THE POLITICAL ECONOMY OF INTELLECTUAL PROPERTY RIGHTS: DEVELOPMENT IMPLICATIONS OF TRIPS FOR BARBADOS

Xiomara Archibald
Economist
&
Anton Belgrave
Senior Economist

Research Department
Central Bank of Barbados
P. O. Box 1016
Bridgetown
Barbados

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ABSTRACT

For better or worse, by joining the WTO, Barbados has automatically signed on to the TRIPS Agreement. Ultimately this move cannot be without its repercussions, yet the regional academic literature has remained largely mute on the subject. This paper is therefore an attempt to break the silence by determining what role, if any, intellectual property rights can play in helping Barbados achieve our development objectives. The approach used is simple: an assessment is made as to the compliance of Barbados' intellectual property regime with TRIPS; the pros and cons of implementation are then reviewed to see where they fit into a macroeconomic framework for economic development. The results of these analyses suggest that, despite severe challenges, there is indeed a role to be played by intellectual property rights in our development, which, though critical, is often overlooked.

Keywords: Intellectual Property (IP); TRIPS; Development; Barbados; Caribbean

JEL Codes:

I. Introduction

There has been much debate internationally over the developmental implications of intellectual property rights protection. On one hand, the Washington-based international financial institutions have consistently promoted the view that the preservation of intellectual property rights is an essential ingredient for development, as it provides an incentive for innovation by allowing producers to recoup costs. Conversely, opponents claim that this type of protection grants monopoly rights to producers – mostly developed country firms, leading to higher prices for consumers in both developed and developing countries and discouraging innovation by firms in developing countries.

Another school of thought argues that even if developed country firms stand to benefit most from IPR protection, developing countries should seek to attract these firms through the creation of a domestic environment that facilitates IPR protection. In theory, the resulting increase in investment in developing countries would bring a range of benefits, including greater transfer of technology.

All debates aside, the fact is that by joining the WTO, Barbados has automatically signed on to the TRIPS Agreement. It is therefore surprising that this potentially significant aspect of our trading arrangements has not been the subject of more research and analysis. The aim of this paper is to rectify this situation by examining the economic implications of TRIPS implementation for Barbados, in the context of the country's medium-term strategy for economic development.

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II. Understanding Intellectual Property Rights (IPRs)

Defining IPRs

IPRs are legal and institutional devices aimed at protecting creations of the mind such as inventions, works of art, literature, and designs. Through IPRs, societies grant inventors "property" rights to enable them to realise the benefits of their inventiveness. No single method of protection can cover the myriad possibilities of "creations of the mind". The diversity of products and ideas that property rights legislation seeks to protect has therefore resulted in a plethora of different IPRs, as various industries require significantly different forms of protection. Indeed, the list of internationally recognised IPRs is quite long and, for that matter, still growing. It includes patents, copyrights, industrial designs, trademarks, trade secrets, plant breeders' rights, geographical indications, and the rights to the layout-designs of integrated circuits.

Table 1: Subject Matter and Main Fields of Application of IPRs

Type of IPRs	Subject matter	Main fields
Patents	New, non-obvious, indigenous applicable inventions	Chemicals, drugs, plastics, engines, turbines, electronics, Industrial, control and scientific equipment
Trademarks	Signs or symbols to identify goods and services	All industries
Copyright and related rights	Original works of authorship; artistic performances, broadcasting and phonograms production	Printing, entertainment (audio, video motion pictures) software, broadcasting
Integrated circuits	Original layout designs	Microelectronics industry
Breeder's rights	New, stable, homogeneous, distinguishable varieties	Agriculture and food industry
Trade secrets	Secret business information	All industries
Industrial designs	Ornamental designs	Clothing, automobiles, electronics, etc.
Geographical indications	Geographical origin of goods and services	Wines, spirits, cheese and other food products
Utility models	Functional models/designs	Mechanical industry

Source: UNCTAD (2002)

But by far the most economically important form of intellectual property protection is the patent. A patent is a legal title granted to an entity, which gives the owner the exclusive right to make commercial use of inventions. To qualify for patent protection under most legal regimes, the invention must be new, non-obvious, and commercially applicable. Apart from chemical,

electronic and physical products and processes, since the 1980s patents have also been granted for agricultural biotechnology and computer software. The term of protection of the patent is usually limited to twenty years, after which the invention moves into the public domain. Utility models, also known as "petty patents", function as an adjunct to the patent system. While the length of legal protection is shorter than for patents (four to seven years), under this model, novelty criteria are less stringent and are typically granted for merely incremental innovations. Petty patents are commonly used in the mechanical industries.

Patents generally apply to functional designs, whereas ornamental designs are protected under industrial design legislation, which is especially relevant in the consumer goods industry for products such as designer shoes, automobiles and electronics. Protection for novel industrial designs is generally conferred for a period of five to fifteen years. In the specialised area of microelectronics, the rights to the layout designs of integrated circuits are also protected.

However, for the average person, the form of intellectual property protection that most readily springs to mind is copyright, which, along with related rights (also known as neighbouring rights) legislation, serves to protect literary and artistic endeavours. Related rights are the rights that belong to the performers, the producers of phonograms and broadcasting organisations in relation to their performances, phonograms and broadcasts, respectively. Copyright and related rights differ from patent protection in that they protect the expression of an intellectual creation, while the ideas themselves can be freely copied. The duration of copyright protection is also significantly longer than that of patents, with most jurisdictions extending protection to last for the life of the author plus 50 to 70 years. Copyright and related rights are closely linked with sectors such as printing, entertainment, software and broadcasting.

Another form of IP protection that has now become a household word is the trademark, which refers to words or symbols that identify a particular product or company, and can exist indefinitely, provided it remains in use. Less well known are geographical indicators, or GIs, which are somewhat similar to trademarks, in that the product is identified with a city, country or geographic area. GIs are commonly used in connection with wines, spirits, cheese and other food-related products.

Some countries also provide for the protection of certification marks and collective marks, which may be used together with the individual trademark of the producer. Certification marks are usually given for compliance with defined standards and, unlike collective marks, are not confined to any membership. Famous certification marks include WOOLMARK, which certifies that the goods on which it is used are made of 100% wool.

There are also a number of IPRs specific to agriculture and agro-food industries. Plant breeders' rights, for example, protect the development of new plant varieties that are uniform, stable and distinct from existing varieties. Also related to agriculture are exclusive monopoly rights on the sale and distribution of propagation materials, usually for 15 years. However, this right is generally circumscribed by a research exemption, which permits the use of a protected variety as the basis for the development of a new variety, and farmers' privilege, which gives farmers the right to reuse seeds obtained from their own harvest.

Arguments For and Against IPRs

Many commentators view IPRs as a natural extension of the traditional property rights framework. Traditional property rights and contracts are usually regarded as institutional innovations that reduce the transaction cost of commercial activity [North (1990)]. Property rights serve two key social functions: preventing the over-consumption of a resource (the classic "tragedy of the commons"), and providing a sufficient incentive to invest in improving property.

The central rationale for the protection of IPRs is that it provides incentives for developing new processes and products under circumstances where the costs of doing so are high. The dilemma which the IPR framework seeks to address is that while the cost of product invention is high, subsequent costs are generally lower. This makes it relatively easy for the non-inventor to appropriate the benefits of the invention while avoiding the initial (high) cost. This is the underlying logic driving the creation of modern IPRs regimes. For the most valuable IPR - the patent – this logic rests on three pillars:

First, the existence of the patent system, with the possibility of obtaining the exclusive right to work an invention for a limited period, constitutes an important incentive to inventive and innovative activity. At the same time, it protects the inventor against uncontrolled competition from those who have not taken the initial financial risk.

Second, the limited period of time during which the holder of a patent is entitled to prevent others from using his invention creates an environment that facilitates the efficient development and utilization of patented inventions. The finite life of the patent discourages the patent holder from allowing the patent to remain unexploited for extended periods.

Third, the patent system provides the framework for the collection, classification, and dissemination of the richest store of technological information existing in the world today. The dissemination of new knowledge comes about since patent rights are not granted freely; in return the inventor must disclose the details of his/her invention to society. Thus, the information contained in a patent is made available for research and experimental purposes (although not, of course, for commercial use) during the term of the patent. On expiration, the information falls into the public domain and is freely available for full commercial use by all (WIPO, 2001).

There is therefore much to be said for the present system of IP protection. The global economy is expanding rapidly, with much of the expansion being underpinned by implicit or explicit trade in technology and goods protected by intellectual property. In this context, the creation of knowledge and its adaptation to product designs and production techniques are essential for commercial success. IP-rich firms are naturally desirous of exploiting any technological advantage and this objective can be made easier by the adoption of stronger IPRs across the globe.

Maskus 2000[a] has argued, for example, that inadequate IPRs can stifle technical change, even at low levels of economic development. He suggests that the Japanese patent system – which was designed to encourage incremental innovation and diffusion of knowledge through the early disclosure of patent applications - was instrumental in Japan's post-war economic success in the area of technical change and information diffusion. Maskus bolsters his case by arguing that trademark infringement in Lebanon has been a significant factor in restraining the growth in the domestic apparel industry.

IPR enhancement could also spur the diffusion of knowledge between the developed and developing worlds. Since an IPR title defines a legal tool on which trade and licensing of a technology can be based, additional protection can facilitate technology disclosure through outsourcing, licensing and joint venture arrangements.

