Dispelling the Myth of Patents as Non-Rivalrous Property: Patents as Tools for Allocating Scarce Labor and Resources

Patent law is often mistakenly referred to as dealing with non-rivalrous subject matters. Patents constrain the use of ideas about how to construct useful items or how to undertake useful processes. The use of these sorts of ideas is thought to be non-rivalrous in that the use of an idea by one party does not diminish the usefulness of the same idea by another. This feature stems from the fact that – unlike real or personal property – the use of a patented idea does not consume the property or otherwise limit the usefulness of the patented idea to others. In this sense, the use of patented ideas is “non-rivalrous” – that is, we do not need to worry about the impacts of rivals for the use of the same patented ideas interfering with further use.

In these characteristics, patents differ from most types of property and there is consequently little need for property law rules to mediate the potential overuse of patented ideas or the use of patented ideas in less than their best or most highly valued applications. Numerous analysts have argued that this fundamental distinction between patents and other types of physical property justifies relaxing property law rules and controls substantially for patents or, in a more extreme version, excluding patents from property law altogether and instead viewing them as sources of economic rights aimed primarily at ensuring payments to patent holders but not substantially limiting the use of patented ideas.

This paper argues that the characterization of patented ideas as non-rivalrous is fundamentally flawed. It is mistaken because it focuses only on downstream rivalry regarding the use of patented ideas, not on upstream rivalry regarding the inputs to those ideas. The primary inputs to patented ideas are the time of inventors (often highly talented individuals with rare knowledge and skills) and the often substantial research resources that support potential inventors in many modern research settings. These inputs are subject to strong rivalries regarding their use. Both inventors and their resources will typically have substantial alternative projects tugging for their attention and application. These second choices and the rewards they imply establish ongoing rivalries for the application of the labor of inventors and the allocation of the sometimes enormous commitments of resources now needed to produce many types of patented inventions. The lure of patent controls over invention outcomes ensures that the public interest in practical advances having substantial utility is a strong influence on how inventors and the companies, universities, and investors that back them make decisions about how to spend their time and apply their resources. In short, patents are highly rivalrous in that they mediate how input decisions about the use of scarce innovation resources (including the time of inventors) are made.

Recognizing the rivalrous character of the production of patented ideas puts these ideas and patents themselves back into the mainstream of property law theory. Property rules are not applied only to ensure efficient use of completed property, they are also applied to ensure that parties considering the production of new property are reassured that they will be able to put that new property to its most rewarding use. In the context of real property, for example, this ensures that land and the other inputs to useful projects such as the development of new buildings are put to their best use among available alternatives. A piece of bare land may be bought by a party who knows that – provided that such a use is allowed within zoning laws – it can be developed as a hospital if this seems like its most profitable projected use rather than being limited to being developed as a store or kept as bare land. These sorts of abilities to plan and commit scarce resources to their projected highest use (as seen by the property owner with planning reassurance backed up by property controls over the ultimate use of the property) are critically important in drawing resources into complex property development projects. Property law controls – and the
choices they imply about how the property owner will allow and limit various uses of the final outcomes of a development project – are important in reassuring parties with scarce inputs resources to commit them to these projects rather than allocating them to other types of real estate development or different types of investments. The development of a property into a hospital or some other complex development target will only trump alternative choices for the commitment of resources if a person deciding on a resource commitment can be sure – based on property law controls – that he or she will have extensive control over the ultimate use of the developed property and can thereby count on an opportunity to realize his or her planned use and returns on the developed property.

So too with the development of patented innovations. At the outset of a complex project, both potential inventors and parties committing enormous resources to a project aimed at producing patentable advances will often have attractive alternatives regarding how they can spend their time and resources. Many potential inventors of patented inventions are highly skilled scientists and engineers with substantial demands for their time in other projects with high salary or reputational rewards. These alternative ways to spend their scarce time and talents tug constantly as alternative fallback choices which will be highly attractive if plans for the pursuit of patented advances do not trump these alternatives by offering the promise of even greater rewards.

The allocation of inventor time between the pursuit of patented innovations and other endeavors is therefore highly rivalrous, particularly given that many of the best innovators fall within a very small set of parties at the top of their fields whose time and talents are scarce resources to be allocated carefully. Attaching patent rewards that are scaled to the scope and value of societal benefits achieved by patented innovations helps to ensure that the allocation of these scarce talents is made in accordance with society’s interests and the total utility of various potential inventions.

Likewise, the allocation of research resources of companies, universities, and investors as they consider the backing of research projects or other profitable ventures is beneficially mediated by the promise of patent rewards. Companies or universities have many ways to use their resources that will promote their overall missions. In order to lure them to make often enormous resource commitments to the backing of the pursuit of patentable innovations in the face of many other demands for the same resources, these organizations must be presented with the promise of substantial rewards.

Ideally, patent-mediated rewards should be scaled to the size of societal benefits that will come from particular patented advances and the projects that produce them. By allowing patent holders to manage the later use of patented inventions through property controls over these inventions, we ensure that successful inventors (or the organizations that will frequently control the resulting patents) are able to approximate as closely as possible patent rewards that capture (for the duration of the patents) rewards that are scaled to the full scope of societal benefits associated with each advance. This scaling means that patent rewards can roughly track the size of invention benefits, which in turn means that allocations in response to potential patent rewards of the scarce time of key inventors and scarce innovation resources will also be allocations in accordance with society’s most valued applications and highest needs for new innovations.

In short, property controls downstream in the patent system are part of a payoff mechanism that ensures that upstream choices about the rivalrous allocation of inputs to the development of patented inventions are made with the scope of societal benefits of patented advances in mind. This is not only a highly rivalrous process, it is one in which the country has an enormous stake. The allocation of the attention of our best minds and extensive resources to our most pressing engineering research and development problems will only occur if the promise of patent controls administered through property rules successfully mediates these critical resource and research allocation decisions in favor of the public’s
greatest needs as represented by the promise of the greatest patent-influenced commercialization controls and rewards.