Making Patents Useful to Small Firms

William Kingston
School of Business Studies, Trinity College, Dublin

EU RESEARCH

The EU-commissioned study, *Enforcing Small Firms' Patent Rights*,[1] represents the first time that the actual value of the patent system to firms of this kind has been investigated by direct contact with them in every country of the European Union. The present article arises from the experience of directing this research, and in it "SMEs" covers individual inventors as well as small and medium-sized enterprises for two reasons: they face the same problems and sometimes the corporate form is used by an individual inventor in the hope of tax or other advantages.

Although much new and interesting information emerged from this study, it had aspects which were dispiriting. Far from benefiting them, in quite a number of cases use of the patent system left SMEs worse off than if it had not existed at all—sometimes tragically so. Financial loss was the least part of this: repossession of homes, bankruptcy, marital breakdown, even imprisonment, were included in the downside of SME patenting revealed in this survey. Very few cases were recorded where the system worked as it is theoretically meant to do, for an individual or a small firm; and for every instance where it did provide benefit, there seemed to be several where it led to actual harm.

CATEGORIES OF SME PATENTS

The patents of SMEs fall into three clearly-defined groups. By far the biggest of these contains the patents that are never exploited simply because *they are not exploitable*. This group includes "vanity" patents, obtained by an individual who wants to think of himself as an inventor, just as the vanity publishing industry is sustained by individuals who want to think of themselves as authors. Other patents in it may correspond to no market need, or be too easy to "invent around". These leave their owner with

[1] Publications Office of the Commission of the European Communities, Luxembourg, ISBN 92–894–0633–X (*www.cordis.lu/innovation-policy/studies/im_study3.htm*).

losses comprising the expenses of patenting plus the costs in time as well as money of efforts to find backing for exploitation or for sale of the invention to a larger firm.

Some indication of the factors which affect this group may be obtained from the proportion of patents that do not have even their first renewal fee paid. In the United States, for example, where this has to be done four years after grant, the proportion is about one-third for patents owned individually, and one-sixth for small-firm patents.[2]

A second, much smaller group, includes inventions that *are* exploitable. The empirical evidence of the EU study is that, almost without exception, the relevant patents will be contested in some way, frequently by deliberate infringement. It was found, for example, that in the United States every European SME patent of potential value in the survey was infringed. In addition to patenting costs, therefore, this group has to face much larger outlays to defend its patents in the courts. The EU study clearly showed that intimidation of small firms by larger ones which threatened to make this task prohibitively expensive for them was commonplace, with the result that the prudent course was to accept defeat. So this group also loses money on its patents, more than that of the majority to the extent that its members also incur litigation expenses. Finally, there is the quite tiny group of inventors whose patents are exploitable and who actually succeed in defending them and making money out of their patent protection.

RESOLVING DISPUTES

For the owners of "exploitable" SME patents, by far the most important problem is the cost of resolving disputes. In fact, a US Commission has pointed out that this cost is a threat to the patent system as a whole.[3] Patent litigation expenditures in the United States have been rising faster than investment in research and development, which is a worrying imbalance.[4]

Much is made by public authorities of the need to encourage SME innovation because of its considerable potential value. If this is seriously believed, then litigation of disputes about their intellectual property is the last thing that should be allowed. In large firms which have their own legal departments, such disputes can be handled from within that department while the main business of the firm is carried on with little or no disturbance from it. In a small firm, a dispute makes enormous demands on the time and energy of the single person or the few individuals upon whom the firm completely depends, and distracts them from the work of developing the firm or even maintaining it. Certainly, it rules out further innovation on their part.

Inventors and innovators are indeed amongst society's scarcer resources, and they are damaged or even destroyed by being forced to concern themselves with legal instead of technical matters. Their mental processes are altogether different from those

[2] Figures from special tabulations provided by US Patent Office, copy on file with author.