Despite the above examples, the issue of IPRs and the appropriate degree of protection has become an increasingly contentious issue, both at the national level and in the international arena. At the national level, critics of a stronger IPR framework argue that resource over-consumption is not a feature in intellectual property, as low reproduction costs allow for non-rival consumption. Unlike energy and matter, information and knowledge resources are neither reduced nor lessened by increased use or wider sharing. In other words, knowledge is non-consumable. Thus, since two persons can access and use an idea in real time, the resource over-consumption issue is moot.

A separate – and possibly more significant – counter-argument is that IP produced at one stage must often be utilised in producing related products at later stages. The broader the monopoly rights conferred, the larger the potential threat to the freedom to operate. Follow-on innovation by others is more likely to happen if use is not restricted. Thus, expansive IPRs may actually result in a reduction in the stock of intellectual property.

The debate is even more divisive in the area of north-south relations, as IPRs impact crucially on a number of issues vital to growth and development in the Third World. Agricultural biotechnology is a major flashpoint in this North–South debate. Traditionally, the relevance of intellectual property protection in agricultural research has been limited because most agricultural R&D was conducted by public sector institutions in both developed and developing countries. Indeed, until recently many national patent laws explicitly excluded agricultural inventions from protection. An explosion in knowledge of the science of genetics, coupled with a reduction in public expenditures on agricultural research, has resulted in the privatisation of agricultural research. While many new products on the market depend on biological and genetic materials originating in the species-rich developing world, an increasing share of the new seeds are proprietary. Developing countries, on the other hand, want to promote their own plant breeding and protect not only their plant genetic diversity but also the rights and interests of local communities who nurture that diversity and who contest its privatisation by the North.

One attempt to bridge the divide on agricultural biotechnology has been the United Nations Convention on Biological Diversity. This convention gives nations the right to require that researchers enter into material transfer agreements (MTA) under which profits from the sale of materials-based domestic genetic resources can be shared. Although several MTAs have been negotiated, only a few countries have actually implemented formal MTA systems. The effectiveness of MTAs has also been called into question, given the different degrees of bargaining power of the competing groups.

At the same time, developed countries have begun to provide patent protection for biotechnology innovations such as gene sequences, transgenic plants and methods of gene therapy. These patents are extremely broad and exceed the protection granted to traditional pharmaceutical chemicals and plant varieties. The existence of patents covering what is fundamental research knowledge and techniques entrenches the first-mover advantage to such a degree that it is difficult for others to enter the industry. The research institutes in developing countries may well find their access to essential new research inputs unduly expensive or blocked altogether. The genesis of this difficulty is that modern methods used to develop new crop varieties depend on a

wide range of component innovations, the rights of which may be held by many competing parties. For example, the recent Vitamin A rice innovation reportedly requires permission to practice over 70 patent rights (Pardey, Wright and Nottenburg (2001)).

Access to medical innovation is another area where IPR proponents and opponents frequently clash. The pharmaceutical industry nets huge profits from medical patents, while maintaining drug prices at a level that is prohibitive for poor people in developing countries.

Technology Transfer: A large, and ever-growing, amount of software is made available under free/open-source software licences; observers of this trend (and adherents to it) often refer to this phenomenon as the free software movement.[1] In many cases, these programs are comparable to or better than their commercial equivalents, whose cost presents a barrier to adoption and an inducement to piracy. However, the greatest benefit of the free/open-source software movement is that it encourages the reverse engineering of software, explicitly allowing learning-by-doing. Recognising that the lucrative software industry is under threat from the expanding availability of software talent throughout the developing world, developed countries have strongly supported the ban on the decompilation of proprietary software. Unable to reverse-engineer proprietary software, developing countries are inevitably condemned to be users rather than producers of software products. Free and open-source software not only permits, but also encourages developers to try to improve software rather than accept limitations on its performance.

A Brief History of IPRs

To situate this debate in its wider context, the origin of IPRs and their protection bears careful examination. The belief that an idea could be owned is a child of the European enlightenment. Indeed, in all the great civilisations of the pre-modern era – Chinese, Islamic, Jewish, and Christian – there is a striking absence of any notion of human ownership of ideas and expressions [Hesse (2002)]. The explosion of literacy rates in 18th century Europe led to a rising demand for books and this demand was partly met through literature 'pirated' by unlicensed publishers. The swelling ranks of more commercially oriented authors led to increasing calls for greater copyright protection, prompting governments' efforts to create a pan-European system of copyright protection.

The earliest large-scale intellectual property treaties were the Paris Convention of 1884 on patents and other industrial property, and the Berne Convention of 1886 for literary and artistic works. While both of these established the idea of national treatment, the Berne Convention also represented the first effort to harmonise protections across countries. Within the Third World, the introduction of IP laws was not driven by the demands of domestic constituencies but represented the extension of colonial laws from the administrative centres to the empires' peripheries. Thus, when the United Kingdom enacted the Copyright Act in 1911, its operations were also extended to include "His Majesty's dominions" [Drakos (***)]. In fact, Article 19 of the Berne Convention gave the major colonial powers the right to accede to the Convention "at any time for their Colonies of foreign possessions."

From inception, the focus of IP legislation was on ensuring that IP holders received their just rewards rather than on the diffusion of knowledge or the industrial development of the colonies. Even with the establishment of these conventions, opinion was by no means unanimous. Among the major powers of the nineteenth century the preference for IP legislation was driven, not by disinterested jurisprudential reflection, but by whether the nation was a net exporter or importer of intellectual property. The developing nations of the day – the United States and Russia – refused to accede to these treaties, arguing instead that copyright legislation was, and should remain, the domain of individual states. As Charles Dickens discovered to his dismay, the early nineteenth century American government was deaf to the pleas of foreign authorities that American publishers were reprinting their works without permission (Moss, 1984).

In the post-colonial period, several countries attempted to adapt their imposed IP regimes to meet their developmental objectives. The Andean Pact countries and Brazil, Argentina and Mexico all passed laws that weakened patent rights in the area of pharmaceuticals [Drahos (***)]. One of the most widely acknowledged success stories of this policy of adapting patent laws has been the Indian pharmaceuticals industry. With an output exceeding US $4.3 billion in fiscal year 2000, this represents one of the fastest growing industries in the world [MarketResearch.com (2002)].

The actions of these developing nations were resisted, and have been largely negated by the efforts of the United States. The impetus for this development has been the transformation of the US from a net consumer of intellectual property rights to a net exporter. Spurred on by a phalanx of powerful domestic lobbies in the software, pharmaceuticals and entertainment industries, as

[1] Notable free software projects include Linux operating system kernels; the GCC compiler; GDB debugger and C libraries; the BIND name server; the Sendmail mail transport server; the Apache web server; the MySQL and PostgreSQL relational database systems; the Perl, Python, Tcl and PHP programming languages; the X Window System; the GNOME and KDE desktop environments; the OpenOffice office suite; the Mozilla web browser; and the GIMP graphics editor.

well as concerns about its relative economic decline, the United States had by the late twentieth century become the world's most vigorous defender of copyright. "The course of twentieth-century copyright law – from Bleistein v. Donaldson through the United States adherence to the Berne Convention in 1988 to the Digital Millennium Copyright Act of 1995 – has been a story of the steady strengthening of the proprietary rights of intellectual rights at the expense of public access and interest" [Hesse (2002)]. The process of copyright expansion has vividly demonstrated the power of the copyright lobby in developed countries, where, as a matter of course, copyrights are nearly perpetual.

The Uruguay Round represented a watershed in the international politics of IPRs, for not only did it produce a near-binding international agreement on intellectual property standards and enforcement but it also defined IPRs as "trade related" for the first time. In so doing, it subjected members to painful trade penalties in the absence of specific protection. Indeed, the United States, the leading advocate of the inclusion of IPRs in the WTO, has made the enforcement of intellectual property rights a prominent aspect of its foreign economic policy. Each year the US Trade Representative, in accordance with the Special 301 code of the US trade law, produces an exhaustive report on the IPR practices of a wide range of countries throughout the world. The US also included IPR obligations that go beyond TRIPS in the model bilateral investment treaty it negotiates with countries around the world. Strong enforcement of IPRs is an explicit condition for preferential trading privileges granted under a variety of bilateral and regional arrangements such as the Generalised System of Preferences, the Caribbean Basin initiative and Andean Trade Privileges Act [Shandler, Schrank and Kurtz (***)].

It may seem puzzling that IPR issues were brought under the ambit of the WTO when there already existed a forum for negotiating IP agreements. Unlike traditional liberalisation, in which both the liberaliser and its trading partner gain, the static gains from implementing TRIPS largely involve an unrequited transfer of royalties from user to owner nations. TRIPS required the United States to strengthen its patent regime only marginally, implying only a small outward transfer of rents on existing patents. However, American firms owned huge portfolios of patents abroad, and the upgrading of patent laws outside the US is estimated to have resulted in a net transfer of $5.76 billion to the US (Maskus (2000)). Many developing nations, especially those that are net importers of intellectual property, have been at best ambivalent, if not outright hostile, to the idea of TRIPS. The US faced the problem that developing-country blocs could defeat its proposals for strengthening IP regimes within WIPO. It therefore argued for, and eventually achieved, a shift in IP negotiations to the GATT/WTO, an institution in which it was the single most dominant player.

