**Promoting Innovation Through the Rational Enforcement**

**of Intellectual Property Rights: A Proposal**

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Abstract: *Innovation is a critical element in the creation of sustainable economic growth. Effective enforcement of intellectual property rights can form a crucial component in encouraging such innovation and securing its benefits. Under a reconfigured intellectual property policy, registration and enforcement of intellectual property rights become recognized critical steps in the creation of commercially useful innovations. The effective enforcement of these rights can be used to assist innovators in realizing the economic value of their labor, in attracting investment in innovative enterprises, and in ultimately helping to make the promise of innovation a commercial reality.*

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*Introduction*

In the economic storm that has come to represent the first decade of the Twenty-first century, sustainable development remains not merely a goal, but actually a benchmark of economic survival. As the focus of economic development has evolved from the labor and natural resources base of the 20th Century to the “knowledge based” economies of the new Millennium, innovation and the promotion of innovative enterprises have become foundational elements in the creation of economic policies that lead to sustainable growth and development. Intellectual property rights, with their traditional focus on the encouragement of new works and practices, can form a core element in the creation of an economic and commercial environment that encourages innovation and the subsequent growth of new commercial opportunities based on the end products of such protected innovation. But in order for economic innovation policies to be fully realized, effective enforcement of intellectual property rights must form a critical part of such policies. Such enforcement efforts protects consumers by assuring access to legitimate, effective products, helps encourage investment in innovative enterprises by creating potential economic value in innovation, and creates a reward system that encourages the continuing cycle of innovation and entrepreneurship that lies at the heart of sustained (and sustainable) economic growth.

In Part I of this Article, I examine the role that innovation plays in creating sustainable economic development and suggest that creating a “culture of innovation” that supports and encourages the creative and innovative efforts of a people has been a critical component in the industrial and commercial success of the developed countries. Intellectual property laws play a fundamental role in establishing this culture of innovation by conveying social support for innovative activities, while simultaneously providing potential economic incentives for foreign and domestic investment in innovation activities and enterprises.

In Part II, I explore the role of intellectual property rights in providing the crucial economic valuation of innovation that lies at the heart of sustainable development. I examine each of the traditional forms of intellectual property – patents, copyrights, industrial designs, trade secrets and trademarks – and their impact on innovative activities. I contend that the proper context in which to examine the role of intellectual property and innovation is by considering intellectual property as a “power tool” of economic growth, and innovators as valuable human capital whose intellectual labor must be supported and rewarded. Analyzing the goals of the intellectual property system from this viewpoint demonstrates its utility in creating and supporting innovative enterprises as part of a broader policy of economic development.

In Part III, I examine the underlying assumptions of a rational intellectual property system and explore the potential impact of such system on the ability of developing countries to support their creative citizens, including its ability to prevent the harmful “brain drain” which often arises when inadequate protection is provided innovative works. I contend that intellectual property can help create the necessary culture of innovation which will trigger even greater innovation and suggest some fundamental principles that should be considered in creating such a culture.

In Part IV, I contend that to support fully innovation which can form the foundation for sustainable development, intellectual property policies must be reconfigured to take into consideration the crucial link between intellectual property protection and commercial development. Such reconfiguration includes effective enforcement of intellectual property rights to secure the benefits of innovation for the country and assist in the commercialization of innovative works. I further suggest guiding principles that can be applied to assist innovators in such commercialization efforts.

I conclude by contending that registration and enforcement of intellectual property rights serve as critical steps in the creation of valuable innovations, which in turn lie at the heart of sustainable economic development, and that the effective enforcement of those rights help make the promise of innovation a commercial reality.

I. *Innovation as the Basis for Sustainable Economic Development*

There is no question that innovation has long served as the basis for economic and commercial growth. The latter decades of the 20th Century and the first decade of the present century are filled with stories of individuals and small companies who achieved global dominance based upon innovative services or products. Microsoft with its Windows operating system, Google with its new search technology, and Apple with its iPod and digital music delivery all demonstrate the power of individual and small company innovation. With the growing power of “long tail”[[2]](#footnote-2) or niche marketing, innovations in marketing and product delivery of regionally based goods similarly help to create successful global products. Thus, for example, consumers in the United States enjoy Chilean wine, Maori (New Zealand) handicrafts and Indian textiles.

“Innovation” has become one of the catch phrases of the Twenty-first century.[[3]](#footnote-3) It is used to describe everything from new communication technologies to the latest web postings. Yet despite its critical role in economic and commercial dialogues of the new millennium, “innovation” has no precise meaning. It has been defined as everything from “introducing something new”[[4]](#footnote-4) to “a *scientific* approach for finding newer better ideas and solutions to problems, which make life easier and simpler to live.”[[5]](#footnote-5)

In the arena of economics, Joseph Schumpeter defined innovation as “[t]he introduction of a new good . . . a new method of production . . . [t]he opening of a new market . . . [t]he conquest of a new source of supply . . . [and] [t]he carrying out of the new organization of any industry.”[[6]](#footnote-6) A report by the Task Force on Science, Technology and Innovation of the U.N. Millennium Project[[7]](#footnote-7)similarly emphasized the entrepreneurial foundations of innovation and its critical role in helping transform countries from reliance on the exploitation of natural resources to technological innovation as a basis for development.[[8]](#footnote-8) This emphasis on technology and entrepreneurship is reflected in the Oslo Manual on Guidelines for Collecting and Interpreting Innovation Data (“Oslo Manual”)[[9]](#footnote-9) produced by the Organization for Economic Co-Operation and Development. The Oslo Manual defines innovation as “the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.”[[10]](#footnote-10)This recognition that innovation occurs in a variety of settings, including marketing and business organizations, effectively means that any industry has the possibility to engage in innovation. This means that economic growth resulting from a positive innovation policy will not be limited to technology-based industries. Instead, all industries have the possibility of benefiting from the positive benefits of any action taken to support innovation, including importantly, intellectual property laws established to encourage and support such innovation. In addition to the concept of newness shared by these varied definitions of innovation is the need for any new product or process to be publically shared (commercialized) Thus, innovation includes both the creation of new works, processes and methods, as well as their public diffusion. [[11]](#footnote-11)

The Western romance with the concept of innovation is not in itself new. To the contrary, as countless historians have demonstrated, the pursuit of innovation for the sake of innovation, and a belief in the positive impact of such innovations, can be dated at least from the Middle Ages.[[12]](#footnote-12) Recent global economic developments have caused some to question whether faith in the pursuit of innovation for the sake of innovation per se continues to hold as much power as it used to.[[13]](#footnote-13) Yet there is little doubt that innovation in its broadest form remains a potent basis for economic development.

In their classic study of the industrial and commercial transformation of the West, *How the West Grew Rich, The Economic Transformation of the Industrial World[[14]](#footnote-14)* Nathan Rosenberg and L.E. Birdzell, Jr*,* underscored the critical role of a culture of innovation in achieving such economic transformations.[[15]](#footnote-15) They stressed:

[T]he underlying source of the West’s ability to attract the lightening of economic revolutions was a unique use of experiment in technology and organization to harness resources to the satisfaction of human wants . . . This system of commercial experiment owed its accomplishments in part to the immense achievements in another department of western life – the scientific sphere. But it was not entirely a matter of dependency on science. . . the system involved, and indeed required, a division of labor among the political, religious, scientific and economic sphere of social life, which allowed each the degree of authority needed to enable it to concentrate on its own affairs with much less interference from the others than has been common in other societies. . . [S]uccessful change requires a large measure of freedom to experiment.”[[16]](#footnote-16)

As Rosenberg and Birdzell recognize, there are many factors that contribute to the development of a culture of innovation. At its core, however, support for commercial experimentation, whether in the form of scientific research or entrepreneurial innovation, requires social and economic support for the act of innovation. All countries have the natural wealth of innovative peoples among their populations. The differentiation between innovative cultures lies in the perceived *support* for the act of innovation itself by such creative people. One method for both conveying social support for such activities, while simultaneously providing potential economic incentives to invest in them is through the enactment of a rational intellectual property protection regime. The traditional method for conveying social and economic support to innovative enterprises, intellectual property laws can form a critical link between innovation and economic development in today’s fast paced global market.

