

Intellectual Property Rights

Why are intellectual property rights important for innovation?

Intellectual property (IP) rights are exclusive rights on intellectual creations in fields related to technology (patents), business (trademarks), the arts (copyright), all of which have different legal requirements for obtaining and exercising IP. IP rights can have a significant impact on socio-economic development, particularly as they affect national innovation performance and access to knowledge and technologies. IP rights influence the incentives for firms and individuals to invest in innovation and creativity and to exploit economically their creations, and for universities to transfer knowledge. IP rights also determine the ability of actors to access and implement existing knowledge on efficient terms.

These effects make IP policy a critical component of innovation policies. The challenge for policy is to create a well-functioning IP system, which must navigate among multiple constraints and objectives at the legal and economic levels, find compromises among multiple actors, and ensure a balance between the promotion of innovation and creativity, and diffusion of ideas and underlying knowledge.

What are the key dimensions regarding intellectual property?

The following dimensions are particularly relevant for intellectual property in the context of innovation:

- **Processes and contributions of IP rights systems to innovation** (see [Processes and contributions of IP systems to innovation](#) [1]). IP rights grant exclusive ownership to the inventor (or designee) of a creative work. They can serve as an incentive for economic actors to invest in research and development, which can include incentives for inventions that address social challenges. Moreover, registered IP can facilitate disclosure of information on inventions which would otherwise be kept secret; such registration can facilitate future inventions and avoid duplication of research efforts. IP can also facilitate international competitiveness and support trade. However, by generating monopoly rights over the invention, patents reduce competition and increase prices, thereby excluding some customers. This dilemma between incentives and diffusion is the core trade-off for IP policy (see [Policy design for IP](#) [2]).
- **Measurement of innovation performance** (see [Metrics and evaluation for IPR](#) [3]). Databases of registered IP are widely available and have rich information that can be used to analyse innovation performance. Patent data have been used to measure the inventiveness of countries, regions, firms or individual inventors; to map certain aspects of the dynamics of the innovation process (e.g. co-operation in research, diffusion of technology across industries or countries, etc.) or of the competitive process (the market strategy of businesses); and to monitor the patent system itself. Similarly, other data on registered IP—such as trademarks, utility models or design rights—provide insights regarding uses given to IP as well as regarding inventiveness and innovation. However, it is important to understand the characteristics of IP data and address its shortcomings before the datasets are used for policy analysis.
- **Organisation of IP systems** (see [Organisation of IP systems](#) [4]). National IP systems require complex legal provisions defining the rights and conditions that under which IP is granted and enforced. Therefore it is critical to organize IP systems of sufficient “legal quality”, which requires objective, high-quality and timely IP examination procedures and enforcement. To promote innovation, the costs associated with IP titles must not be prohibitive for small and medium enterprises (SMEs), as well as for universities and public

research institutes (PRIs). In addition, international and regional agreements—including the WTO’s Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)—and institutions characterise today’s IP systems. IP training and skills both within institutions in charge of IP and among users are also critical for the organisation of IP systems.

- **IP users** (see [IP users](#) [5]). IP rights are used by different organizations in different ways. Patents can be critical to boost new ventures. However, small and young businesses can face substantial barriers regarding IP ownership. Businesses have to have sufficient research capacities for successful patent applications. A wider group of firms may use IP rights such as trademarks in order to differentiate their product, to exclude rivals and to build barriers to entry. Universities and public research organizations rely on IP rights to facilitate the commercialization of their inventions by industries. Technology transfer offices (TTOs) play a pivotal role in enabling successful strategies for commercialization. These differences among potential and actual users of IP are must be taken into consideration when drafting IP policies, because their contributions to innovation will depend on how they incentivize different innovators in the economy.
- **IP use varies across different fields** (see [Fields of IP use](#) [6]). The use and role of IP varies across industries with different technologies and market structures. Biotechnology and pharmaceutical industries rely intensively on patents for their inventions and are leading industries in number of patents held. The different length of the invention processes across industries raises particular challenges for IP. For creative industries and information and communication technologies (ICTs) copyright is of primary importance. Moreover, in food and agriculture IP rights signal product quality to consumers and protect new product varieties. Because these differences affect the role of IP in incentivizing innovation, they should be considered when IP policies are designed. Other innovation policies must complement IP policies aimed at particular sectors.
- **IP influence on markets and innovation diffusion** (see [IP, markets and diffusion](#) [7]). IP rights affect how the production and diffusion of innovations are organized. Notably, IP helps enable “open innovation” by shaping collaborations and interactions and fostering the development of markets for technology. If national actors follow an open innovation approach—that is, seeking inventions externally—they can create a larger market for inventions and raises incentives to obtain IP. Similarly, financial markets can provide additional opportunities to obtain finance by leveraging IP titles. The issue of IP rights raises fundamental questions about the nature of competition in the innovation process. IP policies need to strike the right balance between guaranteeing exclusive monopoly rights over inventions to set incentives without leading to a lack of competitive incentives for innovations as the latter would reduce any incentives for IP to stimulate innovation. For example, the proliferation of patents may induce situation of blockages (a so-called tragedy of the anti-commons), and favor the development of patent pools and raise questions with respect to setting industry standards.
- **IP policies as part of innovation policy** (see [Connecting IP to innovation policies](#) [8]). The relationship of IP and other innovation policies should be determined by how IP policies can complement other policies in support of innovation performance. Coherence among innovation policy instruments and initiatives is also critical to ensuring the effectiveness of IP policy, which also requires adequate governance mechanisms of IP systems already in place. In addition, IP policy faces multiple trade-offs such as the one between incentives to invent (which might go with strong exclusivity) ability to access the invention (which usually goes better with weaker exclusivity).

References

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