The US' success in shifting the negotiation of IP treaties to the GATT/WTO imposes a uniform life of at least twenty years from the filing date for all patents, regardless of the nature of the invention, and protection of copyrights is for a much longer period. The creation of a binding and potentially punitive international IP framework has also resulted in an acceleration in the implementation of IP legislation. In the 1980s, five Governments reformed their intellectual property legislation, two (2), their trademark laws and, nine (9), their copyright laws. In the early 1990s, intellectual property reforms proliferated widely, as 29 countries reformed their patent laws, three (3) reformed trade-secrets laws, twelve (12) reformed trademark laws and thirty-three (33) reformed copyright laws [Ryan (1999)].

As a result of these efforts, the developing members of the WTO no longer have the policy options and flexibilities developed countries had in using intellectual property rights to support their national economic development. The TRIPS agreement has imposed a relatively high minimum standard, which all WTO members must follow.

III. The TRIPS Agreement

TRIPS did not replace its antecedents, such as the Berne, Paris and Rome conventions, but rather supplemented and reinforced them. By thus combining the rights and obligations of these previous conventions and subjecting them for the first time to a multilateral mechanism for dispute settlement, TRIPS has become the most comprehensive agreement on intellectual property protection to date. In this sense, TRIPS is not so much a convention in itself as it is "*an integrative instrument which provides 'convention-plus' protection for IPRs*" [Correa (2000)].

Rights and Obligations

The agreement (World Trade Organisation, 2002[b]) is principally aimed at reducing distortions and impediments to trade by setting out certain universal rights and obligations with respect to IP. To this end, it establishes *minimum*[2] levels of protection for all common types of intellectual property rights, except breeder's rights and utility models. This means that for the purposes of the agreement, the term "intellectual property" refers to the following categories: copyright and related rights, trademarks, geographical indications, industrial designs, patents, layout designs of integrated circuits and protection of undisclosed information (also known as trade secrets).

TRIPS sets out standards and principles concerning the availability, scope and use of these rights in Articles 1, 2 and 9 through 40. Among the major innovations are the expanded provisions on trademarks, which clarify definitions, set an (indefinitely renewable) 7-year minimum term of protection, prescribe equal treatment of trademarks for both goods and services and protect well-known marks as trademarks. The most contentious change has been the inclusion of a 'use' requirement for trademark registration, whereby Members may refuse or cancel registration if the intended use has not materialised within 3 years of application. With regard to copyright, TRIPS makes some additions to previous conventions, stipulating rental rights for phonograms, films and computer programs and the right to have data compilations protected under copyright, while extending the term of protection and tightening enforcement rules. In the area of GIs, it has excluded from protection indications that have become a term "customary in the common language".

However, the most important and most controversial innovation of the TRIPS has undoubtedly been the expansion and strengthening of patent protection rights. Examples of this include the broadening of the criteria for patentability (which limits the scope for exclusions) and the requirement for patent rights to be granted on a non-discriminatory basis. In addition, the new possibility of reversing the burden of proof in civil procedures relating to process patents has the effect of strengthening the patentee's position in the event of infringement.

When it comes to member countries' obligations, the two main principles involved are those typically enshrined in WTO agreements: National Treatment and Most Favoured Nation (MFN) Treatment, as set out in Articles 3 and 4, respectively. National Treatment requires that WTO Members accord to other members, treatment no less favourable than that which they accord to their own nationals. The MFN principle in turn dictates that any advantage, favour, privilege or immunity granted by one Member to another must be accorded immediately and unconditionally to all other Members. Article 5 establishes that these obligations are without prejudice to any existing obligations or exemptions under prior intellectual property conventions.

Adding to the long list of obligations is a heavy emphasis on enforcement, a feature of the TRIPS agreement that represents a major departure from previous conventions. WTO members are required by Articles 41 through 61 to provide effective protection for rights holders on a non-discriminatory basis, while preventing the abuse of these rights. In order to fulfil this obligation, procedures must be in effect that are fair, expeditious, inexpensive and relatively uncomplicated. The agreement also specifies that procedures must be in place for civil and judicial action and criminal procedures, while penalties, as well as civil remedies, must be set for the infringement of IPRs.

In the event of non-compliance with the obligations stipulated under TRIPS, action may be taken, including the imposition of sanctions, in accordance with multilateral dispute settlement procedures established by the WTO Dispute Settlement Understanding (DSU).

Balancing the Interests of IP Users and Producers

Obviously, discharging this host of obligations can amount to a considerable cost for member countries, particularly resource-poor, IP-importing developing countries. Under these circumstances, to threaten such countries with dispute settlement procedures and possible retaliatory sanctions would be utterly unfair. Recognising this, Article 7 of the agreement affirms that:

> "*The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of*

[2] Article I of TRIPS states, " Members may, but shall not be obliged to, implement in their law more extensive protection than is required by this agreement, provided that such protection does not contravene the provisions of this agreement."

technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations."

This implies some understanding of the public policy objectives underlying the protection of intellectual property, such as developmental and technological policy, as well as an acknowledgement of the special needs of least-developed countries. As a matter of fact, in UNCTAD (2002), Article 7 is interpreted to mean that the primary purpose of the TRIPS agreement is not to prevent unauthorised copying, but rather to stimulate economic development through the transfer of technology.

In a bid to effectively balance the interests of IP users and producers in line with Article 7, certain exceptions to members' obligations have been built into the agreement. For example, MFN and National Treatment obligations notwithstanding, Article 8 allows member states to adopt any measures necessary to protect public health and nutrition or to promote the public interest in terms of development.

With specific reference to patents, Article 30 allows for various exceptions, including the admission of parallel imports[3] by recognising the principle of international exhaustion of rights[4] (Article 6). Article 31 also permits governments to issue compulsory licences[5] in the event of a right holder refusing to deal or an emergency, for public non-commercial use, where dependent patents exist, or to control anti-competitive practices, for example in contractual licences (at which point IP policy begins to dovetail with competition policy). Finally, Article 27.3(b) establishes the non-patentability of substances existing in nature and of animals and plants, although this Article is somewhat controversial and is currently under review.

The agreement also provides for certain transitional arrangements for developing countries. While WTO members were given until a year after the entry into force of the TRIPS (January 1, 1996) to apply the agreement, in Article 65, developing countries were allowed to delay application until January 1, 2000, if necessary. What is more, developing countries that are required to extend patents to areas of technology not hitherto included in their laws have been permitted to delay application (with the exception of the National Treatment and MFN principles) until January 1, 2006.

Other provisions in the TRIPs attempt to take into account developing countries' special conditions. For instance, Article 66.2 requires developed country Members to provide incentives to encourage their enterprises to transfer technology to LDC Members. Article 67 goes a step further, requiring them to provide technical and financial assistance to LDC Members with respect to preparing laws and regulations and establishing domestic offices and agencies to meet their obligations under the agreement. In addition, Article 69 requires Members to establish contact points in their administration to promote exchange of information and cooperation between customs authorities on trade in infringing goods.

Of course, there are ample grounds for viewing these all these exceptions, grace periods and concessions with a measure of scepticism. While they represent a step in the right direction, the language used is often vague, making it all too easy to comply with the letter of the agreement, while falling short of upholding its spirit. A classical example is the previously highlighted public health issue. It is hard to see how this situation squares with the pro-poor, development-friendly rhetoric of the agreement, let alone the Article 7 provision on public health.

And the public health issue is but one example of the major disconnect between the objectives of the TRIPS and the reality on the ground. Other commonly cited examples include the ambiguities surrounding the relationship between TRIPS and the Convention on Biodiversity, as well as the failure of TRIPS to adequately provide for the protection of Traditional Knowledge and Folklore or to extend the protection of geographical indications to areas of interest to developing countries, e.g. rice, tea, coffee and silk. Concerns have also been raised about specific TRIPS provisions, including the potential anti-competitive effects of the trademark "use" requirement, the reversal of the burden of proof and the long patent terms under TRIPS. Similarly, the requirement of non-discrimination in the granting of patents could arguably circumscribe countries' ability to discriminate in the interest of development. Frustration is mounting too with the agreement's vague language on how developing countries may actually benefit from compulsory licensing, parallel imports and transfer of technology. Against this backdrop, developing states have begun to question developed countries' commitment to fulfilling their obligations to ensure technology transfer and provide technical assistance.

[3] Parallel imports or parallel trading occurs when a product under IPR protection, which is put on to the market by a foreign firm (e.g. a foreign licensee or subsidiary), is exported to a country where the same product is also sold by a local firm (e.g. the titleholder). Parallel trading depends on the available system of rights exhaustion. *See* exhaustion of rights.

[4] Exhaustion of rights specifies the rights of titleholders after first sale of the protected product. In a system of international exhaustion, the titleholder loses his exclusive rights after first distribution, thus allowing parallel imports. The TRIPS agreement does not specify rules regarding the exhaustion of rights.

[5] Compulsory licences are official permissions to use protected intellectual property without authorisation from the titleholder. The intellectual property owner typically receives a licence fee. Compulsory licences are justified to protect public interest, non-commercial use of intellectual property, exploitation of dependent patents and technology transfer.

