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INTELLECTUAL PROPERTY SYSTEMS AND INVESTMENT STIMULATION: THE RATING OF SYSTEMS IN EIGHTEEN DEVELOPING COUNTRIES

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I. Introduction

This study presents a numerical rating system by which national intellectual property regimes may be both assessed and compared. The rating system examines regime effectiveness from the perspective of private investment stimulation, particularly national private investment. This system, in turn, may provide a basis for assessing the contribution which intellectual property protection makes to the process of economic development.

For many private investors, both national and foreign, there will be a salient difference between the newly effective "TRIPS" level of protection required by the World Trade Organization, and higher levels of protection which serve to stimulate investment. An evaluation of the difference between trade-conflict reduction (TRIPS) and investment stimulation is timely in the context of world developments.

The TRIPS Agreement took effect January 1, 1995, as part of the World Trade Organization's birth. Its primary aspiration was to reduce trade conflicts. The stimulation of private investment for economic development was virtually ignored by the negotiating countries in that context.

The study applies the author's rating system to eighteen developing countries, most of them in the Western Hemisphere. The results are found in Tables 20 through 23, beginning at page 344. For comparative purposes, the rating system is also applied to the TRIPS

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Agreement of the World Trade Organization (formerly GATT) and to the North American Free Trade Agreement(NAFTA) intellectual property rules. The rating system does not attempt to evaluate country compliance with the TRIPS Agreement.

The system rates each national regime as a whole and assigns a numerical rating on a base scale of 100. For example, Bahamas is assigned a rating of 83 points, highest in the group, while Guatemala is assigned the lowest rating at 13. The rating scale has not been applied to the intellectual property systems of Europe, Japan or the United States, but the results would probably be found to range between 75 and 90 or even higher.

The concept of a numerical rating scale may be simplistic and its execution crude. Yet, it can be useful for several purposes. It affirms that an intellectual property regime consists of many components and that all components enter into consideration when the efficacy of the regime's protection is assessed in relation to its impact on potential investors. Further, it can serve to indicate the relative importance of various elements within a given national intellectual property regime; it can also help when making comparisons of one country with others. Finally, it may assist those who seek to conduct economic research on the interactions of intellectual property protection with the processes of economic development.

It is assumed in this study, and elaborated later, that a national intellectual property regime which works well serves public welfare by upgrading the technical base of the country, preparing the ground for creation and exchange of advancing technology, and fostering greater human resource development in technical fields. In short, the stimulus to expanding a country's stock of technical knowledge is materially increased and the stimulus to investment in useful development of that knowledge is likewise increased. n1

This study applies the rating system to the intellectual property regimes of Argentina, Bahamas, Barbados, Brazil, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, India, Mexico, Nicaragua, Pakistan,

Panama, Paraguay, Peru, South Korea and Uruguay. This selection offers a cross-section of thedeveloping world. As noted, the TRIPS and NAFTA accords are also assessed and rated.

The study is organized as follows: First, the derivation and methodology of the rating system are described. Second, the eight regime elements to be assessed are described and the number of points for possible subtraction and addition under each are specified and calibrated. Third, the rating system is applied to each country, numerical scores are assigned, and the results are presented in tables. The TRIPS and NAFTA intellectual property standards are assessed in Appendices A and B, with the results included in the tables. Fourth, reflections on the applied ratings are offered.

A word of caution is in order. Although recent legislative reforms, including those in Argentina and Brazil, are reflected here, other countries included in the assessment, such as Panama, Paraguay and Uruguay, were still in the process of reforming their intellectual property systems when this text was completed in December 1996. Beyond this, component ratings for Peru and South Korea are tentative and preliminary since additional information is needed fora more thorough assessment and are noted as such. Moreover, the country assessments were made at various times over a period of several years. Thus the study may not be completely up to date for some countries, and they too are indicated. In view of anticipated further changes in many countries, the study can be expected to age rapidly. Still, the concept it introduces should remain valid.

II. Rating System Derivation and Research Methodology

This rating system was derived initially and in large part from experience gained as a consultant working in the context of the Investment Sector Loan program of the InterAmerican Development Bank (IDB). The IDB Investment Sector Reform program, as the name implies, is directed toward encouragement of investment, particularly by private sector interests. Eleven countries were visited.

After visiting the first two countries, it was natural for people to ask for a country to country comparison. Since definitive answers usually put people to sleep, a casual response was adopted which involved a numerical comparison. Several observers at the World Bank then encouraged a written articulation of this numerical approach, and thus this study was initiated.

The rating system developed initially in connection with the Investment Sector Reform Program has been subsequently extensively

reworked and recalibrated. Additional experience was gained while consulting for the World Bank, theForeign Investment Advisory Service and the U.S. Agency for International Development, and, in Brazil and Mexico, for ad hoc groups of American companies. In all, the author has visited 16 of the 18 countries evaluated.

At least a week was spent in each of the countries evaluated by the author. More than a week was spent in nine of them. Information was gathered primarily from visits to government offices and from in depth interviews with relevant government officials and leading private lawyers. In each country, members of the private intellectual property bar provided high quality information. In almost every regard they are the best sources of information as to how an intellectual property regime functions in practice. To filter occasional bias toward undue optimism or negative experience at least five different lawyers in each country were interviewed.

In addition, interviews conducted with private business leaders, inventors and, in some countries, university science researchers provided a comprehensive impression of the situation in each country.

The core of the assessments of three countries, Chile, India, and South Korea, have been supplied by well qualified individuals who are knowledgeable about the intellectual property regimes in those countries. In each case where an evaluator was used to assess a particular country's intellectual property regime, the evaluator was provided with an earlier version of this study to serve as a guide.

It is the intention and hope of the author to refine and update these assessments and, with circumstances permitting, to add assessments of still more countries in subsequent iterations of this study.

III. The Rating System Design

The rating system adopts a scale of 100; points are then subtracted from a perfect theoretical score of 100 to reflect regime defects and weaknesses. No country attains a perfect score, in major part because technology always advances ahead of the law. As many as three points were also added to reflect the country's level of general public commitment to intellectual property protection. n2

After the subtractions and additions, the numerical result indicates the position of a country's intellectual property system relative to being an effective investment-oriented regime.

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Effectiveness was judged not from the perspective of any single industry, but from the generalperspective of both national and foreign inventors and authors, and national and foreign investors who seek to advance competitive technical knowledge. Effectiveness was also judged from the perspective of enhancing national technological development.

The intellectual property regimes were assessed under eight major headings. Table 1 below indicates these components and the maximum points for subtraction assigned to each.

[SEE TABLE IN ORIGINAL]

The total points subtracted for each component were subject to a cap. For example, the cap for Enforceability is 25 points. Under this component, points were subtracted for discrete elements deemed of importance to investors. For example, up to 12 points could be subtracted for lack of judicial independence, up to 10 points for lack of preliminary injunctive relief and up to 6 points for lack of sufficiently severe sanctions. The total points subtracted for these elements for any country would not, however, exceed the cap of 25 points. If the total of the points subtracted for all of the specified elements was less than 25, then only the lower total was subtracted.

The relative weighting assigned to the eight categories, which is reflected in these "caps," was derived from the experience and judgment of the author in the absence of any readily available information or method for making such a determination. The intuition employed considered the relative importance of each component to overall national economic activity. Weighting in this context is necessarily

complex because many economically useful activities involve more than one form of intellectualproperty.

The weight given to Enforceability, at 25 percent of the total, is probably too small. If intellectual property rights cannot be effectively enforced, they are worth little. Still, if the weight were increased, the other components would shrink, giving less leeway to reflect differences from one country to another and within each regime. The weight has been held at 25 percent in the confidence that it is valid if applied equally to all the countries in the study.

The argument could be made that since most industry involves patent protection, that component should outweigh the other forms of protection by a large factor, but that would underplay the importance of trade secrets and the utilization of computer driven manufacturing systems in the same activities where patent protection is important. Some of the leading forms of cutting edge technology today utilize several forms of protection in combination. For example, biotechnology relies on both patent and trade secret protection, while software can use these two forms plus copyright.

Elements of the copyright community have offered data which indicate that something like 5 percent of United States GDP is based on or derived from copyrighted works. Unfortunately, we do not have comparable data for the other forms of protection, and it is not clear that the U.S. experience would be mirrored in the economies of other countries, particularly developing countries.

