[7] https://www.innovationpolicyplatform.org/content/patent-data-geography-invention?topic-filters=8769
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[10] https://www.innovationpolicyplatform.org/content/international-dimensions-ip-systems?topic-filters=8828
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[14] https://www.innovationpolicyplatform.org/content/access-foreign-and-domestic-markets?topic-filters=8782
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