Indeed, it is important not to overplay the developmental focus of TRIPS; to do so would be exceedingly naïve. The fact is that, beneath its lofty ideals and pro-development sentiments, TRIPS is, at its core, driven by cold commercial interest. To quote Correa (2000), "*The adoption of the TRIPS Agreement represented a major victory for industrialised countries and for their most active industrial lobbies. It mirrors the standards of IPRs protection that are suitable for industrialised countries at their current level of development*." Nevertheless, he ventures to add that the agreement may allow some limited flexibility for developing countries to formulate domestic legislation in a manner consistent with their socio-economic needs. The question therefore remains, for a developing country like Barbados, as to whether the benefits of TRIPS do in fact outweigh the costs.

IV. Literature Review

Conceptual Framework

The international literature abounds with studies on the economics of intellectual property rights. Keith Maskus and Carlos Correa have contributed some of the seminal works in this area, while the United Nations Council for Trade and Development (UNCTAD) and the World Bank have compiled several very useful papers summarising the key issues. This section draws on their contributions to develop a conceptual framework for a cost-benefit analysis of TRIPS for Barbados.

Assessing the extent to which an IPR system conforms to TRIPS is a useful first step in evaluating the developmental impact of implementation. Following the methodology outlined in UNCTAD (2002), such an assessment should cover the following areas:

- Substantive Standards – laws and regulations for protecting IPRs
- Acquisition of Rights – administrative bodies, procedures for assignment of rights and compulsory licences
- Enforcement – enforcing authorities, civil and criminal remedies, access to procedures, length and cost of procedures, border enforcement
- Relationship with Competition Policy
- Existence of TRIPS-plus agreements within RTAs or bilateral trade agreements

The next step is the actual economic impact evaluation. This must cover the effects on producers and traders, as well as consumers, including the costs involved in implementing and enforcing TRIPS (see UNCTAD 1996). It must also assess the impact on things like investment, innovation, technology transfer, conservation and biodiversity, food security, rural livelihoods, foreign trade, public health, education and research, as well as market functioning, including competition among firms.

This is no easy task. For one thing, many other factors impact on these areas, such as market size and macroeconomic policies, making it difficult to isolate the effect of IPRs. Nor are IPRs all the same, meaning that the impact may vary from one form of IP to another. And finally, the economic impact of IPRs varies according to the structure of a given economy, as well as its research and development (R&D) intensiveness, degree and rate of innovation, factor and technology endowments and registration culture.

Empirical Evidence on the Economic Impact of IPRs

Foreign Investment

Many of the available studies have looked at the impact of TRIPS on FDI flows. The basic question to be answered in this respect is whether enhanced IPR protection under TRIPS in any way affects the volume, origin, composition or modes of investment flows to developing countries. There is also the question of possible investment spin-offs such as improved industrial capacity.

Correa (2000) reviews the most relevant empirical studies on the subject, the results of which are inconclusive. He cites, for example, a 1993 United Nations review of econometric analyses of the determinants of FDI, as well as Ferrantino (1993). In these studies, economic factors such as skills and natural resource availability, as well as market size and characteristics were found to be the main determinants, while the availability and scope of IPR protection was not seen as a significant factor. Nor was it found to be a significant determinant of the choice of location of R&D facilities by multinational enterprises [Kumar (1996)].

Breaking down the evidence by sector, it was concluded that the importance of IPRs for FDI inflows varied by economic sector and R&D intensiveness. Indeed, a survey of major US firms carried out by Mansfield (1994) established that IPRs were less important for investment in sales and distribution, as well as rudimentary production and assembly. On the other hand, they were considered more important for investment in companies manufacturing components or complete products, as well as investment in research and development facilities.

In terms of the impact of IPRs on the investment modalities favoured by foreign investors, Maskus (1997) argues that in countries with strong IPR protection and enforcement, MNCs are likely to favour technology licensing agreements and joint ventures, while in countries with weak IPR protection, FDI would be the preferred strategy.

Finally, Correa asserts that the adoption of minimum standards under TRIPS will place all developing countries on an equal footing. Once this is so, compliance with TRIPS will not in and of itself ensure a country's attractiveness to investors, since the other concerns, such as macroeconomic stability and infrastructure, would be the deciding factors for investment.

Innovation and Technology Transfer

A number of policy questions crop up in relation to IPRs and innovation in developing countries. As framed in UNCTAD (2000), these questions are: Will TRIPS encourage the expansion or establishment of new local R&D capabilities? Will it stimulate the location of R&D activity by foreign companies in the country? What forms of IPR protection would be best suited to foster domestic innovation? Should new forms of protection be introduced?

In answering these questions, UNCTAD (2002) posits that the extent to which higher standards of IPRs will promote local innovation will be dependent, *inter alia*, on the characteristics of each country's "national innovation system". In UNCTAD-ICTSD (2003), the authors go on to identify several important characteristics of innovation in developing countries: it is incremental and cumulative in nature, oriented to domestic conditions and niche areas and generally based on imitation and/or adaptation of foreign technologies. Hence, the TRIPS system appears to be inconsistent with developing countries' typical patterns of innovation [Correa (2000) - reference to Foray, (1995)] in that it does not cover such incremental innovation. In addition, UNCTAD-ICTSD (2003) identified cost as a frequent barrier to local firms in using the IP system. It is therefore suggested that, by and large, it is preferable for developing countries to establish 'weaker' IPRs that allow for broad exceptions, such as utility models, undisclosed information disciplines and various *sui generis* [6]systems. Indeed, UNCTAD-ICTSD cites evidence that a cheap and rapid second-tier patent system can improve protection for local industries, especially if targeted at industries concerned with mainly incremental innovation and imitation.

To the extent that TRIPS raises the cost of imitation for developing countries by imposing stronger IPRs, formal technology transfer becomes key. Technology transfer refers to the transmission of codified knowledge, know-how and management techniques from one country to another, and can take place under a range of foreign investment modalities. Correa reports that the few studies that have attempted to assess the weight of IPRs in transfer of technology decisions indicate that they generally are of medium importance. He refers to Nogués (1991), who argues that while IPRs protection constitutes a precondition for innovators to licence their technology, it is unclear whether the introduction of such protection would increase the net flows of technology, as opposed to rights-holders opting to exploit their inventions directly through exports or subsidiaries.

[6] Latin for "of its own kind;" hence, whatever is absolutely unique or distinctive about something. With respect to IPRs, a *sui generis* system is one that is expressly created to cater to local conditions and needs.

Correa also points out that research and development, which is closely linked to the ability to innovate, is still largely monopolised by developed countries. He draws on the findings of Dunning (1993), and Kumar (1996) to support this claim. Hence, although TRIPS disciplines could theoretically increase the level of R&D undertaken by MNCs in developing countries, the reality on the ground is such that he remains unconvinced as to the real benefit accruing to developing countries. He emphasises the point with a quote from Maskus (1997a): "*economists cannot be entirely optimistic about the implications of stronger IPRs for technology transfer*".

Conservation and Biodiversity, Food Security and Rural Livelihoods

A key concern about the international IP system is its potential impact on the conservation and use of biodiversity, food security and rural livelihoods (UNCTAD, 2003). Under TRIPS, all WTO members must provide IPR protection for plant varieties, either via patents or through a sui generis system. Most use the UPOV Convention as a model, since it is the only system existing in international law.

However, UNCTAD (2003) echoes NGOs' concerns that this system could have a negative impact on food security in rural communities in developing countries by encouraging the cultivation of a narrow range of genetically uniform crops, including non-food cash crops and, by extension, possibly depleting the nutritional value of people's diets and leaving crops vulnerable to outbreaks of disease. It could also limit farmers' freedom to use seeds without payment to breeders and restrict the free circulation of plant genetic sources necessary for the development of new plant varieties. It has implications for biodiversity as well, as there is the fear that MNCs, especially pharmaceutical companies, may plunder developing countries' diverse and potentially lucrative genetic resources in so-called acts of 'bio-piracy'. So far, TRIPS has only gone as far as exempting plants and animals from patentability in response to the latter concern. Ironically, UNCTAD (2002) argues that this exemption could be a disincentive to foreign investment in some areas, in developing countries' traditional knowledge for example, although this would depend on the local regime.

Balance of Trade

Changes in the IPR regime could impact the balance of trade significantly, especially in terms of imports and exports of goods and services, royalty payments and profit remittances. UNCTAD (2002) references Maskus (2000[b]), which concluded that strengthened patent rights in foreign markets have had a significant market expansion effect for firms in the OECD, leading to an increase in their exports to countries where the levels of protection were enhanced. Stronger patent protection in particular was found to have led to a considerable increase in imports in developing countries, especially in the areas of equipment, machinery and food products. The question one must ask therefore is whether the strengthening of IPRs under TRIPS will lead to an increase in imports in developing countries. If so, what would be the impact on local producers and consumers? Also, will TRIPS promote exports? If so, which sectors would benefit?

Overall Economic Impact

According to UNCTAD (2002), the introduction or strengthening of IPRs under TRIPS "*is likely to affect the conditions for access to and use of technology and therefore the patterns of industrial and technological development in developing countries. Reverse engineering and other legitimate methods of imitative innovation will be restricted, thereby making technological catching up more difficult than before. Strengthened IPRs will most probably increase royalty payments required by technology-holders, if they agree to transfer their technology at all*."