Perhaps the news in the weighting used here is the emphasis given to trade secret protection. There are indications that perhaps two-thirds of the technology that moves from one place to another relies on trade secrets. n3 It is inherently difficult to think of trade secret protection in terms of the market value of products sold for several reasons. Companies often wish to hold in confidence the results of research which failed or eliminated options. Moreover, trade secrets protect competitive commercial information, like customer lists and preferred sources of supply, as distinguished from products which reach the market. Those who work to advance commercial technology are often acutely conscious of the value of effective trade secret protection, although the general public may be largely unaware of its importance.

Additional research and a more detailed analysis could no doubt be given to determining the relative weighting of the eight categories, but for the purposes of this study the weighting is likely adequate. In one sense, the weighting makes little difference

to the relative comparability of the total scores since all countries are subject to the same weighting.

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Within each of the eight regime components, key elements of particular concern to potentialinventors, creators and investors were identified and points for subtraction were assigned. There are many more elements in each component than are discussed here, of course, but those selected were considered of particular sensitivity for investors. To the degree that law or practice in relation to these selected elements is less than fully effective, some or all of the points assigned to each of those elements were subtracted.

In calibrating the rating scale, the identification of the discrete elements of concern to investors was done with reference to the U.S. Chamber of Commerce Guidelines" n4 and to the "Basic Framework of GATT Provisions on Intellectual Property." n5

The assignment of points to be subtracted for each element was done to indicate some sense of their relative importance and was based largely on the experience and judgment of the author. Again, this was done in the absence of any other readily available method for doing so. Since the calibrations were applied consistently to each country, the results should hold at least comparative validity.

It should be noted that lack of effective enforceability, or deficiencies within any other component for that matter, could be so serious as to be a sine qua non for an investment decision. While this may well be true for many situations and many potential investors, the rating scale adopts the perspective of the non-existent yet useful average investor. Thus, the use of a cap. As noted, a higher cap for the enforceability component could be easily justified but was not adopted.

Effectiveness was not measured against any given existing legal system. Instead, a "results test" was applied. That is to say, effectiveness was measured in the context of whether parties, particularly investors, can expect within reasonable degrees of predictability to achieve protection for innovation and creative expression.

Adjustments could have been made to give greater or lesser weight to patents, copyright and life forms in relation to the relative importance of industry, services and agriculture in each national economy. This was tried for a few countries, but it was found that overall ratings did not change significantly.

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Some specialized forms of intellectual property, such as industrial designs and the "mask works" ofintegrated circuits ("chips") used in computers, were not included in this rating system largely for the sake of simplicity and in the belief they play a minor role in investment planning for many of the rated countries.

In calibrating the rating system, the author has drawn on experience over nearly two decades as an international corporate counsel for two major international companies engaged in mining and in pharmaceuticals, chemicals, seeds and consumer products, and on related experience gained through business associations and professional societies. Earlier versions of the study have been reviewed by corporate intellectual property counsel for other major international companies and their comments have been incorporated where appropriate. Appreciation for their assistance is gratefully acknowledged, n6 while errors of all kinds, of course, remain the author's burden.

IV. Calibration of the Rating System

A. Enforceability

The ability to judicially safeguard private intellectual property assets makes these assets valuable instruments for national economic growth. When parties are secure in the belief that their intellectual property assets can be protected through judicial action, these assets become magnets for investment funds. Then utilization of new technology becomes a larger factor in national development.

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Judicial independence is the centerpiece of enforceability. Lack of independence, as used in therating system, refers to patterns of undue influence from political or other sources, as distinguished from incidents of corruption. This may be a fine line at times and so the range of points to subtract is fairly wide.

Those who hold intellectual property assets depend on their ability to request court action to stop others from unauthorized use of those assets. When it becomes generally known that such action can and will be effectively taken, the business culture tends to shift from copying and piracy, or from dependency on old technology or on others to provide newer technology, to serious attention to creating and improving their own technology.

Thus the right of private legal action in civil courts, which leads to preliminary injunctions or seizures, is often critical to intellectual property system performance. Otherwise, when intellectual property is unlawfully taken by another party, its commercial use by them simply becomes the means by which they finance their legal defense of their unauthorized use. To overcome this, courts must have the ability to issue injunctions promptly, and judges must be reasonably familiar with intellectual property matters in order to issue rational decisions.

The other discrete elements listed below in Table 2 are thought to be largely self-evident.

Judicial enforceability affects all forms of intellectual property and therefore is assigned the largest single point total. A cap of 25 points is placed on this item although, as noted, more could reasonably be allowed for subtraction since without enforceability of the rights, intellectual property assets are of little value.

Assessments of the enforceability of rights under the examined regimes were based largely on interviews with private local attorneys, most of whom serve foreign clients. It is believed that the impressions gained from these attorneys are accurate in a general sense, keeping in mind the necessity of discounting occasional and understandable temptations to offer a more favorable account than is warranted. For the Latin American countries, information was also gained during a judicial reform conference held at the World Bank headquarters in June 1994, at an InterAmerican Development Bank conference in Montevideo in October 1995, and at several other conferences and seminars.

Statistical materials regarding numbers of court cases, instances of preliminary injunction usage, number of seizures of infringing materials and the like, while possibly desirable for greater apparent objectivity, are virtually impossible to gather in these countries without a major effort which would probably not be justified relative to any higher degree of accuracy that might be obtained. Delay in judicial proceedings is an

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almost universal complaint in most countries, as well as a rather subjective matter, and has been givenlesser emphasis in the rating calibrations. Further information is available regarding enforceability issues, particularly for copyright. n7

[SEE TABLE IN ORIGINAL]

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A summary of points subtracted for enforceability by country are presented below in Table 3:

[SEE TABLE IN ORIGINAL]

B. Administration

Transparent, efficient, low-cost public administration of the system which creates protection for intellectual assets is a vital contribution to the system's impact on decision-making by investors.

Transparency means that decisions made by officials in the exercise of their administrative discretion are rational and are explained to the public. This permits predictability in planning for future private activity.

The test of efficiency would suggest that actions required of public officials are completed within reasonable times. Reasonableness can be measured by comparison with administrative practice in other countries.

Low-cost administration is a relative measure which depends in part on the wealth of the country and, again, on comparison with costs in other comparable countries. Cost can often be reduced by eliminating administrative steps which are not fully necessary for operation of the system.

To help assure efficient administration on a sustained basis, many countries are making their patent, trademark and copyright offices semi-autonomous. Thus, instead of needing to rely on (typically decreasing) annual allocations from the national budget, fees earned by those offices are retained to cover their capital and operating expenses. These offices are usually a source of foreign exchange which, if for no other reason, suggests minimizing exclusions from coverage in order to maximize revenue.

As the volume of the world's technical literature grows and as the number of patents granted expands, it is difficult for any but the world's major countries to maintain the capability of conducting serious technical

examinations of patent applications. At the same time, the means to access large databases fromvirtually anywhere in the world is now available. Thus, for many countries, the costly burden of technical examination of patent applications could be avoided by reference to the international examination centers in Europe, Japan, the United States and a few others. These centers have been designated as such by the Patent Cooperation Treaty (PCT) referred to below under Treaties. However, this rating scale does not subtract points in regard to the means for examination which a country selects. The scale does take account of deficient examination which in many cases could be overcome by use of the international examination centers.

A potential investor's first impression of a country will often be its experience at the patent and trademark registry. A positive experience will encourage investment decisions. Reform of the registry can be important for investment promotion in a country.

A summary of possible points to subtract for administrative issues and the results by country are presented in Tables 4 and 5, respectively.

[SEE TABLE IN ORIGINAL]

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[SEE TABLE IN ORIGINAL]

In most of the countries examined by the author, the patent and trademark registry was visited and interviews were conducted with registry officials. In a few countries, the copyright registry or depository office was also visited. The observations of local private lawyers provided valuable information in all cases.

C. Substantive Law

In addition to having adequate judicial and administrative components, an effective investment- oriented intellectual property system depends on comprehensive substantive laws. These include the legal tools of copyright, patents, trademarks, trade secrets and a few other special forms of intellectual property protection.

Beyond this, each country's constitution will probably call for protection of intellectual and artistic property as part of the general recognition and guarantee of private property. The test, however, is not what the constitution or the substantive law may say, but how the system works in practice.

1. Copyright

In simplest terms, copyright is the temporary right of an author or artist to keep others from commercializing copies of a creative expression. Neighboring rights protect performances and a few other forms of expression.

The list of creative expressions in which copyright subsists has expanded over the centuries, particularly in this century. Authors were awarded copyright protection for books first, then for charts and maps. Music and the arts were added later. The concepts of authorship and literary works have expanded as new technology provides new means of expression, so that movies, sound recordings, software and other

electronically-based means of expression are now commonly included within copyright protection.