II. *Intellectual Property as a Tool for Encouraging and Promoting Innovation*

In its 2009 Manual on Patent Statistics,[[17]](#footnote-17) the Organization of Economic and Commercial Development (OECD) underscored the critical relationship between patents and innovation by exploring the information role patent statistics can play in examining innovative activities. As this new Manual, an update of an earlier study,[[18]](#footnote-18) suggests, data regarding patents issued by a particular patent office provide a snap shot view of innovative activities in that country. They evidence not only the existence of a certain type of innovative activity within the country itself – when patents are owned by domestic inventors and firms – but also provide useful information regarding the most prevalent subjects for innovative activities. When patent statistics are examined at a global level, they can even determine the countries where innovation is occurring and the types of organizations involved in such activities (the public versus private dichotomy of innovative enterprises).

I am not suggesting that patent filings are necessarily an effective way or measuring innovation. To the contrary, the success of a particular innovative act is not capable of easy measurement. Patents are an inexact measure of innovation for the simple reason that not all innovation is potentially patentable.[[19]](#footnote-19) Moreover, some innovations may be covered by multiple patents, skewing the accuracy of a simple patent counting methodology.[[20]](#footnote-20) In addition, while the invention of a particular product may qualify as an innovative act, if the product is not implemented effectively—such as through successful marketing or diffusion to others in the field—it is difficult to describe such innovation as successful, at least at this particular stage of evolution.[[21]](#footnote-21)

Yet despite the questionable utility of patent counting as an effective measure of innovation, as even the OECD has recognized, there is an undeniable relationship between intellectual property and innovation. This relationship can be exploited to create a firmer legal, economic and social basis for innovative acts, but only if intellectual property rights are created and enforced.

A. *Valuing Innovation Through Intellectual Property Rights*

As suggested above, oneof the critical factors in encouraging innovation is the *potential* for economic return. Not even the present day intellectual property system *assures* any particular level of economic return on innovation. To the contrary, any such return is determined in part by the market value accorded the innovation in question.Accordingly, an invention could be extremely beneficial for society as a whole and yet be granted little value in the marketplace. Furthermore, innovation can undoubtedly occur without intellectual property laws. Many significant inventions have been made in the past without the benefit of intellectual property protection, such as the printing press, clocks, or the astronomical observatories build by the Marajah Jai Singh in Delhi, India. Moreover, economic profit may not necessarily be the sole or even the most significant motivating factor behind particular types of innovation. To the contrary, as the emerging evidence of unpaid-for innovative collaboration in areas such as computer software and medical research demonstrates,[[22]](#footnote-22) innovation may be undertaken for reasons that have little to do with direct economic compensation.[[23]](#footnote-23)

Even though people are not inventive because intellectual property protection exists, such protection may provide the financial support for more rapid innovation and, equally importantly, for the commercialization and dissemination of such innovation, to the benefit of a larger segment of the world’s population. In areas that require significant capital investments in either research and development, or for safety and environmental testing (such as in the case of pharmaceuticals or food products), economics continues to play a critical role in encouraging needed innovation. Moreover in today’s knowledge based global economy, the creation of so-called knowledge-based goods which form an increasingly large component in the growth of domestic market growth indicators *requires* innovation. Over ten years ago, at a summit in Canada on information technology and knowledge based economies, the critical role of innovation was underscored in terms that continue to resonate today:

The ability to generate and use knowledge – to innovate – is not only determinative of wealth; it is also the basis of comparative advantage. Sectors and industries that succeed will be those that innovate --- that develop new ideas, employ new processes, manufacture new products and deliver new services for consumers and producers.”[[24]](#footnote-24)

Even if economics did *not* play a role in incentivizing innovation, the economic *valuation* of innovation plays an undeniable role in creating innovation enterprises. These enterpriseslie at the heart of sustainable development.[[25]](#footnote-25) Without some commercial value attaching to the creation, distribution, and use of innovative processes, products, or services, innovation fails as a source of sustainable development. It is only through the development of commerce as a result of the perceived economic value of innovative enterprises that local innovation can serve a critical role in the sustainable development of a country.[[26]](#footnote-26) Intellectual property rights have traditionally provided the basis for such economic value because they provide exclusive rights to their owners which rights can form the basis for protectable commodifications in the marketplace.

B. *Using Traditional Intellectual Property Rights To Promote Innovation*

There is no accepted international definition for the various forms of intangible property rights which are generally included within the definition of “intellectual property.” The "traditional" forms of legal protection for works of creative or innovative endeavor, however, arguably include copyright, patents, trademarks, trade secrets, industrial designs and utility models. Based on widely accepted multinational treaties, including in particular the Agreement on Trade Related Aspects of Intellectual Property (TRIPS)[[27]](#footnote-27) which, despite criticism[[28]](#footnote-28) remains the international standard against which protection regimes are measured on an international scale,[[29]](#footnote-29) generally accepted parameters of protection for these traditional rights are readily ascertainable.

1. *Patents*

Patent law generally protects scientific inventions and discoveries concerning new products and processes, including, for example, machines, manufacturing processes, and chemical and electrical structures and compositions, so long as such inventions are new, demonstrate an inventive step, and are capable of industrial application.[[30]](#footnote-30) In recent years, patent protection has also been extended to cover such new technological innovations as software[[31]](#footnote-31) and novel methods of doing business.[[32]](#footnote-32) Patents are generally perceived to provide strong protection for inventors. Since patent protection generally lasts for 20 years from the date of filing,[[33]](#footnote-33) and prohibits others from essentially using the patented invention without authorization,[[34]](#footnote-34) patents tend to impose significant costs on the use of new technological innovations. In the United States, where the potential subject matter for a patented invention is broad, patents have been granted which cover such diverse (and disputed) new areas of technology as computer software, pharmaceuticals, and methods for conducting business on the internet. Probably one of the most infamous patents granted in the field in recent years in this regard is the patent granted Amazon.com which basically covered the use of a “one click” method for ordering goods from the internet. This patent was ultimately found to be invalid for lack of sufficient novelty when challenged in court by one of Amazon.com’s chief competitors in the on-line book retailing industry.[[35]](#footnote-35)

The potentially negative impact which a patent can have upon the use of new technologies is mitigated, however, by several benefits. First, patents arguably serve to expand the public information base regarding new technology and new innovations. No patent is supposed to be granted unless and until the inventor discloses his invention fully enough so that others in the field may practice it.[[36]](#footnote-36) Since the description of this invention is contained in publicly available patent documents – access to which is often available at no charge using the internet, [[37]](#footnote-37) patent protection ultimately balances the potential harm caused by an initial grant of exclusive rights against the benefits of encouraging disclosure of information which might otherwise remain secret.[[38]](#footnote-38)

Second, although rights in an invention are potentially broad, including even the mere “use” of the invention, patent law does not prohibit others from working around the disclosed invention to create new innovations which achieve the same ends. Because the patent must disclose all of the necessary information to practice the invention, such “work arounds” are easier to achieve.