There is some evidence that trade flows into developing countries are influenced by the strength of IP protection, particularly for "IPR sensitive" (often high-tech) industries such as chemicals and pharmaceuticals; but it is far from conclusive. Such flows may enhance countries' productive capability, but this may come at the expense of domestic output and employment in local imitative and other industries. Developing countries with weak technological infrastructure may be adversely affected by the higher prices of IP protected imports. Also, the evidence that foreign investment is positively associated with IP protection in most developing countries is lacking. For more technologically advanced developing countries, IPRs may be important to facilitate access to protected high technologies, by foreign investment or by licensing. However, for others, any beneficial trade and investment effects are unlikely to outweigh the costs at least in the short and medium term.

V. Overall, Correa concludes that there is nothing to suggest that, all things remaining equal, IPRs could automatically and positively influence FDI, innovation, access to foreign technology or other development-related areas. Of course, as has previously been shown, the type and extent of the impact of TRIPS depends on the sectoral composition of a given economy. Therefore, in determining the impact on producers, the key is to first identify the sectoral structure and market characteristics of the economy in question, since the economic importance of IPRs depends on factors such as the type of product or service on offer, the technological level and rate of innovation of enterprises, marketing strategies and demand conditions.

V. TRIPS Compliance in Barbados

An evaluation of Barbados' TRIPS compliance is contained in the country's Trade Policy Review (see World Trade Organisation, 2002[d]). This information is reproduced here, along with information from other sources, in order to carry out an assessment in line with the UNCTAD (2002) methodology.

Substantive Standards

Barbados has a long tradition of intellectual property rights regulation, as evidenced by the fact that it has had IPR legislation on its books since the early 1900s. Furthermore, in the post-independence era Barbados has embarked on a programme of modernisation of its intellectual property rights system designed to bring it in line with international standards. As a result, the country is signatory to most of the major international conventions on the protection of intellectual property (*see* Table 2), the most recent of these being the TRIPS Agreement. It is also part of the main international systems of registration of intellectual property, such as the Patent Cooperation Treaty and the Nice Agreement (*also in* Table 2).

Table 2: International Conventions to which Barbados is Signatory

Convention/Agreement/Body	Date of membership
The Convention Establishing the World Intellectual Property Organization (1970)	5 October 1979
The Paris Convention for the Protection of Industrial Property, Stockholm Text (1883) as revised in 1967	12 March 1985
Nairobi Treaty on the Protection of the Olympic Symbol (1981)	28 February 1986
The Patent Cooperation Treaty (PCT), (1970)	12 March 1985
The Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of Registration of Marks (1967)	12 March 1985
The Berne Convention for the Protection of Literary and Artistic Works (1986)	30 July 1983
The Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (1961)	18 September 1983
The Geneva Convention for the Protection of Producers of Phonograms Against Unauthorised Duplication of their Phonograms (1971)	30 July 1983
Universal Copyright Convention (1952)	18 March 1983
(WTO) Trade-Related Intellectual Property Rights Agreement	August 1994
ACP-EU Cotonou Agreement – adherence to TRIPS and the Convention on Biological Diversity	June 2000

Source: World Trade Organisation (2002[d])

As illustrated in Table 3 and Table 4, Barbados' intellectual property legislation covers all of the types of rights specified in the TRIPS agreement: copyright and related rights, trademarks, geographical indications, industrial designs, patents, layout designs of integrated circuits, protection of new plant varieties and protection of undisclosed information. The Protection Against Unfair Competition Act, the Integrated Circuits Act, the Geographical Indications Act and the New Plant Varieties Act were all passed specifically to bring Barbados' legislation into compliance with TRIPS. The latter act exercised Barbados' option under TRIPS to create a *sui generis* system of protection for plant varieties. Meanwhile, amendments were made to the Copyright, Trade Marks and Patents Acts to bring them into line with TRIPS. Noteworthy elements of the Copyright Act include the provision for moral rights in addition to economic rights, the protection of computer programs within the ambit of literary works and the protection of electronic databases.

Table 3: Intellectual Property Rights Legislation in Barbados, as at March 2002

Main dedicated intellectual property laws and regulations	Coverage
Patents Act 2001, No. 18(replacing The Patents Act, 1981)	Provides for protection of inventions and sets out the procedure for making patent applications and the grant of patents
Patents Regulations, 1984- S.I. 1984 No. 84	Sets out application processes (e.g. procedures, fees, forms)
Protection of New Plant Varieties Act, 2001-17	Protects plant breeders' rights
The Protection of New Plant Varieties Regulations, 2001 S.I. 2001, No. 133 gazetted on 7 January 2002	Sets out implementing regulations
The Protection of New Plant Varieties Order, 2001 S.I. 2001, No. 134 gazetted on 7 January 2002	Sets out plant varieties for which protection can be given
The Trade Marks Act, 1981-57 as amended by the Trade Marks Amendment Act No. 16 of 2001	Protects trade names, logos, slogans, brands and other marks used in connection with goods and services
Trade Marks Regulations 1984- S.I. 1984 No. 85	Sets out implementing regulations
Industrial Designs Act, Cap. 309A	Protects designs of industry and handicraft
Industrial Designs Regulations, 1984- S.I. 1984 No. 83	Sets out implementing regulations
Copyright Act, 1998-4 (replacing The Copyright Act, 1982-1)	Protects literary, artistic, dramatic, musical and other protected works
Geographical Indications Act, 1998-22	Protects geographical indications
The Geographical Indications Regulations, 2001	Sets out implementing regulations
Integrated Circuits Act, 1998-21, amended by ICA Amendment Act No. 15 of 2001	Protects layout designs of integrated circuits
The Integrated Circuits Regulations, 2001	Sets out implementing regulations
Protection Against Unfair Competition Act, 1998-20	Provides for protection against unfair competition within the context of Barbados's obligations under the TRIPS Agreement, Articles 39-40
National Emblems and National Anthem of Barbados (Regulations) Act - CAP. 300A.	Protects the national emblems

Source: World Trade Organisation (2002[d])

Table 4: Overview of IPR Protection in Barbados as at 2001

Subject	Coverage	Duration	Selected exclusions and limitations
Copyright and related rights	Literary works (including computer programs), dramatic, musical, and artistic works; sound recordings, films, broadcasts or cable programmes; typographical arrangements of published editions; and electronic databases. Neighbouring "mechanical" rights of producers of phonograms as well as performers are also protected. Related rights include moral rights as well as performers' and broadcasters' rights No registration is required for protection	Life of the author plus 50 years. For sound recordings, films, broadcasts or cable programmes, computer generated works, 50 years from the year of production. For typographical arrangements, 25 years	Protection is granted provided that such work is original and has been written down, recorded or otherwise expressed in some material form Copyrights may be transmitted by licensing Moral right to object to derogatory treatment
Patents	Any invention (legislation does not reflect the criteria for registration of universal novelty, inventive step and industrial applicability) Rights of plant breeders and developers of new plant varieties are specifically protected	20 years from the date of filing. Possible renewal except for vines, forest trees, fruit trees, and ornamental trees (25 years)	Inventions involving, discoveries, scientific theories and mathematical methods, diagnostic methods, methods for treatment by surgery or therapy, plant and animal varieties and biological processes for the production of plants other than microbiological processes and the products of those processes and inventions, the commercial exploitation of which would be contrary to public order or morality or which is prejudicial to human or animal health or to plant life or to the environment. Compulsory licences can be issued if the manner of exploitation by the patent owner is found to be anti-competitive
Industrial designs	Industry and handicraft	Five years, renewable twice for five years each	Protection is granted if the design has not yet been made available to the public through use or description or in any other manner except through display in an official exhibition. An industrial design cannot be registered if it provokes a breach of peace

Subject	Coverage	Duration	Selected exclusions and limitations
Layout designs of integrated circuits	Three-dimensional disposition of elements, at least one of which is an active element of an integrated circuit	Ten years from the date of filing, non-renewable	Layout designs in commercial use for more than two years
Trade marks	Trade marks, service marks and collective marks that are "distinctive". The definition of trademark includes aspects of shape and packaging and also provides for certification trademarks	Ten years from the date of filing, renewable	Barbados's current trade mark legislation confers the right of assignment and transmission of a trade mark by the proprietor, but does not confer the right of assignment of the trade mark to a registered user other than the owner
Geographical indications	Indication identifying goods as originating in a territory or region or locality, when a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin No registration is required for protection		A trade mark that contains or consists of a geographical indication of goods not originating in the territory indicated can be refused or invalidated if this indication could mislead the public as to the true place of origin of the goods. Trade marks that contain or consist of a geographical indication identifying wines or spirits that do originate in the territory indicated can be refused
Undisclosed information	Actions or practices that amount to unfair competition, or can cause dilution of the goodwill or reputation of goods or services. Commercial activity designed to mislead the public in terms of the value of goods and services. The disclosure or acquisition of secret information relating to a commercial enterprise, without the consent of the rightful owner of the information	Indefinitely	
New plant varieties	New, distinctive, stable and homogeneous plant varieties Foreign applications from UPOV members will be accorded a one year priority right	18 years for perennial plants (including forest and fruit trees, vines); 15 years for others	No consent from the right holder is required for, among other uses, research or consumption for the benefit of the grower

Source: World Trade Organisation (2002[d])

Acquisition of Rights

A major milestone in the development of Barbados' IPR system was the enactment of the Corporate Affairs and Intellectual Property Office Act, Cap 21A in 1988, which established the Corporate Affairs and Intellectual Property Office. Thus, responsibility for corporate affairs and intellectual property was taken away from the Supreme Court Registration Department and vested in the CAIPO. The CAIPO is headed by its own Registrar and is divided into the Corporate Affairs Registry and the Intellectual Property Section. The Intellectual Property Section has overall responsibility for trademarks, patents, industrial designs and copyrights. Within the Intellectual Property section, there is a specialised Copyright Unit, which was created to sensitise the public to copyright issues. The supervisory ministry for the Office is the Ministry of Industry and International Business.