International recognition of copyright has matured through international conventions, particularly the Berne Convention. Countries which participate in this international recognition obtain for their citizens the opportunity to protect their copyright assets in other countries. This can aid in marketing national artistic endeavor abroad.

The protection of private copyright assets encourages national artists and authors. Adequate protection also stimulates those secondary activities which support creative expression, such as local advertising, newspaper revenue, and broadcasting and increases tax revenue for the national treasury.

In addition, the level of national technical skill is increased. For example, when effective copyright protection for software is offered, local programmers are stimulated to establish companies which write application programs for local industry. When adequate protection for cinema films is provided, local movie houses conduct significant business which in turn generates work for advertising firms. This kind of positive ripple effect often cannot be fully anticipated. Only after the law is reformed are such benefits likely to be revealed.

The assessment of copyright and related rights was based on both analysis of statutory materials and interviews with local lawyers. In many of the smaller countries, it was typical to find only one or two local attorneys who were fully conversant with this field of law. Since in most countries acquisition of copyright protection does not normally require registration, these lawyers do not have the same flow of client interchange as do the trademark and patent lawyers. Still, their knowledge of the subject was excellent and their willingness to impart their understanding of the system was readily forthcoming and greatly appreciated.

A summary of possible points to subtract concerning copyright protection and the results by country are presented in Tables 6 and 7, respectively.

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[SEE TABLES IN ORIGINAL]

2. Patents

A patent grant is a temporary right to exclude others from appropriating a novel, useful and non- obvious invention.

As with copyright, the range of subject matter considered to be patentable has expanded as science has provided new fields of technology. One hundred years ago, basic chemical and mechanical inventions led

technological advance. Today, biotechnology, computer programs, fine chemicals, plants,superconductivity and composite materials are among the fields of invention being added to the subject matter which is commonly patentable.

International accommodation of national patent asset creation has matured through international conventions, particularly the Paris Convention of 1883 and its subsequent amendments.

Patent protection gives encouragement to those who advance and commercialize modern technology in all fields. Adequate protection stimulates research and technical improvements at all levels of economic activity, facilitates the movement of technology from research centers to the marketplace, and serves as a magnet to private financing for the development of new technology. Even small developing countries benefit from patent protection, particularly by encouraging an inventive habit of mind in local industry and agriculture.

Patent reform is often discussed in developing countries almost exclusively in relation to pharmaceutical protection. Little attention is given to the benefits which could accrue to local interests from effective patent protection in general, including the stimulus to local inventors and the shift in the signal sent to private investors, both foreign and domestic.

Even though potential investors' interests lie in other areas, it is common to check for the presence of the pharmaceutical and agro-chemical subject matter exclusions as they consider the overall attitude of a country toward intellectual property. It is also important to note the potential which the patenting of biologically engineered improvements in micro-organisms, plants and animals is likely to bring to the agricultural base of a developing country. This area is discussed separately below under Life Forms.

In many countries, compulsory licenses may be awarded three years after grant of a patent in the absence of exploitation of the invention in the country. This three year limit made good sense when it was established in 1883 under the Paris Convention, but given the typically longer development times of complex modern technology, the limit now serves largely as an obstacle to investment planning. Today, it would make better sense to allow compulsory licenses only after three years from an economic event, such as first commercial production anywhere in the world, rather than from the date a patent is solicited or granted, which is a "paper event."

A compulsory license is a policy contradiction. In effect, the state, having bestowed an exclusive property right for an invention in order to serve the public good, then exercises its discretion to reduce the value of that right through compelled sharing of the property right under

defined circumstances, also to serve the public good. Given its admixture of administrative discretion,this inherent policy conflict is particularly troubling to potential investors.

Investors make their decisions about investing at one point in time. Then, at a later point in time, government officials make their decisions about granting compulsory licenses. In the interval, policies may have changed and, indeed, a different set of officials may be in office.

[SEE TABLE IN ORIGINAL]

In applying the rating system, close attention is given to the breadth and clarity of the defined circumstances under which a compulsory license can be granted. The rating system on this point, as on others, implies a judgment which considers the TRIPS Agreement provisions of the World Trade Organization to be wanting in their ability to stimulate private investment.

Table 8 summarizes the factors and Table 9 the results in this study concerning patent protection.

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[SEE TABLE IN ORIGINAL]

The assessment of patent law protection was based primarily on analysis of statutory materials supplemented by information provided by local lawyers.

3. Trademarks

A trademark is commonly a word or mark which serves to identify exclusively the source of a product or service. A new trademark must not be confusingly similar to previous trademarks. This is desirable to spare consumers from deception and to protect the reputation of those who provide products and services.

If two parties seek protection for the same trademark, classic trademark concepts offer two solutions. One grants the trademark to the first to apply for registration, the other to the first to use the trademark, regardless of the time of registration. If priority registration is the solution, then treaties have provided accommodation when conflict arises between countries.

Each country awards protection for trademarks. As commerce has become increasingly internationalized, the use of trademarks has crossed national boundaries. Some marks develop regional and even world-wide recognition. This has raised questions of reciprocity and fairness between countries. Those questions have been addressed through international conventions (see Treaty discussion, infra) and through informal accommodation by administrative practice.

Speculative registration of trademarks is widespread. This is the practice whereby a speculator seeks a trademark registration in advance of an application by the party who originates a new trademark, often in another country. Although the Paris Convention permits the originator a period of six months in which to apply with priority for registration in other countries, many originators are not ready to act that quickly. Some companies, when originating a new product, are not able to foresee its market potential in other countries. The speculator seeks registration of

the other party's trademark, not to use it, but to force the originator to pay for an assignment of theregistration, typically at an extortionate price, once a decision to market in that country is made. Countries with an interest in promoting economically productive investment rather than non-productive speculation have found the legal means to discourage speculative registrations.

Protection of trademarks by a nation encourages private parties to invest in commercialization of products and services. Even where the trademark holder is from another country, there can be considerable local economic benefit from the multiplier effect which results from investment in the country to support commercialization.

A summary of points subtracted for trademark protection by factor are presented below in Table 10:

[SEE TABLE IN ORIGINAL]

The assessment of this area of the law was based primarily on analysis of statutory materials supplemented by information provided by local attorneys and the results are summarized below in Table 11:

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[SEE TABLE IN ORIGINAL]

4. Trade Secrets

Trade secrets are usually valuable commercial or industrial information which an enterprise strives to keep from being known by competitors, an effort which the courts support. Trade secrets are also sometimes referred to as industrial secrets, commercial secrets, business secrets or as undisclosed information.

Because trade secrets do not require a public registry, it is a form of intellectual property protection which is not widely known. Trade secrets are important, for example, in protecting inventions before patent applications can be filed and in protecting incremental technology derived in the course of installing or improving a manufacturing process, particularly where it is impractical to file a series of patent applications to cover an evolving situation.

Several surveys of those involved in the creation and transfer of technology indicate that the trade secret is a major factor in protection of intellectual assets. As noted previously, perhaps two- thirds of the technology that moves from one place to another relies on trade secrets. n8 Trade secrets are highly useful in commercial activities as well. Confidence in the ability to protect trade secrets encourages employers to train employees to higher levels of competence and thereby assists in human resource formation and development.

The classic example which illustrates the need for trade secrets is found when a company trains an employee to a high level in its best technology, only to watch helplessly as the employee is hired by a competitor to learn the first company's secret technology from the transferred employee. Effective trade secret protection serves to curtail this "predatory hiring."

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A summary of points subtracted for trade secret protection by factor are presented below in Table12:

[SEE TABLE IN ORIGINAL]

The assessment of trade secret law was based primarily on information provided by local lawyers because in most of the examined countries there was generally no statutory basis for trade secret protection. Only in the larger countries was information obtained regarding "me too" registration issues. The results of points subtracted for trade secret protection by country are summarized below:

[SEE TABLE IN ORIGINAL]

5. Plant and Animal Life Forms

Application of higher levels of science to the agricultural base of a country is assisted by two forms of protection for intellectual assets. One form, commonly know as "plant breeders' rights" (PBRs) grants

limited rights to improvements in plant varieties derived from traditional methods of breeding,hybridization and selection. The patent system, which provides the other form of protection, is better suited to protecting the results of the application of biogenetic engineering to plant and animal life forms above the level of the microorganism.

Patent concepts are being broadened in many countries to include protection for plant and animal life at the level of micro-organisms. In some, notably the United States and Japan, patent protection for higher life forms is now clearly established. In Europe, protection has become available by court decision. It is likely there will be rapid development in the laws of many countries in relation to higher plant and animal life forms in the near future.