2. *Copyrights*

Because of its focus on novelty and inventiveness, patents are the intellectual property right most closely associated with innovation. Yet copyrights, whose realm is generally perceived to be in the area of art, literature and music, can also be a powerful force for protecting and encouraging innovation.[[39]](#footnote-39) While patents generally protect inventions, copyright, generally protects works of artistic, literary and musical “*expression*," including, books, cinematographic works, paintings, sculpture, photographic works, video games and pantomime.[[40]](#footnote-40) In addition to the traditional forms of artistic and literary expression, however, copyright law also protects such factual or technology- based works as computer programs, databases, maps and architectural works.[[41]](#footnote-41) Thus, crafting an intellectual property scheme that encourages innovation must also include a rational protection system for copyright, as well as patents. Furthermore, from an entrepreneurial point of view, industries based on the marketing of copyrighted works – including books, motion pictures, paintings and sculpture – are among the earliest potential sources for local growth and investment. Every country has an abundance of native talent in its authors, painters, musicians and sculptures. Authors such as Pablo Neruda, and Isabel Allende and painters such as Claudio Bravo and Roberto Matta gain a world-wide audience for their works, and form a powerful platform from which to launch local enterprises to market such works.

In a recent study of the impact of intellectual property protection on local economic growth, Kamil Idris, former director of WIPO, demonstrated that copyright industries form a critical first link to national economic development, and serves as a useful source for continuing economic development for more advanced economies. [[42]](#footnote-42) While the challenges to copyright enforcement as a result of the availability of wide-spread digital technologies have undoubtedly reduced the economic utility of copyright based industries, copyright industries remain a potent source for innovation and economic development.

Unlike patents, copyrights can be used to protect unpublished works which makes such protection particularly helpful in protecting diagrams and manuals regarding use of new technologies and research tools. However, to avoid the strong potential that copyright protection for informational works, such as computer software, could be used to remove unprotected information (included functional language) from the public, copyright protection is limited to the expressions contained in the protected works, and does not extend to the ideas contained within them. [[43]](#footnote-43) Moreover, while novelty is *not* required (as in patent protection), the work must contain some level of originality or demonstrate intellectual creativity to qualify for protection.[[44]](#footnote-44)

Unlike patents, which only arise upon a government grant, copyright attaches upon the creation of a protected work. No formalities, such as a notice of copyright on the work, or registration, are necessary to obtain protection.[[45]](#footnote-45) Present international standards mandate a minimum term of protection for copyrighted works of at least 50 years beyond the life of the author.[[46]](#footnote-46) Many countries offer extended terms beyond the 50 year minimum obligation.[[47]](#footnote-47) Although the long term of protection, and the application of copyright protection to such technological innovations as computer software have raised concerns about the potentially limiting impact of copyright protection on the creation of new works, these concerns are largely eliminated through the limitation of protection to the expressive elements of a work, and through the internationally recognized exception of fair use or fair dealing, which allows limited uses of copyrighted works that do not conflict with the normal exploitation of the work or unreasonably prejudice the legitimate interests of the copyright owner.[[48]](#footnote-48) Among the most prevalent fair uses for purposes of innovation is the ability of a competitor to reverse engineer computer software in order to discover the functional (unprotected) codes to create competitive software. [[49]](#footnote-49)

3. *Industrial Designs and Utility Models*

Unlike patents and copyrights, the precise scope of protection to be afforded industrial designs and utility models remains less defined internationally, largely due to the absence of detailed multinational treaties.[[50]](#footnote-50) The absence of such detailed obligations, however, provides an excellent opportunity for countries to craft design regimes that fit their individual needs. They can serve to provide powerful innovation incentives for works that fall outside the traditional scope of protection of patents and copyrights.

Patent protection is perceived to be available largely for inventions with some basis in technology. While there are numerous patents that are granted for “low technology” inventions,[[51]](#footnote-51) the high novelty standard required for patentability (including the obligation of a inventive step) makes patents largely unavailable to local innovators who lack the technical educational or scientific background (or facilities) to undertake complex research and development activities. Yet there are countless innovations in the areas of agriculture, viniculture, food processing, mining and other local industries which have value even if they do not meet the high novelty standards required for patent protection. These innovations, however, often receive little encouragement, and almost no investment, due to the absence of a viable legal protection regime to give these types of innovations economic value. Similarly, there are many aesthetic features in industrial or commercial products that lack the strong aesthetic creativity often imposed under copyright originality analysis, and yet which undoubtedly add value to the products in question. An industrial design regime can provide the necessary protection for innovations that fall outside of patent or copyright protection. At the same time, it provides adequate safeguards to maintain public access to utilitarian elements that lack sufficient uniqueness to warrant the grant of exclusive rights to any particular person or company.

Industrial design law generally protects those designs which are not subject to patent protection but have some degree of novelty and/or originality sufficient to warrant protection against unauthorized uses.[[52]](#footnote-52) Some countries distinguish between functional aspects of a design (which are protected as a "utility model") and aesthetic or ornamental aspects of a design (which are referred to in such countries as "industrial designs"). While novelty standards are reduced under industrial design regimes, some level of uniqueness is still required. Furthermore, under TRIPS, members may specifically exclude from protection designs that do not “significantly di9ffer from known designs or combinations of known design features.”[[53]](#footnote-53) They may also exclude designs “dictated essentially by technical or functional considerations from protection.[[54]](#footnote-54) These two limitations assure that the functional elements of designs protected under the lower novelty and originality standards of industrial design regimes remain available for other innovators.

4. *Trade Secrets*

Although trade secrets are a traditional form of intellectual property protection domestically, internationally they are a relatively recent development. In fact the first detailed multinational provisions establishing the international boundaries of trade secret protection did not appear until 1994 with the enactment of TRIPS.[[55]](#footnote-55) Trade secrets, which are often referred to internationally as “confidential” or “undisclosed” information, are comprised of any information which has commercial or economic value because it is not generally known in the industry in question.[[56]](#footnote-56) To qualify as a protectable trade secret the owner must have taken reasonable steps to protect the secret nature of this information.[[57]](#footnote-57) Unlike patents which provide protection in exchange for disclosure of the innovative ideas of creators, trade secret law actually encourages secrecy. In order to qualify for protection, the information must not only be secret, the lawful possessor of such information must have taken reasonable steps under the circumstances keep it secret. While absolute secrecy is not required for protection to attach, trade secret laws nevertheless place a premium on non-disclosure.

Trade secrets are often connected with patented inventions and processes. Thus, while a patent owner must disclose his invention in sufficient detail to allow another to practice the invention; he is not generally required to disclose the best method for practicing that invention.[[58]](#footnote-58) Consequently, an inventor’s knowledge about manufacturing processes would not be disclosed in the patent and could, therefore, be subject to trade secret protection. A trade secret is generally violated if it is disclosed or used in breach of an obligation of confidentiality. Among the types of information which are typically protected as trade secrets are business plans, customer lists, formulas, patterns, designs, programs, production manufacturing, and distribution processes and techniques (often referred to as “know how”), blue prints, and test data (including clinical test data and the like).

Trade secret protection serves a valuable role in encouraging innovation. It grants inventors protection while they are in the development stages of creating a new invention (but before the invention has been sufficiently developed to qualify for patent protection). It can also be used to protect new methods and techniques, which lack sufficient novelty or a sufficient inventive step to qualify for patent protection (or even industrial design protection), but which otherwise, have value. Thus, strong trade secret protection often helps encourage greater investment in research and development by protecting the information gained as a result of the process. In addition, trade secret protection helps regulate competition by preventing the unfair use by others of valuable confidential information in a manner, which is contrary to “honest commercial practices.”[[59]](#footnote-59) It prevents one company from “free riding” on the research investments of its competitors. For example, one company many not rely upon another’s clinical test data in order to obtain marketing approval for its competing product.[[60]](#footnote-60)

While trade secret protection serves as a useful adjunct to research, its emphasis on secrecy may have a harmful impact on the dissemination of information about critical new innovations to others. This could result in lost time and opportunity as researchers continue to pursue outmoded or even impractical theories because knowledge about these theories are being maintained as trade secrets, instead of disclosed through patent applications. In order to reduce the potential harm that might be caused through an over-reliance on secrecy, trade secret law allows third parties to use trade secrets which have been learned through lawful reverse engineering. Thus, for example, where the trade secret concerns the design of a product, once that product has been marketed without a lawful non-disclosure agreement, the trade secret is lost if it can be discovered through revere engineering processes.

