



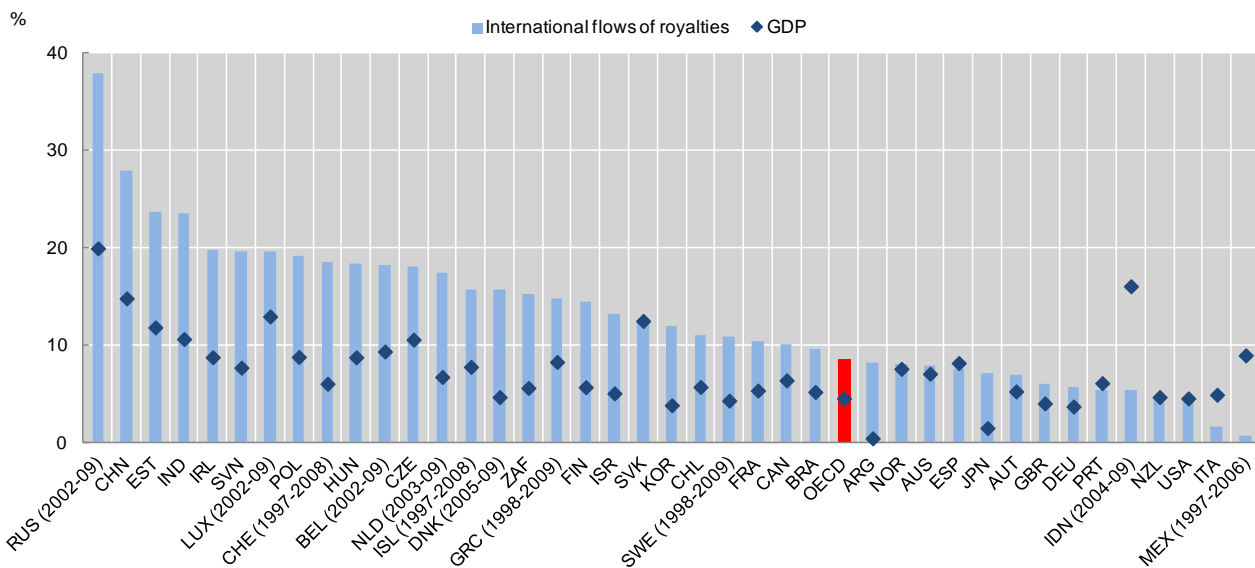
NEW SOURCES OF GROWTH: KNOWLEDGE NETWORKS AND MARKETS FOR INNOVATION

What are Knowledge Networks and Markets (KNMs)?

The OECD Innovation Strategy defined KNMs as “arrangements which govern the transfer of various types of knowledge, such as intellectual property, know-how, software code or databases, between independent parties”. This is a broad concept that seeks to reflect how innovation increasingly relies on sources of knowledge which are external to the organisation.

Examples of KNMs typically include R&D joint ventures and alliances, the licensing of technology and external R&D procurement. But knowledge also flows through a myriad of channels, for example as research staff move jobs or start new firms, as companies buy other intangibles-rich companies and as customers support their suppliers’ innovation, sharing best practice and know-how. KNMs also exist outside of commercial transactions, in the form of networks and communities of software programmers, researchers and several other formal and informal collaborative mechanisms.

International technology flows through royalties and licence fees, 1997-2009
Average annual growth rate, based on USD, percentage



Source: OECD Technology Balance of Payments Database, May 2011; OECD Trade in Services Database, May 2011; World Bank, World Development Indicators, May 2011; OECD, Annual National Accounts Database, May 2011.

Note: *Royalties and licence fees* are payments and receipts between residents and non-residents for the authorised use of intangible, non-produced, non-financial assets and proprietary rights (such as patents, copyrights, trademarks, industrial processes and franchises) and for the use, through licensing agreements, of produced originals or prototypes (such as manuscripts, cinematographic works and sound recordings).

While anecdotal evidence exists of on the growing importance of KNMs, measurement of the supply and demand for external knowledge is still in its infancy. Little knowledge exists on the scale, importance and evolution of these markets.

Why do KNMs matter?