The traditional PBRs are supported by an international arrangement administered in Geneva under the 1978 version of the International Convention for the Protection of New Varieties of Plants (UPOV). n9 The 1991 Act offers further amendments. n10 National PBR laws are less protective than patents, yet have served a useful purpose in many countries. They typically contain exemptions which permit use of improved seeds in research, and some permit farmers a limited right to replant from "saved seed."

It should be noted that there is as yet no concept of "animal breeders' rights" which would parallel plant breeders' rights. Protection for animals, where available, is found under patent law or private certification programs. It seems, however, that an animal breeders' rights system may be introduced in the European Union in the future.

The patentability of higher life forms, which extends to both plants and animals, is included separately in the analysis here and not under Patents above. The TRIPS Agreement and NAFTA requirements do not mandate the levels of protection established under this component of the rating scale. A summary of possible points to subtract for protection of life forms and the results by country are presented in Tables 14 and 15, respectively.

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[SEE TABLES IN ORIGINAL]

In addition to analysis of patent legislation, the assessment of this area of the law was based primarily on information provided by local lawyers with analysis of statutory materials regarding seed protection undertaken where available.

D. Treaties

More than a dozen conventions and treaties have been established since the 1880s to deal with various international aspects of intellectual asset creation, reciprocity and accommodation. The World Trade Organization, formerly the GATT, has also become relevant.

The 1883 Paris Convention n11 established reciprocal treatment for trademarks. Each country grants to nationals of other treaty member

countries the rights it grants its own nationals. This treaty does not set standards, perhaps becauseits founding members had roughly similar industrial property laws at that time. To foster reciprocity, the Convention guarantees a trademark holder in one treaty member country the priority right to file applications for the same mark in other member countries within six months of the first filing. This was intended to prevent speculative registration of trademarks.

Comparable provisions for "national treatment" and "priority rights" were established for patents under the Paris Convention. The priority period for patents is one year.

The Berne Convention for the Protection of Literary and Artistic Works of 1886 n12 goes much further than the Paris Convention to establish standards by which its member countries must provide copyright protection. Like the Paris Convention, the Berne treaty assures that each country will grant to the nationals of other treaty member countries the same rights it grants its own nationals, but it goes further to establish minimum obligations of protection which are binding on all member states.

The Geneva Convention (Phonograms) of 1971 n13 provides protection for producers of sound recording against the making of unauthorized duplicates of recordings and the unauthorized importation of recordings for commercialization.

A different kind of international treaty of relevance is the Patent Cooperation Treaty (PCT) n14 of which about 90 countries are members. The treaty facilitates examination of patent applications in the patent office of another member country. It is becoming particularly useful to administration of patent offices in developing countries as well as those which have well developed administrations. The treaty has become important to investors who file applications in many countries.

The "Uruguay Round" of the General Agreement on Tariffs and Trade (GATT) n15 provided for creation of the World Trade Organization (WTO) and established international standards for national intellectual

property systems. These standards are set forth in what is known as the TRIPS Agreement. n16 As the TRIPS Agreement's provisions enter into force, they will have obvious relevance to intellectual property regimes. This agreement is a statement of minimum standards, however, created to serve trade among countries, some of which have closed or state dominated economies and therefore have little interest in intellectual property protection.

The Budapest Treaty (1977) on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure n17 designates international depository authorities, of which there are about 25, as recognized scientific institutions capable of safely storing samples of biological material for purposes of identifying the subject of patent applications where written descriptions are not feasible.

The UPOV Convention, mentioned above under Life Forms, is relevant to that component. There are numerous other international treaties dealing with various aspects of intellectual property, but they are not sufficiently relevant to deserve consideration for the purposes of this analysis. Possible points to subtract for inadequate treaty adherence are summarized in the table below:

[SEE TABLE IN ORIGINAL]

Assessment of adherence to the various treaties by the intellectual property regimes in this study was derived from library materials, WIPO

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data and in some instances from local officials; the results are summarized below in Table 17.

[SEE TABLE IN ORIGINAL]

E. General Public Commitment

While largely impressionistic, it is possible to gain some sense of the general public's commitment to intellectual property protection in each country.

In some countries, public commitment to intellectual property of any kind is almost entirely lacking. This may often be the result of education of various kinds which has instructed citizens that intellectual property is harmful. In some countries there is an appreciation of protection for authors, but little else, while in others, the man in the street has at least some sense of patents. In a few there is a grass roots commitment to the concept of protection in general.

One indication of commitment could be reflected by a country's decision to provide immediate protection for inventions already patented elsewhere when patent coverage is newly granted to specific subject matter, sometimes called "pipeline" protection. Another indication could be the establishment of specialized courts for intellectual property cases. Still a third could be adequate funding on a sustained basis for public administration of the patent and trademark functions.

While this aspect of an intellectual property system is probably quite important to effective outcomes, the subjective nature of its measurement has suggested limiting the number of possible points to be assigned to not more than three. The measurement of general public commitment is best incorporated by adding "bonus points" rather than subtracting points. The criteria of assessment and points assigned to each country are as follows:

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[SEE TABLES IN ORIGINAL]

Assessment of this aspect of the intellectual property regimes was derived from private conversations and general knowledge, with attention given to editorials, seminars, conferences, and public discourse including reports of legislators' public views, pronouncements by public officials and the like.

V. Application of the Rating System

A. Argentina

The rating assigned for Argentina is 39. The rating is influenced primarily by lack of trade secret protection, a still weak patent system and specific defects in the ability of private parties to enforce intellectual property rights. The copyright and trademark systems function reasonably well. The administration of industrial property has improved significantly since 1992, and Argentina is a member of most of the relevant international treaties and conventions. Protection for higher life forms, which could provide considerable benefit for the future of Argentina's agricultural sector, should be brought up to date.

A one week visit to Buenos Aires in September 1994 and a shorter visit in March 1996, coupled with information received before and since, form the primary basis of this assessment. The assessment is current as of April 1996.

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Enforceability: Argentina - Subtract 21 of 25 points

Generally, judges have strong educational backgrounds, yet few are held in high regard. Federal judges are appointed for life tenure, with provincial judges appointed for life or fixed terms depending on the province. Corruption and political influence are widely suspected, bringing the judicial system into question. The physical appearance of the court buildings, once admired, has declined severely. Several forms of preliminary injunctive relief are available but not used as a general rule. In general, courts are unreliable and are viewed as such by the public.

As to intellectual property, trademark cases are processed routinely, usually with logically predictable results. Patent litigation is almost unknown, so judges are unfamiliar with this area of intellectual property law. Statutory penalties for patent infringement are nominal. Copyright actions are lodged not with federal courts, but with provincial and municipal judges where seizures can be effectively made, but also where extended procedural delays are universal. Civil penalties for copyright infringement are limited to damages, and proof of damages is difficult. Lack of clear authority for judicial protection of trade secrets hampers this area of enforcement.

Administration: Argentina - Subtract 3 of 10 points

Remarkable improvements in the patent and trademark office (PTO) since 1992 brought Argentina to a much improved level of administration from a virtual disaster before 1991. The renovated office exhibits growing pains as the new computer system goes into operation and as the more recently trained patent examiners learn their duties. The major issue for the PTO, which has been converted into a semi- autonomous institute, is whether the improvements can be sustained after the recent high-level political attention subsides. Quite recently, excessive delays were being reported in the processing of applications. The copyright registry appears to function promptly and effectively.

Copyright: Argentina - Subtract 4 of 12 points

Historically, the work of authors has been highly regarded in Argentina, and is reflected in the law. Explicit protection is missing for some of the latest forms of expression made available through new technology, such as computer network transmissions and satellite broadcasts. The term of protection for motion pictures and videos is only 30 years.

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Patents: Argentina - Subtract 13 of 17 points

A complex legal matrix now constitutes protection for patents in Argentina. A new patent law and subsequent regulatory decree took effect in 1996, after a contentious legislative process in 1995. The 1994 constitution makes international treaties superior to national law, thus inserting the Paris Convention and the TRIPS Agreement into the matrix. The new patent law clashes with both, creating further complexities. The new matrix is likely to generate litigation before it is clarified.

Although protection is extended to a broader range of subject matter, the overall value of a patent is severely diminished in numerous provisions. One example is an unduly ample compulsory licensing provision with many novel features, including the assertion that if the price of a patented product is higher than an unpatented equivalent, use of the patented invention can be granted to others without the approval of the patent holder. Employees hired to make inventions are entitled to extra compensation regardless of their contract commitments. Dependent patents are readily assisted by compulsory licenses. Infringing goods may be imported. Technology transfer controls, of the kind that were abolished twenty years ago, have been restored.