5. *Trademarks*

Trademarks are not traditionally considered laws related to innovation. Yet they form a powerful component in the development of innovation based enterprises, providing strong assistance in the marketing of the products and processes created from the innovative activities encouraged by the valuation provided by the other intellectual property laws.[[61]](#footnote-61) A trademark is any corporate logo, commercial symbol or other distinctive source designator that can distinguish the goods and services of one undertaking from those of another.[[62]](#footnote-62) The types of commercial symbols which are generally protected under trademark law include words, logos, colors, slogans, three dimensional shapes, personal names, letters, numerals, figurative elements, combinations of colors and like. Trademark owners are entitled to the exclusive right to prevent all third parties from using, without authorization and in the course of trade, marks which create a likelihood of confusion regarding the source or origin of the goods in question with his marks.[[63]](#footnote-63) Registration in most countries is a prerequisite to obtaining enforceable trademark rights,[[64]](#footnote-64) however, well-known marks may be protected without registration.[[65]](#footnote-65)

Trademarks can serve as an objective symbol of the good will or reputation that a business has built up as a result of its innovative products and services. Thus, even where others create similar products, the first innovator can retain its edge by creating a brand for its product that becomes known in the marketplace.

C.  *Creating the “Power Tool” of Economic Development: A Different Perspective*

Tradition is a good place to begin to examine the role of intellectual property in encouraging innovation (and more importantly, innovation based enterprises). But just as natural resource based economies are expanding to include knowledge based products, so too intellectual property is expanding to cover these new innovations. Among the most signfiicant new forms of “intellectual property” which are developing, and may serve to promote innovation, are geographical indications, domain names, databases and traditional knowledge. Each of these forms a strong adjunct to their more tradition-based relatives.

Geographical indications are a powerful adjunct to trademarks, allowing for the protection of geographical indications which identify the source of a product “where a given qualify, reputation or other characteristic of the good is essentially attributable to its geographical origin.”[[66]](#footnote-66) They are particularly useful in commercialization of innovations related to products which are the result of the natural resources of a country, such as new agricultural or viticultural products, and serve a similar branding function as trademarks.[[67]](#footnote-67) Domain names, while technically the address for an affiliated website, have evolved into potential source designators for web-based enterprises. Databases have gained increasing value particularly in connection with the reduction of search costs in innovation enterprises. Although certain databases are protectable under traditional copyright doctrines,[[68]](#footnote-68) given the highly factual nature of such compilations, they often fail to meet originality requirements.[[69]](#footnote-69) Some countries have begun to craft sui generis regimes for databases that seek to protect the substantial investment made in compilation and verification in order to encourage the creation of yet more innovative databases.[[70]](#footnote-70) Traditional knowledge based products and processes similarly are generally outside the scope of traditional intellectual property protection yet can play a useful role in protecting the products of “indigenous innovation.” [[71]](#footnote-71) In its broadest and original sense, the term “traditional knowledge” covers a potentially large body of knowledge and practices handed down through generations by a particular tribe or indigenous group. This includes a wide variety of spiritual and cultural beliefs and practices, tangible works, folklore, folk art, folk remedies, and information and techniques regarding the use and conservation of surrounding biogenetic resources.

These new forms of intellectual property underscore that when dealing with the issue of intellectual property in the 21st Century, traditional forms of protecting the products of creativity and innovation discussed in the last section are useful, but are not the only lens through which to view intellectual property. In fact, from the point of view of economic development, I think the most useful definition may be the one crafted by Kamil Idris, the former Director of WIPO. He referred to intellectual property as “power tools for economic growth”[[72]](#footnote-72) At its core, intellectual property is about protecting products which are the result of intellectual labor -- the so-called “products of the mind.” Director Idris suggested a slightly different definition – one that focused on the commercial uses of intellectual property. In defining the nature of intellectual property as a “power tool,” he suggested that intellectual property be considered as the “commercial application of imaginative thought to solving a technical or artistic challenge.”[[73]](#footnote-73) This definition does not require any particular revision to present international intellectual property regimes. But it demonstrates that, on a fundamental, intellectual property, regardless of its form, is largely about encouraging new ways of doing things. In a word, it is about protecting the products of innovative thought and activities.

There are three fundamental economic assumptions that underlay intellectual property protection which are critical in understanding the relationship beween innovation, economic development and intellectual property. These assumptions are:

* Creativity And Innovation (Human Capital) Are Valuable Assets Which Must Be Protected And Encouraged
* Economic Incentives Encourage Creativity And Innovation
* Innovation Fuels Economic Development

Creativity and innovation do not reside in any particular country or group of people. To the contrary, they have the potential to exist in each citizen. And they are unique to that individual. If Pablo Neruda had not written his poetry and shared his creative talents with the world, *no one else would have written the same words in the same way.* For this reason the human capital that resides in each individual must be protected and encouraged, or it will be lost, not just to an individual country, but to the world as well.

In order to achieve the protection of the value human capital of each person’s individual creativity, intellectual property laws provide economic incentives to encourage individuals to engage in the time consuming acts of innovation required to create new works and inventions. These economic incentives exist in the form of exclusive rights which innovators may use to obtain a potential economic reward for their efforts by extracting compensation (usually monetary) from those who would like to use their new works. The critical assumption in the intellectual property system is that the potential reward offered innovators will help encourage them to spend the time, money, and effort required to create their new works.

The final critical economic assumption is that innovation fuels economic development. Sicne intellectual property laws provide the legal basis for securing a *potential economic return* on the commercialization of innovative products, it is assumed that local and foreign entities will invest in the creation and marketing of these products. Such investment will fuel additional investments as the cycle of innovation continues. Intellectual property law has always protected the results of innovative activities. Patents protect novel inventions, copyrights protect original works, trade secrets protect information that is unknown to the general public, and even trademarks protect distinctive symbols. But by providing a *potential* *economic* *return* for the products of innovation, they can also be used to fuel innovative *activities* as well.

III. *Leveling the Innovation Playing Field*

History is replete with countries which have used intellectual property systems to nurture local innovation enterprises. Hisamitsu Arai in his work *The Japanese Experience in Wealth* *Creation* described the planned use by Japan of strong patent law protection to create its own technology industry. [[74]](#footnote-74) Most recently, India has developed a strong technology industry through the careful combination of education, infrastructure and intellectual property laws to support the development of a strong domestic software industry.[[75]](#footnote-75) A rational intellectual property system can not only encourage innovation, by providing the mechanism for obtaining economic rewards for innovative activities, it can also assure that critical human assets remain in country to be used to assist in local economic development.

One of the most critical problems regarding the promotion of innovative activities is assuring that once individuals develop new works, the creators themselves remain in the local country to continue to innovate in support of local economic development. Often referred to as “brain drain,” the loss of creative people to other countries due to a failure to provide adequate intellectual property protection remains a constant problem. One of the critical factors in the development of the US computer software industry in the 1980s’ was the creative brain power available to US industries in the form of foreign innovators who came to the United States because of the higher income available to them for their creative endeavors. This higher income was largely derived from the more secure economic return that innovators could achieve in the United States, because their employers could rely on strong enforcement of intellectual property rights to secure the economic benefits available from marketable innovation.