[3] Adivsory Commission on Patent Law Reform at p. 78 (United States Government Printing Office, 1992).

[4] John Barton, "Reforming the Patent System" (2000) 287 *Science* 1933.

of lawyers and bureaucrats. Successful innovation and litigation can come from the same people only in the rarest cases.

INTIMIDATION

In considering this, it is important to understand how heavily the scales are weighted against an SME because of the cost of litigation and of the stratagems open to a financially strong opponent to increase that cost in terms of time and effort as well as money. In countries where losers may have to bear part or all of a winner's legal costs, a large firm can even prevent litigation from getting under way at all by asking the court to impose on their opponent the requirement to post a bond for any costs which may be awarded against them, which an SME is likely to find it impossible to do.

The EU study found an evident bias in the District Court/jury action combination where legal action has to begin in the United States. This makes it prudent for foreign firms to avoid litigation there altogether unless they have enough resources to go on to the Court of Appeal for the Federal Circuit in Washington, D.C., where (as in the US Patent and Trademark Office itself) they are likely to get justice. But how many SMEs would have the money to do this?

WHY ENCOURAGE SMES TO PATENT?

Given these realities, why are some EU Directorates-General and many national patent offices so active in encouraging more SME patenting? Some of the national offices have tried to do this by reducing the cost of obtaining a patent from them. In the United Kingdom, for example, there is no longer any filing fee, and the fees for examination and grant are very modest. Some offices also spend large amounts on promotions to increase SME *awareness* of the patent system. This flies in the face of a basic marketing principle, that "no amount of advertising can sell a bad product", and patents are anything but a good product for SMEs.

The explanation of efforts to increase the usage by SMEs of something that is only cost-effective for a trivial number of them, is obvious enough in the case of the national offices. They wish to survive, and the large firms which are by far the biggest users of patents, have had little need for them since the European Patent Office (EPO) was established in 1973.

In the case of the European Union, an important element in the motivation is probably awareness that the SME sector in Europe is very much less productive of new ideas and new businesses than it is in the United States. One of the arguments for the Community patent made by officials has been what it could do to reduce patenting costs, which bear especially heavily on SMEs. They point out that to get comparable coverage in Europe to that given by a US patent, an applicant has to pay much more in official, patent agents' and translation fees, even if the EPO route is followed. This unfortunately ignores the issue of the much greater costs involved in *enforcing* a patent,

of whatever type. Filing, grant and renewal costs remain trivial in comparison with the expense of enforcing a patent if it is infringed.

COMPARISONS WITH THE UNITED STATES

On the issue of making Europe competitive with the United States in terms of innovation, the higher cost of obtaining patents is the least of the relative disadvantages which European SMEs suffer. In contrast to the situation in Europe, lawyers in the United States are allowed to take cases on a "contingency fee" basis, so that their client does not have to pay them, but if they win, they receive a large share of whatever damages may be awarded, 40 per cent being typical and a 50–50 split not uncommon, especially if there is an appeal. Some competent legal practices specialise in this kind of work. As well as this, courts can and do award triple damages for deliberate infringement. Because of such provisions, an SME patentee with a good case has a much better chance of getting it to and through the courts in the United States than in Europe, where neither of these provisions apply. The situation is of course all the worse for an SME in those European countries where it will have to pay the costs of its opponent as well as its own if it loses the case.

Added to these legal disadvantages is the difficulty of obtaining seed capital to exploit an invention in Europe. There is no source of this which remotely compares with the Small Business Innovation Programs of the United States.[5] These now provide more than $1 billion a year for this purpose in a uniquely effective way, and their 14,500 awardees have obtained more than 42,000 patents since the Programs were set up in 1983. At present, awardees are obtaining about 200 patents a week.

It is also reported that the tax treatment of patent litigation and awards in Europe penalises SMEs, which is not the case in the United States. Taking all factors into account, even if the European patent does become a reality, its contribution to European SME innovation can therefore only be marginal, and SMEs will continue to have to face much more intractable problems than just the cost of obtaining patents.