Certain subject matter is excluded from patentability or is delayed patentability through an extended transition period. For the first time, there is protection for utility models. Protection is available for a full twenty year term. Validation patents, which served Argentina well for many years, have been abolished.

Trademarks: Argentina - Subtract 0 of 9 points

Argentinean trademark law, which dates from 1980, works well. The lack of express provisions for dealing with speculative registration of well-known foreign marks has apparently been dealt with effectively through court decisions. There is only minimal protection for unregistered marks.

A protocol for common treatment of trademarks has been created within the structure of the MERCOSUR trade area arrangements, but it has not yet come into force as a treaty.

Trade Secrets: Argentina - Subtract 13 of 15 points

Although various statutory provisions are theoretically available to sustain judicial protection of trade secrets, in practice there is virtually no effective trade secret protection in Argentina. Even the limited tactic of reliance on contractual restraints is impeded by labor laws and by judicial unfamiliarity with the concept of trade secret protection. The

technology transfer rules do not hinder trade secret protection. There is apparently no protection forsubmissions of proprietary data to regulatory authorities.

Life Forms: Argentina - Subtract 4 of 6 points

The 1973 Law on Seeds and Phytogenic Creations, Law No. 20,247, was issued by the military government in March 1973 and published April 14, 1973. The regulations were issued considerably later, so it did not take effect immediately. Argentina is not a member of the UPOV Convention for the Protection of New Varieties of Plants.

The 1973 law contains a broad exception for farmer use of saved seed, but not for seed exchange among farmers or for research. The law also contains a harsh provision for "restricted public use." Under specified circumstances which give undue scope for capricious exercise of administrative discretion, the government is permitted to abruptly grant to others the right to use proprietary seed, albeit with compensation and with a right of appeal to the federal courts. The minimum fines stipulated as sanctions for infractions are probably not sufficiently severe to serve their purpose.

The new legal matrix for patents which came into effect in early 1996 permits the patenting of microorganisms but excludes patentability for higher life forms.

Treaties: Argentina - Subtract 3 of 6 points

Argentina is a member of all treaties but the Patent Cooperation Treaty (PCT). The Ministry of Economy is making efforts to educate the relevant public regarding the PCT. Compliance with important provisions of the Paris Convention in relation to patents is lacking.

General Public Commitment: Argentina - Add 0 of 3 points

While a tradition of esteem for literary accomplishment has given copyright protection some public backing, an assertive campaign against patent protection for pharmaceuticals has produced a predominantly negative impression of intellectual property in much of the population.

B. Bahamas

The rating for the Bahamas is an 83. In overview, the intellectual property regime is basically sound. Modernization of particular

provisions could enhance investor interest in certain sectors, particularly investors consideringbringing higher levels of technology to agriculture, aquaculture and waste management. Those seeking to provide services to the islands will also be encouraged by specific modernizations. A six day visit to the Bahamas in March 1993 is the basis of this assessment; selective information received since then has also been incorporated.

Enforceability: Bahamas - Subtract 0 of 25 points

In general, courts are quite reliable and are viewed as such by the public. Judges are impartial, well prepared, respected and effective in supporting private property rights. Interlocutory measures are available and effectively used.

For intellectual property matters, penalties under both penal and civil statutes are sufficiently severe. Few cases have been brought to court, and those few were well decided. Customs authorities are effective in border enforcement of rights.

Administration: Bahamas - Subtract 1 of 10 points

In general, the administration of trademark and patent laws works well. However, the registry operates without the benefit of adequate computerization (as of early 1993) which means that searches of paper files are conducted slowly by hand. Mandatory public notices which must be published in the official newspaper have been delayed at times by as much as a year. Training for some registry staff has not been adequate.

Copyright: Bahamas - Subtract 4 of 12 points

Generally, copyright protection follows British law as it existed prior to independence. The copyright act presents two difficulties. First, there is no express protection for software as a literary work or for databases. Second, the protection for television broadcasters is adequate but subsists only in two British broadcast companies. This is quite important for the tourist industry.

Patents: Bahamas - Subtract 3 of 17 points

Again, the patent law of the Bahamas comes from British law. In general it is adequate for investors. The patent term is 16 years from grant, a bit short. Design copyright is provided by the statute but there is no provision for utility models or petty patents.

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Trademarks: Bahamas - Subtract 3 of 9 points

In general, the inherited British trademark law is adequate for investors. There is no specific protection for service marks. The Nice Agreement classification system is not followed.

Trade Secrets: Bahamas - Subtract 0 of 15 points

The Bahamas relies on British case law for protection of trade secrets. This provides adequate protection even though there is no trade secret statute as such.

Life Forms: Bahamas - Subtract 5 of 6 points

The lack of a plant breeders' rights law is a constraint on traditional breeding. The exclusion of higher life forms from patentability could be important to those seeking to genetically engineer crops or sea life to take better advantage of the country's unique environmental conditions.

Treaties: Bahamas - Subtract 4 of 6 points

The Bahamas is a member of the Berne and Paris Conventions, but not an adherent to their modern texts. The Bahamas is not a member of the Patent Cooperation Treaty or the Geneva Convention.

General Public Commitment: Bahamas - Add 3 of 3 points

At the grass roots, a basic honesty in public dealing prevails among much of the population. In many informal discussions intellectual property was viewed as a matter of respect for private property.

C. Barbados

The rating for Barbados is a 69. In overview, the intellectual property regime is basically sound. A set of four acts passed in 1981 led post-independence intellectual property system reform in the Caribbean. However, further modernization to reflect the

increased importance of new forms of technology and to remove troublesome discretionary authority from both the patent and trademark acts would enhance investor interest. Trademark and patent administration has been seriously deficient. This assessment is based on working visits to Barbados of four days in September 1993, seven days in May 1995, and five days in May 1996.

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Enforceability: Barbados - Subtract 0 of 25 points

In general, judges are impartial, well prepared, respected and effective in supporting private property rights. Effective interlocutory measures are readily available. Delays in court proceedings have been noted in some instances, in part a reflection of lack of modern transcription equipment.

Although there have been few intellectual property cases, the courts could be expected to render balanced and reasonable decisions. Penalties are sufficient. Customs authorities have adequate authority and recent reforms have been made to address difficulties in the port.

Administration: Barbados - Subtract 9 of 10 points

Deliberate inaction by the registry has led to significant administrative delay. No patents have been granted and few trademark applications registered since the new laws took effect in 1985. The registry administers 22 separate acts including the patent and trademark acts which tend to take low priority in competition with insurance, banking and offshore company incorporation activities. Computerization of an antiquated paper records system was completed for trademarks in late 1994, but a serious backlog of some 5,000 trademark applications extends back for over five years. Many WIPO recommendations for procedural reform made in 1992 had not yet been initiated as of May 1996, some for lack of resources. To potential new investors, Barbados will appear to have abandoned its patent and trademark system for most practical purposes.

Copyright: Barbados - Subtract 7 of 12 points

The 1982 copyright act is adequate in many respects. Recent experience has shown that the means to enforce rights are available under the act, but that greater specificity in this regard would assist enforcement. Software, databases and rental rights are not mentioned in the act and the personal use exception is quite broad. Moral rights cannot be waived. Performers' and producers' rights are extended for only 20 years, much less than the usual 50 years. Some of these defects may be critical to the country's efforts to attract sophisticated computer-based service industry investment. A new copyright law was being prepared by the government as of May 1996.

Patents: Barbados - Subtract 10 of 17 points

The patent act authorizes compulsory licenses to cure non-use or insufficient use, although justified non-use or insufficient use may bar such

a license; importation is not a justification. A ministerial finding of "national interest" may alsotrigger an award of a compulsory license and facilitate use of dependent patents. Inventions considered essential for development or other public interests may be excluded from patentability, even retroactively, with compensation but without right of appeal except as to compensation. The government may intervene in license arrangements which involve royalty payments abroad. The patent term is limited to 15 years from filing, although possibly extendible for another five years. The act calls for technical examination of patent applications, which in practice cannot be done in Barbados. No important subject matter is excluded from patentability except higher life forms, discussed below.

Trademarks: Barbados - Subtract 1 of 9 points

The trademark act works quite well. As under the patent act, however, the government is authorized to intervene in license arrangements which involve royalty payments abroad.

Trade Secrets: Barbados - Subtract 0 of 15 points

Barbados relies on British case law for protection of trade secrets. This provides adequate protection even though there is no trade secret statute as such.