Probably the second most critical problem which regard to innovation policies and human assets (innovators) is the need to maximize the time such innovators dedicate to innovative activities. Every individual has certain basic needs that need to be met – food, clothing, shelter, education, and the ability to provide for one’s family. Unless innovative people can earn a sustainable livelihood as a result of their innovative activities, they will spend less time on those activities, and more time on more lucrative, but potentially less innovative, careers. There is no way to measure how many unknown Nerudas are currently driving taxi cabs, and unable to spend time creating their poetry (and enriching the world) simply because they are unable to earn their livelihood through their creative acts. While providing copyright protection for their works does not ensure any particular economic return for these unknown poets, failure to provide adequate copyright protection (including enforcement against pirated copies of published works) assures that no such adequate return will be available. Worse, it means that local publishing industries that might have developed to distribute their works will also fail to develop or collapse because they are unable to earn an adequate return on their investment.

Intellectual property laws are the only ones that can help resolve these issues because they promise innovators that if they create something that society needs or wants, they will be we granted the exclusive right to commercialize their new works. They actually offer the promise to innovators of being able earn their livelihood through their innovative labor. No other legal regime holds out this promise. Furthermore, this promise of economic return can serve as a potent factor in attracting both domestic and foreign direct investment in emerging innovation industries.

IV. *Securing the Innovation Advantage*

While domestic intellectual property laws forms a fundamental linchpin in crafting an environment that encourages the types of innovation that can lead to greater economic development, such innovation cannot be fully secured unless the rights granted intellectual property owners can be actualized. Such actualization requires not only the legal recognition of the rights of innovators to control the products of their innovative labor, it also requires that intellectual property policies be reconfigured to recognize the significance of intellectual property protection to domestic industrial and commercial growth. Under a reconfigured policy, registration and enforcement of intellectual property rights are supported not merely because the law requires them to be, but because they serve as critical steps in the creation of valuable innovations, which in turn lie at the heart of sustainable economic development.

A. *Reconfiguring Domestic Intellectual Property Policy to Support Innovation*

First, the mission of domestic industrial property offices should be reconfigured so that such offices are more explicitly perceived critical components in a domestic innovation policy. Many intellectual property rights, including patents, trademarks and industrial designs, require registration with the appropriate industrial property office. Inordinate delays in the processing of applications seriously reduce the effectiveness of the promised legal right. This may in turn reduce the perceived economic benefit available for innovative activities with the subsequent result that less investment is available to support innovative industries. It is critical that offices are staffed with trained personnel who recognize that they are important links in the economic development of the country and who receive sufficient funding to be able to carry out their expanded mandate.

Additionally, domestic industrial property offices roles should play a significant role in educating innovators, businessmen and financial institutions regarding the role that intellectual property can play in commercializing innovations. Instead of serving as mere registries for intellectual property rights, domestic offices should expand their role to include coordinating training activities with universities, business associations and other institutions regarding the protection of their products under intellectual property laws. Intellectual property offices could also serve a key public relations role by publicizing local innovations and thereby helping to encourage the culture of innovation.

Second, and perhaps even more importantly, enforcement of intellectual property rights must be reconfigured to be treated as both a law enforcement *and* a commercial development issue. Once the intellectual property right has been obtained, it must be *secured* through effective enforcement efforts. Failure to provide adequate protection for the potential economic benefit granted innovative activities under intellectual property laws severely reduces, and may even eliminate, the positive benefits of granting such rights initially. Pirate cultures[[76]](#footnote-76) that arise from the lax protection of intellectual property laws are in direct opposition to the culture of innovation which supports sustainable development. Pirates do not have to invest in research and development for new product creation. They do not engage in advertising activities to create consumer demand for new products and do not guarantee the safety of their products.

The social harm caused by pirates, who have no responsibility to ensure that consumers receive value for their money, or, even more significantly, are not harmed by the products they sell, is equaled only by the economic harm they cause. Pirate goods are always cheaper then legitimate goods because the pirate has no innovation costs to recover. At some point, local industries cannot compete with these reduced price goods and the revenue benefits of legitimate industries dissipate. Moreover, pirate industries are not generally known for their willingness to pay taxes on the revenue generated from their “entrepreneurial” activities. Since piracy is generally highest in those countries which are least developed industrially or commercially, any lost tax revenue is directly translatable into lost opportunities to improve education, health and domestic infrastructure.

Finally, the absence of strong protection for intellectual property rights ultimately adversely impacts, not merely the innovation market, but the general domestic market as well. The greater the amount of counterfeit goods in the market (or the larger the underground pirate market), the greater the likelihood brands in general will lose their quality signification role for consumers. This may depress product innovation. If consumers do not trust the brands on the products they buy, there is little reason to create improved branded products. Furthermore, if a country becomes known as a producer of inferior or suspect items, its “national brand” loses value.[[77]](#footnote-77) While consumers all over the world may desire inexpensive goods, no one wants a good that is harmful or fails to give value for money. Thus, piracy may ultimately harm efforts to market a wide array of domestic products globally. Moreover, counterfeiting denies local brand owners any financial reward for their efforts and places less well-established brands at risk of being unable to overcome any reputational harm in the marketplace that counterfeit goods might cause. Without a potential economic reward, innovation becomes a costly enterprise that few will undertake. The loss of innovation cannot be replaced by a pirate culture because in the economic health of a country, they are *not* equivalents. And without innovation (which does not occur in a pirate culture), a key element in sustainable development is missing.

Securing the innovation advantage through the effective enforcement of innovators’ rights in their intellectual property requires not only adequate training of enforcement personnel but also the imposition of serious penalties for the unauthorized use of such property. Unless the profit is taken out of pirate activities, then fines imposed simply become a cost of doing business and the pirate culture remains problematic.

B. *Bringing Innovation to the Marketplace*

Even with a reconfigured domestic intellectual property policy, the full benefits of the innovation advantage cannot be secured unless the products of such innovation are commercialized. In assuring that innovation is successfully employed to assist in creating sustainable economic development, the following principles should be observed:

* *Entrepreneurship is Critical*

At the core of most successful commercialization efforts is the necessary entrepreneurial organization to support the manufacturing and distribution activities associated with such commercialization. Technology transfer agreements, marketing know-how, organizational abilities at creating manufacturing and distribution chains for products based on successful innovation all form crucial parts in the successful conversion of innovative discoveries into commercial goods and services. In today’s global, digital era this includes marketing goods using e-commerce and seeking investors at an early stage to assist in establishing the necessary entrepreneurial structure to achieve successful commercialization of the innovation in question.

* *Register your Asset*

Most intellectual property has little value unless it is formally registered. Furthermore, for certain intellectual property, failure to register in a timely manner may seriously reduce or even eliminate available protection. Thus, for example, unless a patent is applied for before a good is offered for sale or the details of the invention are published in a scholarly paper or as part of a presentation at a trade show or convention, the patent may be considered to lack the necessary novelty to qualify for protection, and the inventor will lose any protection that might have otherwise been available. Even if registration is not required, certain formal steps may still be necessary to secure the innovator’s rights in his work. For example, if the innovation does not qualify for patent protection, perhaps because it is in the early stages of research and has not yet been reduced to practice or otherwise met the requirements of patentability, it might still be protectable under trade secret law. Yet to obtain such protection, the innovator has to take certain steps, including restricting access to his innovation and otherwise protecting its confidential nature. Innovators should conduct periodic inventories to be certain they are taking the appropriate steps to protect innovations that have potential commercial value.