POSITIVE DISCRIMINATION

It was precisely for individual inventors that the modern patent system was established, as in the US Patent Act of 1790 and the French Act of 1791. How then, did it come about that it now serves them and small firms so poorly? The answer is that during the nineteenth century invention became primarily the result of investment in research and development in corporate research laboratories. This required quite new ways of protecting the results of such investment, but instead the existing patent system was just tinkered with, so that now it only serves some kinds of large-firm innovation well, and it serves SMEs particularly badly.

[5] See *www.sba.gov/sbir* for details.

Consequently, there is a case for introducing some measures into the patent system which would discriminate positively in favour of SMEs, on the ground of their special ability to contribute to invention and the earlier stages of innovation. There are in fact two precedents for doing just this in US patent law. In the first of these, when the United States agreed to join the rest of the world in publishing applications 18 months after filing, it met strong opposition from American SMEs. It dealt with this by ruling that in cases where the applicant does not file outside the United States, publication will continue to be only at the time of grant. The second precedent is explicit. "Small Entities"—SMEs and "not for profit" institutes—are given a 50 per cent discount on all fees.[6] Under the national treatment provision of the Paris Convention, both privileges also have to be extended to citizens of other Convention countries, and up to 10,000 new foreign applicants, of which nearly half are from the European Union, benefit from the Small Entity discount in a typical year.[7]

REMOVING PATENT DISPUTES FROM THE COURTS

A reform which would benefit SMEs greatly and which is by no means impractical, would be *compulsory* technical arbitration of all disputes.[8] Few disputes in technical areas other than patents ever reach the courts because arrangements for this are in force—in fact, patents are unique in the world of technology in not using this means of reducing the cost of dispute resolution. The difference between these other technical areas and patents is that in the former the parties involved are related by a contract, which almost invariably includes an arbitration condition; obviously, there is no contract between two parties in contention over a patent. For settling patent disputes, therefore, compulsion for technical arbitration could only be a condition in the contract which does exist (*i.e.* that between the inventor and the state, which is the patent grant).

Compulsory technical arbitration would immediately open the way to three further possibilities for improving the situation for SMEs, as follows:

Patent insurance

This has been promoted by the Danish Patent Office for some years. In spite of a history of bad experiences in many countries by both insurers and insured, that Office was able to persuade the European Union to fund an investigation of its practicability. This reported that any insurance scheme would have to be compulsory, which may explain why the European Commission's call for practical proposals in 2003, did not result in any which it considered worth funding. However, if there was compulsory technical arbitration in the first instance, the cost of *appeals* to the courts from arbitration decisions might then become a commercially insurable risk.

[6] See *www.uspto.gov/web/offices/pac/doc/general/fees.htm*
[7] Figures from special tabulations provided by the US Patent Office, copy on file with author.
[8] W. Kingston, "Compulsory Arbitration—Empirical Evidence" [2000] E.I.P.R. 154–158.

The "Patent Defence Union"

This was proposed in *Enforcing Small Firms' Patent Rights* and has since been actively canvassed by a group of inventors in the United Kingdom. It has some advantages over the other two options, including being able to develop "contingency fee" arrangements with lawyers for protecting European SME patents in the United States. It could also work to persuade large firms to include in their "Corporate Social Responsibility" policies, an undertaking not to intimidate smaller ones with threats of litigation costs, but to agree to compulsory technical arbitration of disputes instead.

Legal aid

This could be provided for the respondent party (*i.e.* the party which does not appeal from an arbitration decision) in the event of an appeal to the courts. It might be the least expensive option—a trivial proportion of the more than £1 billion spent annually on *civil* legal aid in the United Kingdom, for example.

Funding

An obvious source of funds for any or all of these options is the subsidy paid to the national offices by the EPO, which is currently running at nearly €250 million (about £165 million or $300 million) annually.