Life Forms: Barbados - Subtract 6 of 6 points

The lack of a plant breeders' rights law is a constraint on investment in crop improvement by traditional breeding methods. Higher life forms are excluded from patentability which could be important to those seeking to genetically engineer crops or marine life to take better advantage of the country's unique environmental conditions.

Treaties: Barbados - Subtract 0 of 6 points

Barbados is a member of all of the important international treaties including the Patent Cooperation Treaty. Membership in UPOV (1991) and the Budapest Convention would be useful, however.

General Public Commitment: Barbados - Add 2 of 3 points

Honesty in public dealings seems to prevail among a large portion of the population. Although rental of obviously pirated videocassettes seems widely accepted, bootleg software was withdrawn from inclusion by hardware vendors after negative public comment.

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D. Brazil

The rating assigned to Brazil is 49. Modifications to Brazil's intellectual property regime after 1945 introduced many weaknesses, although greater strength and some modernization has appeared in the copyright area. The 1996 industrial property law reform introduced improvements but was not a great advance. The administration of industrial property law is marred by bureaucratic difficulties. The judicial system is not adequate for intellectual property disputes in many regards.

Trade secret protection is extremely weak and protection for life forms is mostly lacking. Brazil is a member of all the important international treaties. This assessment is based on over 30 weeks spent in Brazil during the last nine years as part of an effort to study and improve the intellectual property regime there and is current as of November 1996.

Enforceability: Brazil - Subtract 13 of 25 points

The federal and state courts function well in some geographic areas and not in others, with the federal courts regarded as generally weaker than those of most of the states. Distinguished and well regarded judges are found in some jurisdictions but not in others. Some observers note corruption appearing in some courts. Questions of judicial independence and integrity have arisen in some highly- publicized instances. Lengthy delays for many types of litigation are common, while some actions, particularly collection proceedings, can move swiftly. Precautionary methods were enhanced through procedural reforms at the end of 1995, but it is still too early to determine whether these potentially powerful tools will gain wide use. On balance, resort to the courts of Brazil involves more uncertainty than certainty.

Judicial enforcement of intellectual property is generally in the early stages of development, while the work of government enforcement agencies suffers from lack of training and funds. Judges are generally not familiar with the concepts involved. Expert opinions are often relied upon in technical matters where a comparison of infringing material is needed. However, for trademark litigation, a concentration of cases in the courts of Rio de Janeiro has built a knowledge base among some judges there, leading to an increasingly better quality of jurisprudence. Patent litigation is rare and trade secret cases are virtually unknown. Effective legal remedies, such as severe fines and destruction of seized materials, are lacking in many regards for copyright but were strengthened somewhat recently for industrial property violations. Federal preemption occurs when cases involve the patent and trademark office.

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Administration: Brazil - Subtract 8 of 10 points

In recent years the most senior position at the National Industrial Property Office (INPI) has been capably filled and some important reforms have been instituted. The INPI work force is constitutionally protected against job termination, as are most federal employees. This appears to account in good part for an administration of the industrial property laws characterized by incomprehensible delays and sometimes incomprehensible decisions. Funds for operation of the INPI have fluctuated over the years from barely adequate to drastically insufficient, with a consequent toll on the quality of the work force. The labor union formed by many members of the INPI work force has, quite remarkably, lobbied aggressively against stronger intellectual property protection before the Brazilian congress.

Computerization of INPI functions has begun, but would benefit greatly from completion of the program. Several fields of invention, which were previously excluded from patentability, are to become patentable in May 1997 and will generate a high number of added applications. The ability of the INPI to manage a significant work-load increase is in question. The capable Brazilian industrial property bar has been able to work with and offset some of the INPI administrative deficiencies.

Separately, a history of INPI intrusion into license arrangements has been sharply curtailed by internal regulations and even more severely by the new industrial property law. Nonetheless, INPI officials continue to intervene in the terms of contracts presented to INPI for registration.

Copyright: Brazil - Subtract 4 of 12 points

As throughout most of Latin America, Brazil has honored literary creativity with reasonably effective copyright protection. Weaknesses are found in the application of copyright protection to computer-dependent expressions, such as software, databases and electronic transmission of digitized signals. Software is not recognized as a literary work. The term of protection for software is short and rental rights for software are not expressly protected as in most modern legislation. As noted separately above, much recent difficulty has centered on the lack of effective legal remedies and enforcement procedures more than on the creation of copyright itself. Indeed, the greatest weakness in copyright protection stems from the virtual non-existence of criminal penalties and civil damages have no practical effect the typical piracy cases.

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Patents: Brazil - Subtract 10 of 17 points

The patent law of 1996, which takes effect in May 1997, excludes certain fields of invention from patentability. It reduces the value of a patent by permitting compulsory licenses, facilitating dependent patents and by restricting the rights of patent holders. Working requirements are outdated. National security and public interest concerns can override private activity. Utility models and industrial designs are protected.

Trademarks: Brazil - Subtract 1 of 9 points

The trademark law of 1971 was deficient in its ability to offer protection for "famous" trademarks, leading to widespread speculative registration of trademarks originated elsewhere by others. This was improved several years ago, partly through court decisions and partly through regulations issued by the INPI, which interpreted the "famous marks" provisions of the Paris Convention to require notoriety among a smaller population in Brazil. The new law, which takes effect in May 1997, provides even stronger protection.

A protocol for common treatment of trademarks has been created within the structure of the MERCOSUR trade area arrangements, but it has not yet come into force as a treaty.

Trade Secrets: Brazil - Subtract 11 of 15 points

The concept of trade secret protection is little known in Brazil. A 1945 law, which was very narrow and inadequate, has been eliminated by the 1996 industrial property law which creates penalties but provides no definitions, leaving many questions to be worked out in the courts. Virtually no cases have been brought. A government survey of Brazilian companies found widespread inability to protect trade secrets. n18 Protection of registration data submitted to authorities is better assured under the 1996 law. Protection under concepts of unfair competition is theoretically available but little used and difficult to present to the courts, although a Sao Paulo court acted decisively in one recent case. Some judges are reported to have indicated recently that they would be prepared to find damages for moral rights in trade secret cases, but the concept is quite novel and untested.

In the absence of direct protection for trade secrets, resort to general legal concepts collides with constitutional guarantees of worker

freedom to pursue employment, rendering trade secret protection ineffective against individuals in mostcases.

The points subtracted are a tentative judgment and may deserve adjustment as the new law's provisions are worked out in the courts.

Life Forms: Brazil - Subtract 5 of 6 points

The patent law of 1996 continues to restrict the patenting of microorganisms. The relevant text is particularly confusing. There is as yet no law for the protection of plant breeders' rights.

Treaties: Brazil - Subtract 0 of 6 points

Brazil is a member of most of the international treaties concerning intellectual property, including the Paris, Berne and Geneva Conventions and the Patent Cooperation Treaty.

General Public Commitment: Brazil - Add 1 of 3 points

Traditional esteem for literary expression prevails among some of the population. Ideological opposition to industrial property protection has moderated recently among many opinion leaders, and protection for software through copyright has been increasingly accepted among relevant segments of the population. United States trade sanctions have also served to educate the public to a limited degree. Still, there is little public awareness of the scope and importance of intellectual property protection although several recent cases have highlighted copyright protection for software. Infringements are generally regarded as minor violations of the law.

E. Chile

The rating assigned for Chile in late 1995 was 62. The system benefits from a relatively strong judicial system and some modernization. However, serious gaps remain, particularly in relation to public administration, trade secrets and life forms.

The assessment was based largely on advice of distinguished local counsel. Because of system deterioration since 1995, a lower rating would now be warranted.

Enforceability: Chile - Subtract 9 of 25 points

Judicial independence is not an issue in Chile, one of the systems strongest features. The caliber of judges generally ranges from good toexcellent; moral integrity is part of a long-standing tradition. The

salaries of judges, however, are shamefully low. The education of judges is excellent in general legalmatters but rather poor in relation to intellectual property.

A specialized appellate court for industrial property cases was created in 1991. Appeals for cases involving plant variety protection were added to its jurisdiction recently. This court has been a useful improvement in enforcement of industrial property. Its jurisdiction may be extended to other forms of intellectual property in the near future.

Although not expressed in the concepts of the common law used in TRIPS and NAFTA, the tools needed to assure enforceability are available under general code provisions. It would be preferable to articulate the required authorities expressly for the intellectual property area to make them more readily available to the judges. Injunctions are issued swiftly in many, but not all cases, and normally injunctions and seizures are done together. Publicadministration of enforcement is excellent. Judicial orders are carried out and the customs officials are reasonably dedicated.

