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# UK Intellectual Property Office (UKIPO), The Impact of the Patent System on SMEs



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SUMMARY			
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## Abstract

In their report to the Strategic Advisory Board for Intellectual Property (SABIP) published by the UK Intellectual Property Office (UKIPO), the authors examine the patterns of use of the patent system by SMEs to protect their innovations. According to the report, SMEs tend to patent less than larger undertakings, preferring instead other informal forms of protection such as secrecy and first mover advantage. As the main reason for SMEs' underutilisation of patents the authors cite patenting costs, in particular drafting and maintenance costs. However, the authors note that venture capitalists increasingly view patents as an important signal of a firm's potential, a factor which may impact on the SMEs patenting patterns.

## Summary

UKIPO's report, authored by Hughes and Mina, traces the patenting patterns of SMEs with a particular focus on UK SMEs. The authors draw on the broad relevant literature on the relationship between SMEs and innovation, on statistical evidence of British SMEs use of patents from the UK Community Innovation Survey, and on evidence from a joint UK and US SMEs dataset created by the Centre for Business Research at the University of Cambridge and the Industrial Performance Center at the Massachusetts Institute of Technology.

The authors begin by pointing out the relatively small SME contribution to private sector R&D expenditure in the UK: in 2005, SMEs contributed merely £454 million of an overall £13 billion of private corporate investment in the UK, that is 3.3 percent.

According to the report, the incentives for patenting are well established in the extensive economics literature. A major reason for opting for patent protection is to internalise gains from innovation that would otherwise spill over to third parties, due to innovation's public good nature. By obtaining exclusive rights over an invention, firms are able to earn a return to risky investment in R&D. Importantly, patent rights facilitate market entry by small innovative firms. Patents also facilitate

competition between substitute technologies and enable functioning markets for inventions. Benefits from patent protection diverge however depending on the industrial sector. Pharmaceuticals, biotechnology, medical equipment, chemicals, computers and special purpose machinery are among the industries more heavily relying on patents to protect innovation.

Moreover, the report points out to empirical literature noting that SMEs patent less than larger firms, and use patented less frequently as sources of information. SMEs show a preference for other forms of protecting innovation, and in particular for secrecy. When SMEs do use patents to protect their inventions, the reasons for doing so vary, the most important being internal use within the firm and licensing out. According to the authors, the evidence could be interpreted as indicating that, for SMEs, patents are a valuable tool for accessing complementary assets and increasing the value of their products.

Statistical evidence from the UK confirm the view that SMEs patent less than larger firms and that the distribution of SME patent holdings are heavily skewed across sectors. SME patenting is strongest in manufacturing, followed by R&D services, business services, and computer-related activities. The majority of UK patenting firms, with some differences in relative rankings, are found in the following sectors: fabricated metal products, furniture and manufacture, machinery and equipment, chemicals and chemical, rubber and plastic, and medical and optical instruments.

The report also analyses the statistical data from a joint US and UK SME dataset by the CBR at Cambridge and the Industrial Performance Center at MIT with regard to SMEs' patenting activities. In tune with previous research, the dataset confirms that SMEs patent less than larger businesses, and that on average US SMEs tend to patent more than their UK counterparts. Moreover, patent protection is less valued by SMEs in the UK than in the US; instead, UK SMEs tend to favour informal forms of protection, such as lead-time advantage, secrecy, and confidentiality.

That said, an emerging body of literature, the authors contend, points to a less conventional function of the patent system which is highly relevant for SMEs in high-tech sector: patents as a signaling device to investors. In particular, it is well documented in empirical studies that venture capitalists take into account a firm's patent holdings or pending patent applications in making their investment decisions. For SMEs, holding patents serves as a signaling device to investors of a firm's innovative capacity.

On the other side, SMEs are impeded in their use of their patent system by high administrative costs, and in particular by the costliness of enforcing patent rights against infringement in litigation. Drawing on previous research, the report advocates an improvement in the information infrastructure enabling a more intense enforcement of patent rights by SMEs, use of fast-track patent litigation procedures, and

a more harmonised European framework for patent rights and enforcement in the form of a Community Patent and a specialised European patent court.