At the level of administration, collective societies or rights management organisations have become an essential part of the copyright regime. These organisations administer the rights to public performance, broadcasting, reproduction and related rights. They lower the transaction costs involved in ensuring the transfer of rights from producers to users by centralising the

collection of fees. In Barbados, the relevant organisations are the Copyright Society of Composers, Authors and Publishers Inc (COSCAP) and the Barbados Agency for Musical Culture Inc. (BAMCI). BAMCI was established in 1992 and was the first neighbouring rights society in the region actively engaged in licensing the rights of record producers and performers. In 2000, COSCAP replaced the Barbados Association of Composers, Authors and Publishers (BACAP) that had been founded in 1998. COSCAP administers performing and mechanical rights of the musical works of its members and - through its affiliation with Trinidad-based Caribbean Copyright Link (CCL) - of international artistes. CCL took over from the Performing Rights Society (PRS) of the UK in handling international transactions for the English-speaking Caribbean, so that COSCAP manages only the copyright repertoire of local and regional artistes. The Recording Industry Association of Barbados also plays an important role in the effective administration of intellectual property by fighting piracy.

Enforcement

The information in this section is extracted from Barbados' Checklist of Enforcement Issues submitted to the WTO, which contains a detailed description of the enforcement system in terms of enforcing authorities, civil and administrative procedures and remedies.

Enforcing Authorities

As with all other private rights, the primary responsibility for enforcement of intellectual property rights in Barbados lies with the right holder or his/her duly appointed licensee. The right holder may institute civil proceedings or make a formal complaint or other report to the police authorities that a criminal offence in relation to his intellectual property rights has been committed.

However, the main IPR-enforcing authorities in Barbados are the Copyright Infringement Unit of the Royal Barbados Police Force, the Customs Department and the Comptroller of Customs, as well as the judicial system. There are no specialist courts established exclusively for the adjudication of intellectual property matters in Barbados. General jurisdiction over all civil cases (including intellectual property right cases) is vested in the Supreme Court of Judicature, consisting of the High Court and the Court of Appeal. Below the Supreme Court is a system of Magistrates' Courts, which have jurisdiction in minor civil matters. Rights of final appeal from the Supreme Court are presently vested in the British Judicial Committee of the Privy Council but are et to be transferred to the soon-to-be-established regional judicial tribunal, the Caribbean Court of Justice.

Civil and Criminal Remedies

The courts in Barbados are empowered to grant a permanent or interlocutory injunction directed to the defendant, forbidding any further infringement of the action complained of. They also exercise a general jurisdiction to award damages for infringement, consisting largely of the quantum of commercial loss to the plaintiff. Also, under the Rules of the Supreme Court, a right holder whose rights have been infringed upon may elect to seek an "account of profits" instead of an award of damages. There may also be an order by the court that the offending party pay the legal costs of the proceedings incurred by the other party. In addition, the courts possess the power to order the infringing parties to deliver up infringing items (inclusive of copies), along with the means to create the infringing items and materials. Under the provisions of the Copyright Act, the court may make such orders for delivery, seizure and destruction or other disposal of the infringing material. The Trade Mark (Amendment) Bill, 2001 also contains provisions covering criminal penalties to be imposed in cases of wilful counterfeiting and provides for the circumstances in which infringing goods and material may be seized, forfeited and destroyed.

Enforcement Problems

Demas and Henry (2001) argue that:

> "*Although there are no official statistics, piracy in the Caribbean is endemic and much of the trade is conducted particularly in public places such as street vending and in record shops.*"

Anecdotal evidence suggests that this is certainly the case in Barbados. They go on to suggest that:

> "*Anti-piracy enforcement has not been considered a priority in the Caribbean. The protective services have very little knowledge (if any) about copyright or indeed intellectual property on the whole. Priority tends to be given to dealing with violent crimes. Magistrates are very often sympathetic towards pirates who they perceive as 'small-time hustlers trying to make a living' and state prosecutors are unfamiliar with this particular area of the law.*"

In this regard, there has been much debate about the ability of the authorities to enforce Barbados' IP legislation, especially with respect to the Piracy Act. Indeed, The US Department

of State produced a report in February 1994 titled: Barbados Economic Policy and Trade Practices, which reported that:

> *"There have been no recent court challenges or settlements for patent, trademark or copyright infringements although infringement is commonplace in certain sub-sectors of the economy: for example, videocassette rentals/sales; tee-shirt production of unlicensed copyrighted images; software piracy; and satellite signal piracy. Enforcement has not been an active priority of the government."*

The competence of national courts to try IP cases has also come under scrutiny. However, the intellectual property jurisdiction of the Caribbean Court of Justice[7] (CCJ), when fully codified, is expected to improve regional integration and international trade through consistent and predictable protection of intellectual property.

In addressing this issue of IPR enforcement, Prime Minister Owen Arthur admitted in his Economic and Financial Statement for 2003 that: "*to date this effort has not been as focused as it might otherwise have been.*" He therefore proposed a number of remedial measures, including harsher penalties for copyright infringement, the establishment of a dedicated Anti-Piracy unit within the Barbados Police Force, with the requisite resources and training for enhanced surveillance and detection of all intellectual property-related offences, and the establishment of a special Copyright Tribunal.

IPRs and Competition Policy

The Patent Act in Barbados allows for compulsory licensing where a patent owner or licensee is deemed to be engaging in anti-competitive conduct. This is in line with TRIPS, which, as previously indicated, permits Members to issue compulsory licences in order to counteract anti-competitive practices.

In addition, Barbados has a legislative framework in the area of competition policy that is broadly supportive of IP policy. For example, the Fair Competition Act (2002) of Barbados aims to:

a) Promote, maintain and encourage competition

b) Prohibit the prevention, restriction or distortion of competition and the abuse of dominant positions in trade in Barbados and the CSME

c) Ensure that all enterprises, irrespective of size, have the opportunity to participate equitably in the market place, and

d) Deal with any connected matters

In relation to patented goods and goods made by a patented process, the Act declares as void any term or condition of an agreement for the sale of any goods by a supplier to a dealer to the extent that it purports to establish or provide for the establishment of minimum prices to be charged on the resale of goods. However, this does not apply to any term or condition of a licence granted by the proprietor of a patent or a licensee under any such licence or any assignment of a patent, insofar as it regulates the price at which goods produced or processed by the licensee or assignee may be sold by the dealer.

The Act also recognises the jurisdiction of a Community Competition Commission in the context of the CSME. Such a Commission would have the power to monitor, investigate, detect, make determinations or take action to inhibit and penalise enterprises whose business conduct prejudices trade or prevents, restricts or distorts competition within the CSME.

TRIPS-Plus RTAs and Bilaterals

As a CARICOM member state, Barbados is a signatory to a number of bilateral agreements with territories such as Venezuela, the Dominican Republic, Canada and Cuba. However, in the absence of an IPR agreement within CARICOM, the IP provisions in these bilaterals remain undeveloped, although there is scope built into some of them for the future development of IP-related text.

In terms of the proposed Free Trade Area of the Americas (FTAA), the draft text includes some relatively ambitious proposals on intellectual property. However, it remains to be seen what form the FTAA itself will eventually take and whether TRIPS-plus provisions will be a feature of the final product. Recent developments in that forum point to the creation of a two-tier system, in which case the determination of which tier IPR provisions would fall under would be a matter for further discussions.

Barbados has, however, made some TRIPS-plus commitments under the ACP-EU Cotonou agreement. This agreement not only obliges the parties to provide adequate and effective levels of protection of intellectual property and to adhere to TRIPS and the Convention on Biological

[7] Caribbean Court of Justice: The Effect on Intellectual Property and International Trade. 18–20, April, 2004 Sherbourne Conference Centre, St. Michael, Barbados

Diversity, but also requires them to provide patent protection for biotechnological inventions and geographical indications not stipulated in TRIPS.

Additionally, under the US-Caribbean Basin Initiative (CBI), the US gauges trade benefits to Caribbean Basin States on the basis of "*The extent to which the country provides protection of intellectual property rights consistent with or greater than the protection afforded under the Agreement on Trade-Related Aspects of Intellectual Property Rights described in section 101(d)(15) of the Uruguay Round Agreements*" (US-Caribbean Trade Partnership Act, 2000).

Summary

In short, as stated in the Trade Policy Review, "Barbados is compliant with WTO requirements under the TRIPS agreement". This view was supported by the responses received when Barbados underwent a review of its intellectual property legislation and its implementation of the TRIPS Agreement in November 2001. Furthermore, as described above, the Government of Barbados has been taking significant steps to improve its compliance in the area of enforcement and has even undertaken TRIPS-Plus obligations in the context of inter-regional trade arrangements.