* *Protect that Asset*

Although registration, and other formalities, is a necessary part of securing the potential economic benefit conferred by intellectual property rights, such registration has little significance if the right is not enforced when it is violated. While public institutions, such as the police, prosecutors, judges and customs officials serve critical roles in the enforcement of intellectual property rights, the owner of such rights must be equally vigilant in protecting its assets. Intellectual property is the same as a company’s physical inventory and deserves the same care and attention to security concerns. Intellectual property owners must be pro-active in pursuing violations of their rights. They should be work in close cooperation with local enforcement, providing needed expertise, and should pursue a combination of civil, criminal, administrative and border remedies in order to secure their protected innovation.

* *Commercialize That Asset*

Until an innovation is licensed, produced, marketed or otherwise distributed, it cannot form part of sustainable economic development.

* *Brand That Asset*

Trademarks not only serve as a guarantor to consumers of the quality of a particular good or service, they help build the reputation of the company that markets those products. A carefully thought out, distinctive brand can also help in efforts to market such products on a global basis by making those products, and the reputation for quality they carry readily identifiable.

*Conclusion*

The promotion of innovative enterprises has become a key element in the creation of economic policies that lead to sustainable growth and development in the 21st Century. Intellectual property rights, with their traditional focus on the encouragement of new works and practices, can form a core element in the creation of an environment that encourages the types of innovation that can lead to greater economic development. To fully secure the benefits of innovation, however, the rights granted intellectual property owners must be actualized. Such actualization requires not only the legal recognition of the rights of innovators to control the products of their innovative labor, it also requires that intellectual property policies be reconfigured to recognize the significance of intellectual property protection to domestic industrial and commercial growth. Under a reconfigured policy, registration and enforcement of intellectual property rights are supported not merely because the law requires them to be, but because they serve as critical steps in the creation of valuable innovations, which in turn lie at the heart of sustainable economic development. Ultimately, effective enforcement assists innovators in realizing the economic value of their labor, attracts investment in innovative activities and businesses, and allows innovations to be commercialized to everyone’s benefit. They help make the promise of innovation a commercial reality.

