

CSIRO Submission 15/552

Intellectual Property Arrangements

Productivity Commission

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Enquiries should be addressed to:

Richard Aarons
Corporate Patent Counsel
CSIRO

Submission Authors:

Richard Aarons
Christine Emmanuel
Susan McMaster

CSIRO response to the Productivity Commission Issues Paper on Intellectual Property Arrangements

CSIRO welcomes the opportunity to provide input to the Productivity Commission's inquiry into Intellectual Property Arrangements and the opportunity to comment on matters raised in the Issues Paper.

In this submission we firstly wish to make some general observations about the importance of the IP system to innovation in Australia. We then provide some observations concerning the Commission's proposed framework for assessing IP arrangements. We have also made some brief observations in relation to moral rights, which are an important example of non-economic aspects of the IP system.

The importance of the IP system to innovation in Australia

In CSIRO's experience, securing appropriate IP protection for research outcomes is a vital tool for technology transfer, which is one of CSIRO's primary functions.

Practical utilisation of the results of scientific research typically requires a significant level of further investment. In particular, businesses proposing to invest in further development of a technology may undertake significant financial risk, and accordingly may require some assurance that the technology cannot simply be copied by their competitors. IP can provide limited protection from competition thereby encouraging investment in technology development and innovation.

It is important to note that seeking and obtaining IP protection is not inconsistent with using appropriate sharing models, such as knowledge diffusion, granting non-exclusive licences, or using open source or open access protocols.

Even in cases where it is sought to obtain a public benefit, eg. community or environmental benefits, by making a technology or practice freely available, it may be that enabling technologies or services are required to achieve the intended benefit. In the absence of a market for such enabling technologies or services, the primary technology may not be able to be deployed – and will thus fail to achieve the desired impact. The existence of IP rights can provide a mechanism here also to encourage investment in, and hence availability of, the required enabling technologies or services.

IP protection for a technology does not provide a positive right to use the technology (only a right to exclude). Accordingly IP portfolios are becoming increasingly important as a currency to trade for access to the IP rights of others. The defensive deployment of an arsenal of IP rights has emerged as an important aspect of modern technology development, in traditional and emerging industry sectors including sectors directed to advancing the public good. Accordingly, Australian research agencies and businesses should seek strategically positioned IP portfolios to advance Australia's capacity for innovation in the global environment, and maintaining a suitable IP system in Australia is key to that objective.

Observations on the proposed assessment framework and associated assumptions

Overall the assessment framework raises relevant economic issues and the Issues Paper appropriately recognises that there will be differences between the various IP regimes. However, the framework identifies that the overall objective is to improve community (ie. Australian) wellbeing without defining that concept of "community wellbeing".

The factors used in the proposed assessment framework are predominantly economic and predominantly, though not exclusively, viewed from the perspective of the “consumer”. We note the possibility that a community may accept a level of less than perfect economic wellbeing in order to achieve other desirable goals by which it judges its overall general wellbeing. We recommend that the policy analysis should enable those other factors to be considered. These include the desirability of maintaining local industries offering employment, the potential for developing exportable goods and services, supporting Australian based cultural activities, and government taxation receipts.

We note that the various international trade and IP arrangements that Australia has entered significantly impact Australia’s freedom to redesign or to reset our IP system.

Efficiency

The Issues Paper refers to a “balancing act” between making sure IP generators have an incentive to innovate, and the cost to the rest of the community of providing these incentives. We agree that managing this balance is at the heart of assessing the performance of the IP system.

However, we do not consider that it follows from the proposition that “an efficient system ensures IP is generated at lowest cost to society” that an efficient IP system should necessarily provide disincentives for those that create IP at a high cost. As is clearly explained elsewhere in the Issues Paper, the reference to the “cost to society” appears directed to an entirely different point, namely ensuring that the IP system does not “unreasonably impede further innovation, competition, investment and access to goods and services”.

The proposition concerning providing disincentives to high cost IP generation seems to imply that IP generation can be regarded as a commoditised activity in some sense. If this were the case we would agree that it makes sense to incentivise production at the lowest cost and provide disincentives for production at higher cost. However, in many cases IP generation is not a commoditised activity in which the outputs are all the same or substitutable. A key purpose of the IP system is to enable creative and inventive output to acquire certain forms of legal protection to encourage its development. In this sense, creative and inventive activity is the antithesis of a commoditised activity where the lowest cost of production is paramount.

In our view if IP rights are available to protect creative or inventive output which was relevantly expensive to generate, that outcome should not be seen as a fault of the IP system (although it may point to a fault elsewhere, and the market may deliver appropriate consequences without the need for IP law to apply any additional disincentive for expensive IP production). Accordingly, we do not consider that an objective of the IP system is to ensure that IP is generated at the lowest cost of production.

Proportionality

The Issues Paper seeks responses to the question whether the returns from securing an IP right should or could be proportional to the effort of generating that IP.

The intended meaning of the word “returns” in this context is not entirely clear. If it refers to the benefits that can flow from securing IP rights, then we can draw attention to a number of potential categories of benefit, as well as identifying the extent to which any principles of “proportionality” can be identified in the IP system as applying to those benefits.

The categories of benefits that can flow from securing IP rights could be said to include: the IP rights themselves, monetary returns made from activities involving exploitation of the IP rights, and a range of non-monetary benefits, examples of which are briefly discussed below.

IP rights

So far as the IP rights themselves are concerned, we consider that the IP system in Australia does involve an inherent form of “proportionality”, but more along the lines of proportionality to a concept of “contribution” rather than to “effort”. However, the notion of precisely what has been “contributed” is more elusive, and determining whether the contribution is valuable or useful will likely depend on a number of additional factors, which may not be straightforward to assess.