Knowledge is no ordinary commodity. Ensuring a steady supply of new knowledge and its flow to those organisations and individuals who can exploit it most efficiently is a key policy priority, particularly when the dissemination of knowledge can also foster additional innovation. OECD economies can ill-afford valuable ideas being left unexploited. Solutions are therefore needed to ensure that the two sides of the market –supply and demand– meet and interact with the least possible transaction costs. Any policy reform needs to anticipate its likely impact on incentives for knowledge creation, while creating conditions that best support the creation, dissemination and adoption of knowledge. There is genuine interest in understanding how different types of reward system can complement traditional intellectual property (IP) and what policies can foster the emergence of an intermediary sector which increases the efficiency with which knowledge can be exchanged.

Who is this project for?

This project will be of direct value to:

Policymakers in OECD countries

Among OECD policymakers there is growing interest in understanding how policies can help improve the efficiency of their innovation systems, particularly in the light of rapid technological, market and other major global changes. This is reflected in the agendas of various OECD Committees and Working Parties.

Policymakers in key non-member economies

Many non-member economies recognise the importance of knowledge networks and markets, and the need to harness their benefits. The role of stable and balanced IP systems as mechanisms to encourage the flow of formal and tacit knowledge has clear consequences on local investment and growth within non-member economies. These economies also play an increasingly important role in the generation of new scientific and technological knowledge, which contributes to changing their overall outlook on IP and collaboration issues.

The business community

The data, analysis and insights obtained through this project would be of value to business leaders seeking to compare their own business experience of KNMs with new evidence from other sectors and countries.

Statistical agencies and the research community

The KNM project will contribute to mapping out what is available and missing within the broad, complex and highly sparse data infrastructure available on KNMs. Building on the expertise developed through R&D and innovation manuals, the project will also help develop new guidelines on how best to record knowledge transactions. Improved data will be of considerable value to researchers aiming to contribute to the evidence base on KNMs.

What are the objectives of the OECD project on KNMs?

The OECD has unique expertise and a track record in delivering new statistics, analysis and policy insights in the area of KNMs. This project will build on extensive synthesis and original research which has led to a range of highly visible policy recommendations and standards, including guidelines on access to research data from public funding and on the licensing of genetic inventions. As part of this new project, which is also a pillar of the OECD project on **“New Sources of Growth: Intangible Assets”**, a number of key contributions to the evidence base on KNMs are envisaged:

To improve our understanding of what KNMs are, producing better indicators

- Identifying and understanding how companies across a wide range of sectors procure external knowledge for innovation, what they have in common and what sets them apart.
- Taking stock of what data sources and indicators exist on knowledge transactions and exchanges.
- Identifying key statistical and data gaps and proposing recommendations and new guidelines.
- Building a comprehensive inventory of collaborative mechanisms and other knowledge networks and a database of related policies.

To understand how KNMs impact on innovation and the economy

- Analysing the role of intermediaries in the markets for knowledge, their business models and economic performance.
- Examining the incidence and impact of patenting and other forms of IP protection strategies on business performance.
- Mapping knowledge flows from the science base to the rest of the economy through the integrated use of scientific and patent citations data, alongside economic input-output tables and business performance data.
- Reviewing the evidence on the changing economic significance of KNMs and producing new estimates of their economic impact and the role of policies.

To draw a number of key implications for innovation policy in selected areas of interest

- The arrangements governing the generation and use of knowledge created in universities or other publicly funded institutions, building on the work on scientific data and public sector information. This includes the role of public policies and university knowledge ownership and transfer rules.
- The rationale for special arrangements for facilitating KNMs in the context of key societal challenges and goals, across different technologies and sectors.
- The role of framework conditions in the circulation of explicit knowledge, including patents and other forms of codified IP. The scope for policy to increase the transparency and efficiency of IP transactions.

Project design

The project will conclude at the end of 2012, building on contributions across the whole of the Directorate for Science, Technology and Industry under the lead of the OECD Committee for Science and Technology Policy (CSTP). As stated, this project also contributes to the wider OECD project on “New Sources of Growth: Intangible Assets”.

Upcoming events

Events contributing to the project include the following:

- June 2011. Expert workshop: “Mapping Knowledge Exchange: Understanding Knowledge Markets and the Role of Intermediaries”. Paris, OECD.
- September 2011. Global forum of the Knowledge Economy. Paris, OECD.
- November 2011. Research workshop on defining the policy research agenda, Washington, DC. United States
- May 2012. Policy implications workshop. Paris (TBC)
- December 2012. Final conference. Brussels (TBC)

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KNOWINNO
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Project partly funded under *Seventh Framework Programme of the* European Commission

Updated 10 June 2011