1. Professor of Law and Chair, Intellectual Property, Information Technology and Privacy Group, The John Marshall Law School, Chicago, Illinois, USA. I would like to thank the organizers and participants of the IPR Day Conferences held in Valparaiso and Santiago, Chile in April 2009 whose comments helped shape this Article. Special thanks to Dr. Roberto Alcantar, Arturo Covarrubias, Jennifer Viau, and Monica Alcalde without whose support and persistence this Article would never have been created. As always, any errors in the Article belong solely to me. [↑](#footnote-ref-1)
2. See Chris Anderson, The Long Tail: Why the Future of Business is selling less of more (Hyperion Press 2006)(contending that niche markets will power future business development, particularly on the internet). [↑](#footnote-ref-2)
3. Even the briefest analysis of the extent to which “innovation” has become a new catchphrase for the Twenty-first century demonstrates the depth and breadth of its adoption to refer to everything from new inventions to new web pages. A recently conducted Google search of the term “innovation” disclosed approximately 131,000,000 entries in English using the term and 114,000,000 entries for its related term “innovative.” A Google Book search disclosed approximately 11, 974 books containing the term “innovation” in the title. The uses disclosed by these searches are almost as varied as the number of references uncovered. [↑](#footnote-ref-3)
4. The American Heritage College Dictionary 701 (3d ed. 1993). [↑](#footnote-ref-4)
5. Posting of Manoj Sterex to http://answers.yahoo.com/question/?qid=1006031602760 (2006) (emphasis added) (responding to “[w]hat is your definition of innovation?”). [↑](#footnote-ref-5)
6. Joseph A. Schumpeter, The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle 66 (Harvard Univ. Press 1955) (1934) (discussing five factors of innovation and development). This definition of innovation was cited with approval by the OECD in the second edition of the Oslo Manual. Organization for Economic Co-operation and Development [OECD], *Oslo Manual: Proposed Guidelines for Collecting and Interpreting Technological Innovation Data*, at 31–32 (1997) [hereinafter *Oslo Manual Second*].The Oslo Manual sets forth an internationally recognized standard for measuring innovation.The second edition of the Oslo Manual, produced in 1997, focused primarily on the first two categories of Schumpeter’s five-category innovation standard, which it referred to using the term Technological Product and Process (“TPP”) Innovations. The most recent edition of the Oslo Manual was published in 2005. OECD, *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data* (3rd Edition Nov. 10, 2005) [hereinafter *Oslo Manual Third*]. [↑](#footnote-ref-6)
7. UN Millennium Project, Task Force on Science Technology and Innovation, *Innovation: Applying Knowledge in Development* (2005) (*prepared by* Calestous Juma & Lee Yee-Cheong), *available at* http://www.unmillenniumproject.org/documents/Science-complete.pdf [hereinafter *STI Report*]. [↑](#footnote-ref-7)
8. *Id.* at 81. [↑](#footnote-ref-8)
9. *Oslo Manual Third*, *supra* note 6, at 147. [↑](#footnote-ref-9)
10. *Id.* at 46. [↑](#footnote-ref-10)
11. *See, e.g.*, *Oslo Manual Third*, *supra* note 6, at 31–32 (stating that diffusion is central to innovation). See generally Doris Estelle Long, *Crossing the Innovation Divide,*  81 Temple Law Review 507(2008). [↑](#footnote-ref-11)
12. *See, e.g.*, Robert Friedel, A Culture of Improvement: Technology and the Western Millennium 155–69 (2007) (discussing culture of innovation during Middle Ages); David S. Landes, The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to the Present 41 (2d ed. 2003) (describing series of innovations in eighteenth-century England that gave rise to factory system). [↑](#footnote-ref-12)
13. *Why is the modern view of progress so impoverished?,* The Economist at 37 – 40 (Dec. 19, 2009 – Jan.1, 2010)( describing the growing lack of belief in the power of progress in the 21st Century). [↑](#footnote-ref-13)
14. Nathan Rosenberg and L.E. Birdzell, Jr,  *How the West Grew Rich, The Economic Transformation of the Industrial World (*Westview Press 1987)[hereinafter *How the West*]. [↑](#footnote-ref-14)
15. See also STI Report, *supra* note 7. [↑](#footnote-ref-15)
16. *How the West, supra* note 14 at 31-32. [↑](#footnote-ref-16)
17. OECD, Patent Statistics Manual (2009)(available at http://www.oecd.org/document/29/0,3343,en\_2649\_34451\_42168029\_1\_1\_1\_37417,00.html http). [↑](#footnote-ref-17)
18. OECD, *The Measurement of Scientific and Technological Activities: Using Patent Data as Science and Technology Indicators*, at 15–16 (Jan. 1, 1994), *available at* <http://www.oecd.org/dataoecd/33/62/2095942.pdf> [hereinafter *Measurement*]. [↑](#footnote-ref-18)
19. Many innovations fail the test of novelty required under patentability standards, yet might be protectable under copyright, trade secret or industrial design laws. [↑](#footnote-ref-19)
20. *See, e.g.*, *Measurement, supra* note 18(discussing methodological shortcomings of using patents as indicators of innovation). [↑](#footnote-ref-20)
21. *See, e.g.*, *Oslo Manual Third,* *supra* note 6, at 59 (discussing success of innovation); William van Caenegem, Intellectual Property Law and Innovation 61 (Cambridge University Press 2007) (noting commercial worthlessness of majority of patents). [↑](#footnote-ref-21)
22. Among the most noteworthy examples are the Open Software Movement and the beginning steps being taken to create an open source network for pharmaceuticals. *See* *generally* Pharmaceutical Licensing Network, http://www.farmavita.net (facilitating communication and encouraging licensing and technology transfer among pharmaceutical professionals). [↑](#footnote-ref-22)
23. Compensation, however, may be achieved in other ways, including the reputational value of being associated with such projects. *See* Cristina Gacek, Standards and Open Source Software: Twins, Cousins, or Just Neighbours? 2 (Sch. Computing Sci., Univ. Newcastle upon Tyne, Tech. Report Series No. CS-TR-867, 2004), *available at* http://rogue.ncl.ac.uk/file\_store/trs/867.pdf (suggesting reputational benefit is one reason developers participate in open source projects); Josh Lerner & Jean Tirole, *Some Simple Economics of Open Source*, 50 J. Ind. Econ. 197, 218 (2002) (analyzing reputational goals that drive open source contributors). [↑](#footnote-ref-23)
24. IT and Knowledge-Based Economy Summit (1997). [↑](#footnote-ref-24)
25. *See, e.g.*, *STI Report*, *supra* note 7, at 81–82 (discussing flex-fuel technologies). *See generally* Marie-Claire Cordonier Segger & Ashfaq Khalfan, Sustainable Development Law: Principles, Practices, and Prospects (2004) (discussing diverse issues implicated in broad area of sustainable development); U.N. Education, Scientific and Cultural Organization [UNESCO], Open Training Platform: Entrepreneurship, Economy and Sustainable Development, http://opentraining.unesco-ci.org/cgi-bin/page.cgi?g=  
    Categories%2FEntrepreneurship\_\_economy\_and\_sustainable\_development%2Findex.html (compiling diverse articles and resources regarding relationship between sustainable development and entrepreneurship). [↑](#footnote-ref-25)
26. *See STI Report*, *supra* note 7, at 118 (emphasizing role of entrepreneurship in sustainable development activities); World Bus. Council for Sustainable Dev. & SNV, Promoting Small and Medium Enterprises for Sustainable Development 2–6 (2007), *available at* http://www.wbcsd.org/web/publications/sme.pdf (illustrating outreach for entrepreneurship and sustainable development); Maureen Liebl & Tirthankar Roy, *Handmade in India: Traditional Craft Skills in a Changing World, in* Poor People’s Knowledge: Promoting Intellectual Property in Developing Countries 53, 57–60 (J. Michael Finger & Philip Schuler eds., 2004) (describing efforts to commercialize traditional craft skills in India). [↑](#footnote-ref-26)
27. Agreement on Trade Related Aspects of Intellectual Property Rights [hereinafter “TRIPS”]. [↑](#footnote-ref-27)
28. See, e.g., Susan K. Sell, Private Power, Public Law: The Globalization Of Intellectual Property Rights 165 (2003) (noting developing countries were reluctant to agree to TRIPS due to its inclusion of IP protections); Marci A. Hamilton, *The TRIPS Agreement: Imperialistic, Outdated, and Overprotective,* 29 VAND. J. TRANSNAT’L L. 613, 616 (1996) (denouncing TRIPS’ imposition of “Western intellectual property system”). [↑](#footnote-ref-28)
29. Administered by the World Trade Organization, TRIPS has been acceded to by 153 countries, including the United States and Chile. It remains the standard around which subsequent discussions regarding IP protection remain focused, including for example, subsequent efforts to develop Free Trade Agreements between the United States and other countries. See, e.g. Chile- US Free Trade Agreement available at http://www.ustr.gov. [↑](#footnote-ref-29)
30. See TRIPS, Art. 27 (defining patentable subject matter as "inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application"). See also 35 U.S.C. §101 (patent protection available for a “new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof”; to qualify for protection such inventions must ultimately be novel, non-obvious to one skilled in the relevant art and useful). [↑](#footnote-ref-30)
31. See *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352 (Fed. Cir. 1999)(processes involving mathematical algorithms (software) are not necessarily excluded from patentability). [↑](#footnote-ref-31)
32. *See, e.g., State Street Bank* *and Trust Co. v. Signature Financial Group, Inc*., 149 F.3d 1368 (Fed. Cir. 1998)(method for processing financial data in hub and spoke system for mutual funds accounting and administration subject to patent protection). At the time this Article was written the Supreme Court of the United States was examining the precise test to apply to determine when a business method qualifies as a potentially patentable invention, but had not yet issued its decision. See *Bilski v. Doll*, 129 S.Ct. 2735 (2009)(certiorari granted). [↑](#footnote-ref-32)
33. See TRIPS, Art. 33 (providing that a minimum term of patent protection “shall not end before the expiration of a period of twenty years from the filing date”). [↑](#footnote-ref-33)
34. According to TRIPS, patent owners have the exclusive right to prohibit any other third party from “making, using, offering for sale, selling or importing” the patented product or if the patent covers a process from undertaking the same acts in connection with the process or with products obtained directly by the protected process. TRIPS, Art. 28. [↑](#footnote-ref-34)
35. Amazon.com v. Barnesandnoble.com, Inc., 239 F.3d 1343 (Fed Cir. 2001). [↑](#footnote-ref-35)