For example, in the case of patents, the requirements of novelty and non-obviousness of an invention over prior art are conceptually measures of a “contribution” being made beyond what is known in the prior art. In very general terms it could be argued that the greater the differences over the prior art, the broader the patent claims that may be validly obtained. Similarly, the textual requirements for patent specifications that require the scope of patent claims to be “supported” by the text also serve to make the scope of the patent rights proportional to some measure of contribution being made.

Similar remarks can be made in respect of designs, where the scope or protection is dependent on the extent to which a design can be distinguished from the prior art.

To the extent that these rights can be said to be “proportional” to some sort of “contribution”, we do not consider that the proportionality necessarily relates to “effort”.

In the copyright context, even less generalisation can be made about the relationship between effort and returns. For example, some copyright works or other subject matter may have been developed with minimal effort but result in output that is highly innovative and valued by consumers.

Numerous steps may be required in producing IP. In the case of scientific or engineering work leading to a patentable invention, there may be varying degrees of effort applied at different stages, such as: carrying out experiments, analysing data, seeking to understand phenomena, and in reducing new ideas to practice (or implementation of ideas). The key intellectual contribution to an invention may involve varying degrees of “effort” in different cases.

The timeframe over which “effort” is measured is also an important consideration. It may be that in a particular project, a breakthrough comes relatively easily and quickly. However this circumstance might only have arisen due to an application of resources and development of skill and knowledge over a period of years or decades leading up to the breakthrough. Viewed from the perspective of this longer timeframe, the particular project in which the breakthrough occurs, and the immediate level of “effort” applied to generate it, may appear arbitrary unless the “effort” over the longer period is also considered.

Monetary returns

In the context of assessing monetary returns from activities involving exploitation of IP rights, it may be instructive to consider the variety of activities that typically need to occur to enable such monetary returns to be made.

In the case of technology based IP, such as patents or copyright in software, often monetary returns can only be made when the IP is embedded in a product or service, which is managed and marketed by a business. In this case, many other types of “effort” beyond that which went into generating the IP are required before monetary returns can be realised that could be attributable to the IP. These could include applying resources and effort in embodying the IP in the product/service (which may involve bundling with other items of IP), and applying capital and management skills to the venture, including necessary ancillary business activities, eg. sales and marketing.

Accordingly, it is not merely IP arrangements that determine the returns from IP generation. Attempts to consider proportionality between “effort” to secure IP rights and returns are difficult because of the many other factors associated with commercialisation of the IP and generating a monetary return.

Non-monetary benefits

IP rights may also be deployed to obtain a range of non-monetary benefits, which, depending on how the Commission’s proposed framework is to be interpreted, could be seen as “returns” from IP. These non-monetary benefits can include the following:

- (a) having the benefit of “optionality” concerning the disposition of the IP, eg. having the option as to whether to facilitate exploitation of all or part of the IP by royalty-bearing or royalty-free licensing, assignment, granting exclusive or non-exclusive rights, developing different licensing/assignment strategies for different geographic territories and/or fields of application, publication, open source distribution etc.
- (b) using IP rights as an incentive to attract collaborators to further develop the IP (with the expectation of relevant benefits for each collaborator)
- (c) using the IP rights in cross-licensing arrangements, especially for the purpose of gaining freedom to operate under third party IP (ie. gaining the right to use the third party’s IP without infringement risk/liability)
- (d) using IP rights to achieve non-monetary objectives. Examples include:
 - (i) An organisation may wish to promote a practice which delivers community or environmental benefits. It may be that IP rights are needed to attract private business investment to incentivise development of products or services which are required to enable the desired practice to be implemented. In this situation, while IP concerning aspects of the practice may be made freely available to promote the practice, other aspects of the IP may need to be protected to enable the private sector to invest in developing products or services to enable the practice to be actually implemented. An example might be IP rights in respect of a land or water management system which requires specific hardware and software to implement.
 - (ii) An organisation may wish to encourage uptake of a technology or practice to assist developing an Australian industry sector or to facilitate a business. The transaction might be structured so as to maximise the returns to Australia generally, rather than to maximise monetary returns to the IP rights holder. Examples could include making IP available on favourable terms to facilitate a business or sector with benefits in Australian employment, government taxation receipts, and contribution to a culture of innovation.

Conclusion: “proportionality” and “effort”

However the above categories of “returns” from securing IP rights are viewed, we do not consider that such returns can be related in any clear way to the “effort” of generating the IP.

Moral rights

We make the following brief observations in relation to moral rights, which we consider to represent an important example of non-economic aspects of the IP system.

The right not to have authorship falsely attributed has been a feature of international copyright law for many years and in addition to being a legal right represents a standard of behaviour. It is related to the concept of plagiarism and is an important example of where copyright law addresses broader interests than solely economic matters.

The right to be identified as the creator of a work is of particular relevance to professional recognition. However we note that the concept of an “author” for copyright purposes may differ in some cases from accepted norms of attribution, for example in academic publications.

It may be appropriate to consider whether moral rights should apply at all to certain works, such as computer software or other purely “industrial” type works. We note that the defences to infringement of moral rights in the copyright legislation (applicable to all moral rights except false attribution) do seem to provide adequate reference points enabling an assessment of reasonableness to be made.

We would welcome the opportunity to discuss any of the matters raised in this submission or to be involved in any further consultation in relation to the Commission’s inquiry.