LONGER PRIORITY PERIOD

Compulsory arbitration and the possibilities it would open up, would only benefit those SME patentees whose inventions have real market potential. Although patents of this kind are the justification of the existence of a patent system, it has to be recognised that the relatively few successes are obtained only on the backs of very many failures. A different type of positive discrimination is needed to limit the cost of these failures, and another SME-specific possibility which deserves consideration would be to change the length of the priority period.

The device of "stopping the clock" to give a common effective filing date for an invention in different countries dates from the outset of the Paris Convention. It was obviously needed at that time if there was to be any international patenting at all, because documents could only move between countries by surface mail. The point has recently been made that with electronic communications this reason for having a priority period no longer exists.[9] However, priority also performs another function. This is that it gives time for an inventor to investigate the likely value of his invention, and to decide in the light of this how far it may be worth spending money on foreign filings, as well as on a complete application locally in countries where provisional applications are possible.

[9] Paul Edward Geller, "An International Patent Utopia" [2003] E.I.P.R. 515–521.

The priority period is prescribed as a year for patents by Art.4 of the Paris Convention, but according to Art.19, "the countries of the Union reserve the right to make separately between themselves special agreements for the protection of industrial property, in so far as these agreements do not contravene the provisions of this Convention". Consequently, there is nothing to prevent a group of countries from agreeing a longer priority period amongst themselves for their SMEs, as long as they also offered it to SMEs in all the other countries entitled to national treatment from them.

CONSEQUENCES OF EXTENDED PRIORITY

What therefore might be the consequences of a few EU countries agreeing to offer, to SMEs only, a *five-year* priority period which would operate exactly as does the present one-year Convention priority term? For this purpose, SMEs could be defined in any way preferred by the group or by individual countries, by employment (say up to 100 or 150 employees) or by assets or by sales, or any combination of these. National treatment would require that the benefit could also be gained by SMEs from all Convention countries from the start, without reciprocation on their part. However, the intention would clearly be that many other member countries of the European Patent Convention, and of the Paris Convention itself, would eventually follow the originating countries.

Even during the transition to this, it is not easy to see what disadvantage there would be to the founding group from enabling SMEs in countries outside the group to have five years of priority instead of one. In the unlikely event of a country considering that its own SMEs were so weak as to need special protection, it could provide this to them by correspondingly adjusting the employment or other criteria for gaining the privilege of longer priority.

REMOVING PRESSURE ON SMES

Even though the harsh reality revealed by patent statistics is that the majority of SME filings have no commercial value at all, their owners do not see this—indeed do not wish to see it. Under present arrangements they consequently often spend money they can ill afford on applying in several countries within the 12-month priority period. A five-year term would remove the pressure on them to do this, and also provide time for learning that an idea is a non-starter. The best possible result in such cases, indeed, would be that the inventor would be freed from obsession with his idea, and be able to turn to his next invention, which is virtually certain to be a better one.

For the relatively few cases where an SME invention is potentially of some value, the five-year priority period offers considerable benefits. If the intention is to license the patent to a large firm which has the resources needed to develop the invention, then it provides a time-scale which is appropriate. The present one-year period is far too short

to allow detailed investigation of the technical and market potential of any invention that is of significant value. Large firms also know that the SME patentee is under time pressure, with the prospect of having to spend money on patent applications in several countries before 12 months have elapsed, and they have no compunction in spinning out their "evaluation" procedures so as to maximise their advantage. The best prospect of rewards to SMEs for their inventions lies in competition between large firms for their patents, but this process cannot be brought to bear if the priority period is only long enough for a single firm to be found that might be interested in exploiting an invention, and for this firm to make its assessment of it.