Sanctions are low and are found only on the criminal side and tend to end with only economic penalties which are quite low. No civil cases are brought. For large-scale, systematic infringers, the fines can be virtually ignored as a minor cost of doing business.

Delays are minimal and costs of litigation are reasonable. Judicial decisions are readily available to the public and the reasoning behind decisions will be known.

As to copyright enforcement, infringement of books, musical tapes and software are still not dealt with adequately.

Administration: Chile - Subtract 5 of 10 points

As of August 1995, administrative delays, while not overly long, cause unreasonable difficulties. A relatively new staff is not yet well prepared. Adequate funding is available to the registry but not well applied. Low salaries create difficulties. The registry is not autonomous, with political appointees in charge. There is resistance to reform efforts.

The registry is both an examining office and an administrative court, as is the practice in many other countries. Chile attempts to examine patent applications using local professors, with resulting delays. Confirmation patents are also accepted. Some 35,000

trademark applications were filed in 1994, with some delays. About 2,000 patent applications are filed annually. Decision making is transparent, although with occasionally poorly-reasoned decisions. Bias and corruption are not present, and the cost of processing applications is quite reasonable. On

the other hand, copyright administration is practically non-existent, and there is not even a mediumlevel government authority in charge.

Copyright: Chile - Subtract 2 of 12 points

The 1970 copyright law has been amended frequently to good effect and the coverage is reasonably up-to-date. There is no law regarding satellite piracy; attempts to deal with violations are possible under the general copyright law, but would be difficult. Rental rights are covered by the copyright law but only for phonograms, although the provision might be construed more broadly to reach other expressions. There are no deviations from the Berne Convention requirements.

Patents: Chile - Subtract 5 of 17 points

Patent certificates make clear that the patent term is 15 years from grant. This is also made clear in the regulations, even though the text of the law itself can be misleading. Examination for prior art is universal except that the examination is limited within Chile for confirmation patents. Utility models are fully protected. A supplementary confirmation patent system is usefully provided.

Trademarks: Chile - Subtract 1 of 9 points

The treatment of trademarks is adequate although there is room for improvement. Service marks are fully protected. Famous marks are well cared for in the law and in practice. There is no use requirement. The Paris Convention grace period of six months is not observed. Instead, a one month grace period is followed, but in practice this does not present difficulties. The Nice Agreement classes are incorporated by regulation and followed.

Trade Secrets: Chile - Subtract 10 of 15 points

Scattered statutory provisions provide only limited and largely ineffectual trade secret protection. There is protection for proprietary data submitted to government authorities as an adjunct to obtaining regulatory approval, but it is not entirely satisfactory.

Life Forms: Chile - Subtract 5 of 6 points

There is a plant breeders' rights statute, based on UPOV 1978. The patent law denies protection for higher life forms.

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Treaties: Chile - Subtract 2 of 6 points

Chile is a member of virtually all of the major international treaties except the Patent Cooperation Treaty.

General Public Commitment: Chile - Add 1 of 3 points

The general public commitment to intellectual property protection in Chile is feeble but growing stronger and merits the addition of one point.

F. Costa Rica

The rating assigned to Costa Rica is 54. The patent law is extremely weak, trade secret protection is lacking, and the Central American Convention for trademark protection presents difficulties. To a lesser extent, the lack of immediate judicial relief causes problems.

Visits to Costa Rica in April 1992 and May and October 1996 form the basis for this assessment.

Enforceability: Costa Rica - Subtract 9 of 25 points

The courts of Costa Rica function effectively for the most part and are characterized by judicial independence and integrity. Judges are capable and well-regarded. There is, however, a lack of precautionary remedies to obtain immediate relief when rights are violated. In civil cases, only damages are available. Reforms in the civil code initiated in 1989 have failed to speed litigation, and unfortunately cases now take longer than before. Judges are largely unfamiliar with modern technology and the value of intangible assets.

Striking court interpretations of the law have aided development of strong intellectual property protection in regard to "famous" trademarks. Civil and penal sanctions tend to require more severity to serve effectively.

Administration: Costa Rica - Subtract 0 of 10 points

The industrial property registry is well-organized, adequately funded on a sustained basis and functions reasonably well. It is computerized and processing times are commendable. Complex procedures were noted by some local practitioners. A good part of the effectiveness stems from its status as an autonomous entity with a non-political board and the authority to retain and apply the fees it receives for both operating and capital expenditures and with authority to hire, train and fire employees.

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The registry has not been tested relative to patent administration since few applications have beenreceived, probably reflecting the considerable weakness of the existing patent law discussed below. A confirmation system would be of considerable value once the patent law is strengthened.

Copyright: Costa Rica - Subtract 0 of 12 points

The copyright law of 1982was revised in 1994, regulated in 1995, and effectively enforced in 1996. Protection has been extended to software as a literary work, and databases are now explicitlyprotected. Other weaknesses in the earlier act have been largely eliminated. As with most countries, the new conditions of cyberspace have not yet been addressed.

Patents: Costa Rica - Subtract 16 of 17 points

The 1983 patent law of Costa Rica suffers from many defects. These defects include a very short patent term of 12 years from grant for most inventions and a term of but one year from grant for some categories of invention, provisions which facilitate easy use of dependent patents, pre-grant oppositions, importation does not constitute working, broad compulsory licensing provisions without justification for non-use, exclusions from subject matter, and declarations of presumed public interest. There is protection for utility models and industrial designs.

A treaty which would provide improved patent protection for Central American countries is being prepared.

Trademarks: Costa Rica - Subtract 3 of 9 points

The Central American Convention for the Protection of Industrial Property constitutes the trademark law of Costa Rica and several other countries. The convention fails to offer deterrence to speculative registration of trademarks. Some potential investors are likely to be discouraged even though the courts of Costa Rica have suppressed speculative registrations in selected cases and the registry has followed their lead.

Costa Rica rejected, at least temporarily, a protocol by which modification of the Central American Convention is proposed. Although Nicaragua approved the protocol, the future of the protocol is uncertain in view of its rejection by Guatemala as well.

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Trade Secrets: Costa Rica - Subtract 12 of 15 points

Costa Rica has virtually no protection for trade secrets. A labor code provision permits dismissal without compensation of a worker who betrays secrets of his employer to a competitor, but this does not constitute adequate protection. The Central American Convention for the Protection of Industrial Property, noted above under Trademarks, contains provisions regarding unfair competition which could theoretically provide a basis for protection, but no cases have been brought under them, and it is not a practical approach to protection in any event. Information regarding product registration materials was not obtained.

Life Forms: Costa Rica - Subtract 4 of 6 points

The patent law excludes higher life forms from patentability. A seed protection law of 1979 was not examined, but is said to be consistent with the 1978 UPOV convention, which suggests certain weaknesses. A Central American Convention devoted to the protection of new plant varieties is being prepared.

Treaties: Costa Rica - Subtract 2 of 6 points

Costa Rica is a member of the Berne and Geneva Conventions and recently joined the Paris Convention. It is not yet a member of the Patent Cooperation Treaty.

General Public Commitment: Costa Rica - Add 0 of 3 points

Although several educational seminars have been conducted in Costa Rica recently, it is difficult to suggest that there is any noticeable public commitment to intellectual property protection, except perhaps in esteem for traditional authorship. Generally negative views prevail particularly in relation to patents.

G. Ecuador

The rating assigned to Ecuador is 42. The intellectual property regime exhibits both strength and weakness. Emerging strength comes from three ANCOM Decisions adopted in 1994 by Ecuador under the Cartagena Agreement. Weaknesses exist in the judicial enforceability of rights and in public administration.

Ecuador's intellectual property system has never been particularly robust except perhaps for the protection of traditional literary works. In recent decades, Ecuador has joined its Andean neighbors in creating a

series of common accords for intellectual property. The most recent of these decisions were detailed,clearly written and intended to serve, not as broad-brush treaty norms, but as the domestic law of each of the five ANCOM countries. Indeed, they have been adopted in totality by each country, including Ecuador, as national legislation.

The present assessment is based on information gathered from analysis of relevant laws, secondary materials and a week of consultations in both Guayaquil and Quito with leading members of the intellectual property bar. The assessment is current as of late February 1996.

Enforceability: Ecuador - Subtract 20 of 25 points

The judicial system of Ecuador, including judges, prosecutors, police and border officials (customs), together with the legal tools at their disposal, does not constitute a system likely to give potential investors sufficient confidence that their rights will be enforceable in Ecuador.