VI. TRIPS and Development in Barbados

Key Features of and Development Strategy for the Barbadian Economy

In the years since independence, the Barbadian economy has been transformed from a primarily agrarian economy into a service-oriented one. Tourism has become the mainstay of the economy, emerging as the major foreign exchange earner and generator of income and employment. However, new global challenges face the domestic industry, now in its mature stage, including trade liberalisation, the growing role of information technology and increased competition. These external forces interplay with domestic supply constraints, which include a limited natural resource stock, market rigidities, uncompetitive cost structures and production processes and an underdeveloped financial system with limited investment opportunities. All in all, the Barbadian economy is perilously exposed to external shocks, given its dependency on tourism, as agricultural production and manufacturing output remain more or less stagnant. This, along with the imperatives of ensuring food security, generating employment and earning foreign exchange – something that is paramount in a fixed exchange rate regime – dictate that any development strategy for Barbados must retain economic diversification as its focus.

General Strategic Framework

Coming out of the present administration's various policy outputs[8], a general framework strategy begins to take shape for the Barbadian economy. Essentially, the focus has been on specialty export-oriented products and services capable of being branded and targeted at niche markets, particularly in extra-regional Caribbean diasporal communities. In the area of tourism, for example, new niche areas have emerged, including ecotourism, adventure tourism, sports tourism, heritage tourism, conference tourism, multi-destination tourism and the accompanying segmentation of markets.

The strategic framework also seeks to exploit inter-sectoral linkages with a view to developing products that use more domestic resources, thereby reducing the country's dependence on imports and minimising economic leakages. Tourism has significant potential for such intra-industry linkages; unfortunately, this potential has gone largely untapped in the past. Consequently, food and most finished goods required by hotels to satisfy tourist demand have mainly been imported, resulting in the under-development of local agriculture and considerable leakage of foreign exchange. The role of tourism in the promotion of cultural services, e.g. local cultural events and

[8] E.g. Barbados Economic and Financial Statements 2001-2003, Sustainable Tourism Development Plan.

festivals, art, song, music, handicraft, dance, dress and culinary arts, as well as the emergence of many indigenous cultural groups, has likewise gone unrecognised. By the same token, the fact that the tourism–cultural services dynamic is a two-way street, in that the added cultural dimension can serve to enhance the tourism product, has been ignored. Other, essentially unexploited, potential linkages have been identified between agriculture and manufacturing (e.g. food processing and the production of various by-products from sugar cane such as rum), as well as agriculture and non-tourism services, e.g. sugar cane in the Crop Over festival (cultural services) and organic agriculture (environmental services).

Sectoral Strategies

In terms of sectoral strategies, the report titled "Sustainable Development of Tourism in Barbados - A Policy Framework" recognises the need for effective sustained partnerships among all sectors and the importance of preservation and conservation of the built and natural environment. Some of its key recommendations include: the enhancement of intra-industry linkages; the preservation and conservation of natural, cultural heritage and community resources; the development and promotion of tourism as a technologically equipped and efficient business; and the creation of an aggressive and effective marketing and promotion strategy.

Plans are also in train in the area of agriculture to harness the available technology, increase yields, implement a Farm-to-Table strategy whereby more local value-added is created, reduce production costs, develop infrastructure and human capital, and improve production planning to ensure consistency of supply, while exploring new areas of agriculture such as floriculture and organic agriculture. This diversification strategy is reflected in ventures involving Sea Island Cotton, Black Belly Sheep, poultry, pork and dairy, cut flowers, fresh fruits and vegetables, hot pepper, organics and herbals. Efforts are also underway to transform the sugar cane industry through novel approaches to production, processing and marketing.

Developmental Implications of TRIPS Implementation

With a view to operationalising this conceptual framework, the Prime Minister has advocated the position in his Economic and Financial Statement for 2003 that:

> "… *The strategies we develop must include the updating of plant and animal health legislation, improving the infrastructure, building national capacity to undertake risk analyses, protecting indigenous genetic material and the use of Geographical Indicators or other mechanisms relating to intellectual property*."

For example, he had previously launched a strategy for agriculture in his Economic and Financial Statement of 2001, where the focus was to be placed on "*product differentiation and niche marketing through programmes that seek to address product quality and other non-price competitiveness factors*." Such branding exercises to ensure product differentiation, particularly as they relate to niche-marketing strategies, may be facilitated through the protection of IPRs (biodiversity, inventions, product and packaging design).

Benefits

One of the main sectors in which IPRs is expected to play a part is agriculture; with two projects in particular, the Barbados black-belly sheep and the Sea Island cotton project, likely to benefit from IP-related enhancements.

The black-belly sheep project provides an excellent example of the value-enhancing properties of trademark-related IP projects. Having been exported from Barbados since 1902, this sheep is well established in the West Indies. Indeed, large flocks are also present in the continental United States with the first flock having been exported there since 1904 (Mason (1974). Transportation costs, coupled with the already established populations in United States makes it unlikely that the mass export of mutton would be feasible, especially given the likely small scale of production. Current efforts have therefore focused on the production of mutton for the local market and the tourism industry. Initial market work showed that approximately 20 hotels had expressed an interest in purchasing lamb but supply was grossly inadequate. IP-related efforts aimed at enhancing the sheep industry would therefore include the use of patents to protect indigenous products or processes developed in rearing of sheep and/or the manufacture of related products; certification marks to promote the quality of the breed and production of various grades of meat and meat products; industrial design protection to protect handicraft, souvenir items and novelty items developed in relation to the black belly sheep; and trademarks to protect the logos and slogans developed during branding.

Trademarks are also expected to play a significant role in the development of the Sea Island cotton (Gossypium Barbadense) industry, while Correa (2002) identifies it as a possible candidate for geographical indication status. This cotton breed produces a staple-length fibre of over two

inches, about 50% longer than the other fine cotton varieties. The combination of length, uniformity and fineness results in a fibre of both great strength and silky lustre. The sea island cotton plant's growing range is largely limited to the Caribbean and the Atlantic Coast of the southern United States. As it also requires a longer growing season than alternative types of cotton, these factors come together to result in a price premium for Sea Island cotton.

In the hope of capturing significant potential economic benefits such as increases in foreign exchange earnings and employment opportunities, a regional joint company has been formed (West Indies Sea Island Cotton Strategic Alliance (WISICA)). The company will be engaged in the production, processing, and marketing of premier 'Genuine Certified W.I. Sea Island Cotton' lint, fabric and finished goods in the Caribbean, as well as any other activities relating to the development of the West Indian Sea Island Cotton *Growing* Industry into a vertically integrated West Indian Sea Island Cotton *Textile* Industry. The company's business plan forecasts economic benefits in the form of "800 incremental jobs in Barbados and Jamaica", foreign exchange earnings over a five-year period of approximately US$520 million and foreign exchange savings of US$1.22 million due to reduced dependence on imported animal feed. It also predicts ripple effects on the domestic economy from product sales in the international market including economic diversification, the promotion of ancillary services and enterprises and the generation of additional tax revenues. The business plan also envisions WISICA's role expanding to include the certification of cottonseed, "policing against counterfeiting, and establishing the WISICA certification mark. To this end, WISICA is seeking to establish itself as the *West Indian Sea Island Certification Authority*.

Another agricultural sector that could benefit from intellectual property protection is the pig industry. The Barbados Government already provides a range of incentives for this industry including the Gilt Build-Up Programme, dedicated extension services, artificial insemination financing and rebates for investments in new technology. A combination of improved breeding lines, plus additional lending to the sector by the Agricultural Development Fund and the Livestock Development Fund, as well as a jump in domestic demand through the private sector-developed "Proper Pork" campaign, has encouraged a rise in production. Arguably, the role of IP in the pig industry would be the use of certification marks to ensure consistency of pork and pork derived products.

Even the venerable sugar cane crop may yet see some benefits from IP-oriented efforts. There is currently a project on stream, which seeks to diversify the sugar industry into value-added cane-based products and services and improve the efficiency of integrated operations. The Barbados Agricultural Marketing Company (BAMC) has already established 6 hectares of high -fibre cane as part of trials to ascertain the viability of this type of cane as a source of fuel to generate electricity. The objective is to establish 2,850 hectares of high-fibre cane to produce approximately 10% of Barbados's energy needs. Research has also been initiated by the Ministry of Agriculture in collaboration with Michigan State University on possible alternative uses for sugar cane.

Cane separation technology will be put to the test during the ensuing crop since evidence suggests a number of possible uses for the cane juice other than sugar. Indeed, advances in cane separation technology have reportedly been able to create very profitable, high value-added by-products and processes from cane. These include lumber, oriented strand board (OSB), Corepanel housing, medium density fibreboard (MDF), particleboard and other building materials, paper, wax and chemical products that will revolutionize the sugar cane industry. Many of these by-products are cheaper than their timber-based counterparts. Corepanel, for example could provide inexpensive quality housing. Also, unlike timber-based products, cane-based construction materials could contribute to ecological conservation efforts as they come from an annually renewable source - sugar cane. One of the objectives of this project is to examine the potential for generating intellectual property from such products in addition to providing raw material for assorted manufacturing operations.