AGENCIES FOR SME SUPPORT

Many countries now have agencies devoted to assisting SMEs. Because these are spending public money, however, their procedures are inevitably bureaucratic and slow. Once again, the one-year priority period is not long enough for an SME to make its case to such a body for a grant for prototype development or market research or other assistance to exploit a patent, and for these procedures to be completed. With a five-year pause before any significant investment in patenting has to be made, an SME could make use of all such facilities, each of which would also strengthen its hand in negotiating with potential large-firm partners or outright buyers of its rights.

This point can be particularly well illustrated by reference to the US Small Business Innovation Research (SBIR) Programs referred to earlier. These are in three stages, with initial grants of up to $75,000 for a six-month feasibility study, followed by second-stage awards of up to $750,000 for two years' research, intended to bring a project to the point where venture capitalists can take it seriously for investment in the third stage. A feature of these Programs is that even though the Government has financed all the research, any resulting intellectual property remains with the awardee, and, as already noted, SBIR award-winners are prolific users of the patent system.

Consequently, even if it begins with a provisional application, a US SME may have to start spending serious money on patenting before its owners can know whether or not it is going to obtain an SBIR award to cover the main part of its proposed research. With a five-year priority period, such expenses would not fall due until after completion of the work under the second stage award, indeed possibly not until well into the period of negotiation with venture capitalists for the third stage of an SBIR Program.

IRREVOCABLE GRANT

The experience with "orphan" drugs in the United States has provided irrefutable proof (12 times more drugs, lowered death rates) that better protection can bring about many more useful inventions. This has been achieved because the Department of Health has initiated a rival to patents, in the form of an agreement not to license a

competing drug for a seven-year period.[10] Its success suggests that it might be worth considering whether patent grants to SMEs might be irrevocable on any ground for part of their term, possibly after *pre-examination* opposition. The necessity for SMEs to monitor patent publications which this type of opposition would bring with it, should also be a stimulus to further inventions.

BALANCE OF GAINS AND LOSSES

It seems as if the changes proposed could bring nothing but gain to SMEs, whether their inventions are valuable or worthless. SME owners and managers do not survive if they are fools, and many of them have a shrewd idea of how badly the present patent system serves them. Consequently, some of the best of them avoid it, as well as any kinds of invention or innovation which need patents for their protection. This is a perfectly rational stance for them to take, and they could be expected to react equally rationally—and positively—to any improved arrangements for protecting their inventive or innovative efforts.

With compulsory arbitration and any of the options it would allow, the large firms which are the main users of the international patent system would be less able to intimidate SMEs whose inventions they might want to buy. On the other hand, to the extent that such firms are genuinely in the market for buying inventions, the proposed change has every chance of providing them with a wider range to exploit.

The longer priority period would be a significant improvement in the cost/protection ratio of patents for SME inventions, and would be recognised as such. On the orphan drug precedent, an increase in *exploitable* SME inventions appears bound to follow.

The patent offices of the countries operating the longer priority term would be saved the pointless work of processing the complete applications of many cases of "vanity patenting" as well as of other patents which will never be used in any way.

Patent agents in these countries would likely lose some revenue through a reduction in filings, but this would only be marginal, since it is large firms which provide them with the bulk of their business. With or without any of the other remedies proposed above, any losses should be more than compensated for by an increase in the number of "exploitable" inventions from SMEs. Also, because of their lack of expertise, SME applicants are probably more troublesome to deal with than large firms, so there could be an element of subsidy to them in their patent agents' charges at present, and this would be reduced.

CONCLUSION

Some positive discrimination in favour of SMEs already exists in US patent law. Building upon this precedent by other countries could help to repair the historic error

[10] See W. Kingston, "How Realistic are EU Hopes for Innovation?" [2004] E.I.P.R. 197–202.

of failure to keep the patent system in line with changes in the way inventions emerge. The proposals outlined above promise much less waste of SME energies, and of patent offices' and patent agents' resources, as well as of supports for SME development. And certainly their adoption would result in far less heartbreak for individuals and owners of small businesses that use patents.