36. TRIPS, Art. 29 (requiring the applicants disclose the invention “in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art”). See also 35 USC §112 (requiring a written description of the invention “in such full, clear, concise and exact terms as to enable any person skilled in the aft to which it pertains … to make and use the same”). [↑](#footnote-ref-36)
37. Many patent offices offer free access, at least to granted patents, via their associated websites, including the US Patent and Trademark Office (at <http://www.uspto.gov>), the Japanese Patent Office (at <http://www.jpo.go>), the British Patent Office (at <http://www.ipo.gov.uk>) and the European Patent Office (at htpp://www.epo.org). [↑](#footnote-ref-37)
38. This public disclosure is in direct contrast to the value placed on secrecy under trade secret regimes. See infra at notes 54 – 59. [↑](#footnote-ref-38)
39. In other articles, I have challenged the presumed equation of innovation with creativity (and vice versa). For purposes of both encouraging such activities and crafting public policies that provide the appropriate balance between creator’s rights and the public, the issues posed by creativity versus innovation, in my opinion require different analyses. *See generally* Doris Estelle Long, *Dissonant Harmonization: Limitations on Cash ‘n Carry Creativity,* 70 Albany L. Rev. 101 (2007); Doris Estelle Long, *When Worlds Collide: The Uneasy Convergence of Creativity and Innovation,* 25 J. Marshall J. Computer & Info.L. 653 (2009) Such differentiation necessarily means that products of innovation are generally most readily protected, if at all, under patent, industrial design or trade secret regimes. Given the addition, however, of such “innovative” works as computer software to the copyright arena, the question of the scope of protection provided for innovative (as opposed to creative) works must also include an analysis of copyright doctrines as well. I continue to maintain that such inclusions help explain much of the alleged over breadth in protection of which copyright law is accused since the latter decades of the 20th Century. However, for purposes of analyzing the role of intellectual property in encouraging innovation that supports sustainable development, the distinction between the two regimes lacks the same significance. For this reason, I am using the term “innovation” to include both innovative and creative products and processes in this Article. [↑](#footnote-ref-39)
40. *See, e.g*., Berne Convention on the Protection of Literary and Artistic Works, Art 2 [hereinafter “Berne Convention”] (defining copyrightable subject matter as “every production in in the literary, scientific, and artistic domain, whatever may be the mode or form of its expression). *See also* TRIPS, Art. 9(1) (incorporating by reference the definition of copyrightable works under Article 2 of the Berne Convention). [↑](#footnote-ref-40)
41. See TRIPS, Art. 10 (extending copyright protection to computer software and qualifying databases). [↑](#footnote-ref-41)
42. Kamil Idris, Intellectual Property: A Power Tool for Economic Growth (2003). [↑](#footnote-ref-42)
43. *See* TRIPS, Art. 9(2)(“copyright protection shall extend to expressions and not to ideas, procedures, methods of operation or mathematical concepts as such.”). *See also* WIPO Copyright Treaty, Art. 2(using the identical language as Article 9(2) of TRIPS to describe the limitations of copyrightable expression). [↑](#footnote-ref-43)
44. See, e.g., TRIPS, Art. 10(2)(providing copyright protection to databases which constitute intellectual creations”); 17 USC §102(a)(extending copyright protection to “original works of authorship fixed in a tangible medium of expression…”). [↑](#footnote-ref-44)
45. See Berne Convention, Art. 5(2)(prohibiting the imposition of any “formality” on the enjoyment and exercise of copyright); TRIPS, Art. 9(1)(incorporating this Berne Convention provision by reference). In the United States, however, U.S. authors must register their copyright claim with the U.S. Copyright Office prior to bringing a civil suit to enforce their rights. Foreign authors do not have to do so. [↑](#footnote-ref-45)
46. Berne Convention, Art. 7(1)(establishing a term of copyright protection of “the life of the author and fifty years after his death” as the minimum term of protection); TRIPS, Art. 9(1)(incorporating this Berne Convention provision by reference). [↑](#footnote-ref-46)
47. Thus, for example, in the United States, the term of copyright is extended to life of the author plus 70 years. 17 USC §302. The European Union has also generally extended the term of protection to life plus 70 years. European Union Directive on Harmonizing the Term of Protection of Copyright and Certain Related Rights, 2006/1161 at Art. 1 (December 27, 2006). [↑](#footnote-ref-47)
48. See TRIPS, Art. 13 (permitting limitations or exceptions to copyright for “certain special cases which do not conflict with the a normal exploitation of the work, and do not unreasonably prejudice the legitimate interests of the right holder”). [↑](#footnote-ref-48)
49. See. e.g., *Sega Enterprises Ltd. v. Accolade Inc*., 977 F.2d 1510 (9th Cir. 1992)(which held that interim copying of protected code to determine its functional language constituted an acceptable fair use). See also European Software Directive (codified), 2009/24 at Art. 6 (April 23, 2009)(permitting copying of protected software code for purposes of achieving interoperability). [↑](#footnote-ref-49)
50. As opposed to the detailed provisions governing copyright law in the Berne Convention, incorporated by reference in TRIPS, and the detailed patent provisions in TRIPS, industrial design protection is governed by two short articles. See TRIPS, Arts. 25 & 26. [↑](#footnote-ref-50)
51. Among the so-called “low tech” inventions covered by patents in the United States are a barrette with interchangeable decorations (US Patent NO. 6,688,316) and a method for swinging from a tree (US Patent No. 6,368,227). [↑](#footnote-ref-51)
52. TRIPS, Art. 25 (1)(providing for protection for “independently created industrial designs that are new or original”). [↑](#footnote-ref-52)
53. Id. [↑](#footnote-ref-53)
54. Id. [↑](#footnote-ref-54)
55. See TRIPS, Art. 39. [↑](#footnote-ref-55)
56. *See, e.g.,* TRIPS, Art. 39(defining as “secret” protected confidential information having “commercial value because it is secret” and requiring the owner to take “reasonable steps” to protect its confidential nature). [↑](#footnote-ref-56)
57. Id. [↑](#footnote-ref-57)
58. A significant exception is under US law, where patent applicants must disclose the “best mode contemplated by the inventor of carrying out his invention.” 35 USC §112 [↑](#footnote-ref-58)
59. TRIPS Article 39 provides that members shall protect undisclosed information “in the course of ensuring effective protection against unfair competition as provided in Article 10 bis of the Paris Convention.” [↑](#footnote-ref-59)
60. TRIPS, Art. 39(2)(providing protection for clinical test data against “unfair commercial use”). [↑](#footnote-ref-60)
61. Doris Estelle Long, *Is Fame All There Is?: Beating Global Monopolists at Their Own Marketing Game,*  40 Geo. Washington Int’l L. Rev 123 (2008)[hereinafter *Fame*]. [↑](#footnote-ref-61)
62. *See, e.g.,* TRIPS, Art.15 (defining a trademark as “any sign or any combination of signs, capable of distinguishing the goods or services of one undertaking from those of other undertakings”). [↑](#footnote-ref-62)
63. TRIPS, Art. 16 (granting the owner of registered marks “the exclusive right to prevent all third parties not having the owner’s consent from using in the course of trade identical or similar signs for goods or services which are identical or similar to those in respect of which the trademark is registered where such use would result in a *likelihood of confusion”)(*emphasis added). [↑](#footnote-ref-63)
64. See TRIPS, Art. 16 (requiring countries grant exclusive use rights to owners of a “*registered* trademark”)(emphasis added). [↑](#footnote-ref-64)
65. See Paris Convention for the Protection of Industrial Property, Art. 6bis (requiring protection of marks which are “well-known” to be protected regardless of registration status); TRIPS, Art. 2 (incorporating this article by reference into TRIPS with modifications in Article 16 that extend such protection to service marks). [↑](#footnote-ref-65)
66. TRIPS, Art. 22(1). [↑](#footnote-ref-66)
67. For a further discussion of the utility of using geographic indicators in developing local brands, see Doris Estelle Long, *Fame, supra* note 60. [↑](#footnote-ref-67)
68. See TRIPS, Art. 10(2)(providing for protection of databases that qualify as “intellectual creations”). [↑](#footnote-ref-68)
69. See, e.g., *Feist Publications Inc. v. Rural Telephone Service Co.* 499 U.S. 340 (1991)(white pages of telephone directory lacked originality). [↑](#footnote-ref-69)
70. See EU Directive on the Legal Protection of Databases, 96/9 at Art.7 (March 11, 1996)(establishing a sui generic protection for databases and other compilations of data based on the substantiality of the investment in time, money and labor in creating, verifying or maintaining such databases). [↑](#footnote-ref-70)
71. See Doris Estelle Long, *Crossing the Innovation Divide,*  81 Temple Law Review 507 (2008)(examining the use of traditional knowledge regimes to protect indigenous innovation); Doris Estelle Long, *Trade Secrets and Traditional Knowledge: Strengthening International Protection of Indigenous Innovation* in Trade Secrets (Edgar Elgar Publishing 2010)(co-editors Rochelle Cooper Dreyfus and Katherine Strindberg)(forthcoming). [↑](#footnote-ref-71)
72. Kamil Idris, Intellectual Property: A Power Tool for Economic Growth (2003), [↑](#footnote-ref-72)
73. Id. [↑](#footnote-ref-73)
74. Hisamitsu Arai, Intellectual Property Policies for the Twenty-first Century: The Japanese Experience in Wealth Creation at 15, 73–78 (WIPO 1999)(describing use by Japan of strong patent law protection to create its own technology industry). [↑](#footnote-ref-74)
75. See, e.g., Jeff Saperstein & Daniel Rouach, Creating regional Wealth in the innovation Economy: Models, Perspectives and best Practices (Financial Times 2002)(describing the combination of education, law and infrastructure that lead to the development of India’s IT industry). [↑](#footnote-ref-75)
76. I am using the term “piracy” and “pirate cultures” in their general sense to include both pirated copyrighted works and counterfeit branded products and services. [↑](#footnote-ref-76)
77. *See, e.g.,* Simon Anholt, Brand New Justice: How Branding Places and Products Can Help the Developing World (2006)(examining the role of national branding and the problems that arise when those brands are perceived to be untrustworthy). [↑](#footnote-ref-77)