The economic gains from this initiative include an estimated 200 incremental jobs in Barbados as well as foreign exchange earnings of US$304 million and foreign exchange savings of US$90 million due to reduced necessity of importing sugar for domestic consumption, building materials, animal feed and fuel for electricity generation. As with the Sea Island Cotton Project, this initiative is also expected to have significant spill over effects on the wider economy. In addition, a new production and marketing programme is being implemented to sell Barbadian sugar as a branded special product, for direct consumption to niche markets. Barbados already produces small quantities of such special sugars that are distinctive in colour, clarity and other characteristics. At least one sugar-based product is expected to benefit in terms of branding from the use of geographical indications (Correa (2002)).

Outside of agriculture, the entertainment industry also provides some scope for IP-related developments, especially in the export of various Caribbean genres and the enhancement of the tourism product. While production facilities in the Caribbean music are world class, pervasive copying of recorded music in what is already a limited market tends to constrain the growth of the industry. As such, the main source of income for the artiste resides in performances at fetes, parties and other live shows (Demas and Henry (2001)).

Artists throughout the region have therefore been vocal in advocating a strengthening – and enforcement – of copyright laws. In the short term, recent enforcement efforts are likely to result in increased sales as most of the obvious copyright violators are driven underground. In the longer term, as the distribution of music shifts more towards the electronic means rather than physical form, the gains from a more muscular application of copyright law are likely to be limited. The trend in the evolution of new recording technologies is irreversible and represents alternative means of product delivery. While many perceive this as this as a liability, the new technologies have an ambiguous effect from a business point of view (Financial Times, 17 May 2000). While the unauthorized trading of copyrighted material is likely to increase, distribution opportunities are likely to be enhanced. This may be especially relevant for the less popular forms of Caribbean music as it holds the potential for Caribbean artists to break out of relatively small ethnic niches and into a wider market.

To take advantage of all the possibilities, the paper on Sustainable Tourism Development recommended: the establishment of legislation to protect the cultural patrimony of Barbados, including its architecture, landscape, archaeological resources, oral history, visual, culinary, literary and performing arts, folk traditions and collective memory. It also called for research to be conducted into the island's cultural heritage and its inter-sectoral linkages to show their significance to the national tourism product, in terms of the economic impact of festivals and cultural industries, technology and the intellectual property rights of artistes.

Another relatively unexploited area has been the commercialisation of herbal remedies in the Caribbean. The EU market for organics already represents 10% of retail grocery sales by value and fetches a premium over non-organic alternatives. This ties in well with the healthy lifestyle components being offered by the local tourism industry and could be a feature in spas and other ecotourism ventures, where it is likely to find a receptive market. For the domestic herbal industry to move out of its cottage industry stage, however, requires a sustained push from the local scientific community to examine and document the medicinal characteristics of the local flora. Some work has been done in this regard by the University of the West Indies in conjunction with the Andromeda Gardens in Barbados to document local plants with medicinal properties. However, without a scientific examination of the benefits, as well as any potential dangers, the herbal industry is not likely to survive in the medium term, as consumers realise that herbal products can themselves be harmful. Thus, certification and trademark issues in particular, coupled with rigorous science, must play a role in the development of this industry.

In World Bank (1996) intellectual property protection was one of the factors highlighted as having a significant influence on Caribbean countries' ability to attract outsourcing business. The report specified that "*The need for intellectual property protection for electronic databases and computer software may influence the decision on whether to outsource and where to outsource. This is particularly applicable to specialized, higher value-added informatics products. The benefits from strengthened legislation are clear: stronger incentives for local suppliers and foreign investment*." However, a perhaps superior alternative to IPR protection for proprietary software, which has only been explored by Barbados in a cursory fashion, is the use of the open-source software development model as a vehicle for the development of a domestic software industry. This holds out the potential not only for lower-cost software but also for Barbadian programmers to gain experience in developing large-scale products with compatriots around the world.

Costs

On a macro level, the balance between benefits and costs is likely to weigh heavily on the cost side. The simple fact is that there is just not enough domestically produced IP to counterbalance the flood of IP-enhanced products imported from abroad. While exact figures are impossible to come by, the balance of payments survey results (Table 9) are indicative of the net position of IP-related services. Between 1990 and 2002, the income recorded from royalties and licensing fees fell from $1.3 million to $1 million. In the comparable period, expenditures on royalties and licensing fees rose 347% from $11 million to $49.2 million.

Future legal costs are highly variable and depend on a case being brought against Barbados. However, a high degree of compliance, coupled with a relatively small domestic market should preclude such action. Indeed, the fact that the US has never used the special 301 provision against us augurs well for our ability to ward off such action. Also, there is built-in flexibility in

the agreement, which does not require countries to set up an enforcement system for IP separately from that in place for enforcing law in general, nor are they obligated to dedicate separate public resources to such a system.

Enhanced exclusive marketing rights, given the import dependence of the country, are likely to affect the trade balance, while creating monopolies which may further increase prices. This is so especially for the technical protection issues, as technological measures are increasingly used to control access to products. An early example of this type of emerging access controls would be DVD regional encoding. The only feasible way to combat localised monopolies is competition policy and through the allowance of parallel imports. In the recently negotiated Australia-US free trade agreement, however, the US position has argued for a restriction of parallel imports. In line with TRIPS, the Barbadian legislation does not address the issue of international exhaustion of rights, which may be considered a flaw, in that it could hinder the parallel importation of socio-economically vital products under IP protection within the country. There is therefore a need to devise appropriate policy as to international exhaustion of rights and to avoid any future agreement with the US that circumscribes parallel imports.

Parallel imports and the exhaustion of rights also have implications in the provision of public health services. Barbados should enact compulsory licensing for the importation of medication. However, in order to procure low-cost medicines it is important that the policy on international exhaustion is formulated. Indeed, Barbados, together with a number of other developing countries, sponsored the proposal to the TRIPS Council, which resulted in the WTO Ministerial Declaration on the TRIPS Agreement and Public Health.

VII. Conclusion

The Future Post-TRIPS

TRIPS would be less problematic if it were not so heavily influenced by the US patent model, which is currently widely criticised for its failure to adapt to the US' progression from an industrial to an information-based economy. Over the past twenty years, the decisions of the US Patent and Trademark Office, in conjunction with a series of rulings by the specialised Court of Appeals for the Federal Circuit, have resulted in the scope of the US patent system expanding to cover virtually any subject matter – provided that generic tests of novelty, non-obviousness, and utility are met. The US patent system now extends well beyond even the international TRIPS consensus, as it now allows the patenting of abstract business method patents. As Kahin (2001) notes, this has implications for increased litigation in the previously unpatentable areas such as business strategies, databases, analytic methods, or scientific principles with potential practical applications. Conceptual patents also tend to refocus competition on securing broad business monopolies and away from competition at the technological level.

Recent US bilateral trade agreements have demonstrated that the developed countries – the United States in particular – are likely to push for an even more unbalanced IPR regime. Since TRIPS, the US has engaged in a series of free trade agreements in which it has promoted stronger IPRs than provided under TRIPS. The most recent demonstration of this trend occurred with the implementation of the Australia US Free Trade Agreement (AUSFTA). In evaluating this arrangement, Richardson (2004) argued that Australia would lose more than it gained from strong IPRs. Specifically, the copyright content of imports was approximately 0.38 percent of GDP while the share of copyright in exports in Australia's exports was 0.16 percent. Similarly, the patent content of imports was 0.19 percent of GDP compared to 0.07 percent of GDP for exports. Among specific concerns cited by Richardson are that AUSFTA would curtail any attempts at easing existing IPRs such as those on the parallel importation of pharmaceuticals and extend copyright protection from 50 to 70 years after the death after the death of the creator

But the heightened IP standards are by no means unique to AUSFTA. Drahos (***) has argued that bilateral intellectual property and investment agreements are part of a ratcheting process that has seen intellectual property globalise at a remarkable rate. Continued bilateralism on the part of the US and EU in the 1990s is removing the flexibility of TRIPS on matters such as compulsory licensing, scope of patentability and membership of international IP conventions. Each wave of

bilaterals produces greater IP protection in signatory countries. The current negotiations for the Free Trade Area of the Americas (FTAA) have produced a long draft text. While the draft is not in final form, TRIPS-plus language is contained in texts relating to medicines and compulsory licensing.

Built-in Agenda: Current negotiations in the TRIPS Council – geographical indications, examination of relationship between TRIPS and the Convention on Biodiversity (article 27.3), as well as the protection of Traditional Knowledge and Folklore.

In conclusion, developing countries must conduct a realistic assessment of the relative pros and cons of stricter IPR regimes. Furthermore, the relative disparity of power between the developed and the developing world makes it critical that an IPR framework should be negotiated in a multilateral framework. Bilateral treaties with either the EU or the US involving intellectual property are likely to be largely skewed in favour of the developing world bloc. A post-TRIPS and essentially non-negotiable baseline agenda for the developing world should include buttressing compulsory licensing, pushing for a clearly agreed interpretation of the obligation with respect to the patentability of plant genetic resources (including gene sequences and genes) and supporting the emergence of global norm differential pricing.

Recommendations

- Care in negotiating EPAs and Free Trade Area of the Americas
- Develop IP-related export-oriented projects

To be concluded.

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