Deficiencies include antiquated procedures, lack of oral presentations, delays, weak control of case load and processing, and a poorly organized judicial system. The public referendum for judicial reform in November 1995 was defeated. The independence of the judiciary is not assured, and corruption may exist.

Judges are largely unfamiliar with the concepts of intellectual property and it is often difficult to persuade them to impose immediate injunctive relief. Seizures may be ordered but can be costly. Peru's enforcement procedures are considered superior to those of Ecuador.

Administration: Ecuador - Subtract 7 of 10 points

Like many other industrial property offices, the National Directorate of Industrial Property is strained by severely limited financial resources. The strain is reflected in lack of adequate equipment, training, and human resource development. The Directorate has no statutory authority to charge for its services and must rely on budget allocation. As in many other countries, it is typical for the budget process, over time, to shrink the resources available to the Directorate. Users of this public service report unacceptably lengthy delays and considerable turn-over among management.

Copyright: Ecuador - Subtract 5 of 12 points

ANCOM Decision 351 provides the basis for the protection of copyright and related rights, offering fairly modern protection and expanding protection beyond earlier statutes. Computer programs are explicitly protected as literary works and databases and compilations of

data are protected. What constitutes a communication to the public is usefully defined and an array ofenforcement provisions have been added.

Still, deficiencies persist, among them the lack of waiver for moral rights, no clear right to prohibit parallel imports or transmission of sound recordings in digital media. The status of sound recordings made before the Decision took effect is not clear.

Patents: Ecuador - Subtract 9 of 17 points

In Ecuador, the patent law is provided by ANCOM Decision 344 which took effect in 1994. It provides a significant increase in protection for inventions when compared to its predecessor. However, the decision presents difficulties. Among them, is the exclusion of certain subject matter from protection. Parallel imports are permitted. Compulsory licenses can be granted under defined circumstances. Transition arrangements (called "pipeline" protection) are not made available. The decision contains no requirements that member countries provide for enforcement of the rights created.

Trademarks: Ecuador - Subtract 3 of 9 points

Trademark protection is provided by Decision 344 which took effect January 1, 1994. While the decision enhanced trademark protection in important respects, difficulties remain. Among them, the definition of what can constitute a trademark excludes forms which must be permitted under the TRIPS Agreement. The treatment of "notorious" or "well-known" trademarks is generally adequate. However, a requirement of "reciprocity by interested sectors" conflicts with the TRIPS Agreement (and the Paris Convention), and the public to which reference is made is the consuming public in general instead of the specific public for which the trademark is relevant. No procedure for appeals against denials is provided, which conflicts with TRIPS.

Trade Secrets: Ecuador - Subtract 7 of 15 points

Trade secrets are protected by Decision 344; protection is generally sound and a considerable advance over prior conditions. However, there are deficiencies. Among them is the unnecessary stipulation that, to be protected, the information must refer to three defined categories of activity. Information that is obvious to a specialist in the field is not protectable. Information furnished to officials in order to obtain government permission of various kinds is not to be considered in the public domain, but beneficial

use by others is not prohibited. To be protected, information must be in some tangible form, a conflict with

TRIPS requirements and common sense. A person with knowledge of a trade secret may use or disclose itwithout authorization if there is "justified cause" for doing so.

Life Forms: Ecuador - Subtract 3 of 6 points

Decisions 344 and 345 provide both types of protection, although with certain deficiencies. Decision 344 offers patentability in this area, although it denies patents to transgenic animals, while improved plants can be protected. Decision 345 establishes generally adequate protection for new plant varieties but provides a very broad "saved seed" exemption for farmers among other shortcomings.

Treaties: Ecuador - Subtract 4 of 6 points

Ecuador is a member of the Berne, Rome, and Geneva Conventions, and although not a member, follows the provisions of the Nice Agreement concerning trademark classifications. Ecuador is not a member of the Paris Convention nor of the Patent Cooperation Treaty.

General Public Commitment: Ecuador - Add 0 of 3 points

Even though talented people were found striving to apply creativity to local problems, there is as yet little awareness of the benefit of intellectual property for Ecuador's economic development. In some quarters, the perception of intellectual property is quite negative.

H. El Salvador

The rating assigned to El Salvador is 43. Major factors contributing to this rating include a weak judicial system, inadequate resources for the registry, a single major defect in the rights of authors which are otherwise adequate, marginally defective trade secret protection and the weakness of the Central American Convention regarding trademarks. However, the recently reformed patent law is a positive factor.

A one week visit to El Salvador in June 1992 is the basis of this assessment. Close attention was paid thereafter to successive drafts of the copyright/patent law enacted in August 1993. Selective information received since then has also been incorporated.

Enforceability: El Salvador - Subtract 21 of 25 points

El Salvador is overcoming the historical absence of judicial independence, but only slowly, with the recent institution of staggered

nine year terms for Supreme Court justices. Judges are not highly regarded. Many cases are poorlydecided, as some judges openly view intellectual property violations as socially beneficial. Effective preliminary injunctive relief, although authorized, is seldom used in practice and is therefore not an effective tool for enforcement of intellectual property rights. A case pending for six years at the time of the assessment visit was the only one to involve a precautionary embargo during that period.

Judges are barely familiar with the complex issues of intellectual property and with the property value of intangible assets. Sanctions for both criminal and civil violations were increased in 1993 and are reportedly adequate now. Industrial property cases can be brought in either the civil or mercantile court, the latter offering more rapid conclusions. Copyright cases, however, are restricted to the civil courts.

Administration: El Salvador - Subtract 8 of 10 points

Lack of adequate resources for operation of the registry has led to poor decisions and a serious backlog of trademark applications. Many of these applications are thought to be speculative in nature, filed after the Central American Convention for the Protection of Industrial Property was adopted by El Salvador.

Copyright: El Salvador - Subtract 5 of 12 points

A new copyright law was passed in 1993 providing comprehensive, modern protection and could be rated highly but for an unfortunate provision inserted at the last moment that excludes certain classes of infringers from operation of the law. A subsequent amendment to the criminal code may serve to overcome some aspects of this exclusion. The operation of the law was initially delayed with regard to audio- and videocassettes. Clarification of certain provisions of the new law is needed. It appears that the operation of the new law will be highly politicized.

Patents: El Salvador - Subtract 1 of 17 points

A rather antique patent law (1913) was superseded in 1993 by a new law which is modern, clear and for the most part very encouraging for investors. There are two limitations on an otherwise highly positive assessment. The new law discriminates against medicines in limiting the patent term to 15 years, whereas other inventions enjoy

20 years. Where preliminary injunctive relief is sought, appeals may be taken with suspensive effect during appeal.

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A treaty which would provide patent protection for Central American countries is being prepared. It would appear to provide a lower level of protection for El Salvador than the current law.

Trademarks: El Salvador - Subtract 7 of 9 points

The Central American Convention for the Protection of Industrial Property constitutes the trademark law of El Salvador and several other countries. The convention fails to offer deterrence to speculative registration of trademarks. The courts of El Salvador have not suppressed speculative registrations as they have in Costa Rica. One director of trademarks who resisted these registrations on various grounds left his position in 1992. Efforts to reform the convention are being made.

Trade Secrets: El Salvador - Subtract 10 of 15 points

The copyright/patent law enacted in August 1993 contains an excellent provision for trade secret protection. It goes well beyond the treatment of trade secrets found under Mexico's recent reforms. However, the value of the provision becomes severely limited unless the availability of immediate precautionary measures is assured. Although not entirely clear as written, the new law appears to deny that assurance. Because the courts of El Salvador cannot be relied on to render a ruling which would supply the missing assurance, the assessment must be made that adequate protection for trade secrets remains largely unavailable. This assessment could be reported under the treatment of enforcement above, but because the issue arises under the text of the new law, the assessment is reported here.

Life Forms: El Salvador - Subtract 3 of 6 points

The new patent law (1993) does not exclude higher life forms from patentability and is a highly positive development. The country does not have a law to protect plant breeders' rights.

Treaties: El Salvador - Subtract 2 of 6 points

El Salvador is a member of the Geneva Convention and recently joined the Berne and Paris Conventions. It is not yet a member of the Patent Cooperation Treaty.

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General Public Commitment: El Salvador - Add 0 of 3 points

Although one or two recent public seminars have begun to raise the subject, there is very little evidence of general public awareness of, or support for, intellectual property protection.

I. Guatemala

The rating assigned to Guatemala is 13. Guatemala's regime is one of the weakest inLatin America. Although attempts at regime reform have been made in recent years, only some have been positive. Court enforcement of rights is highly problematic. Registry underfunding hampers acquisition and maintenance of industrial property rights. Copyright law does not respond to modern forms of electronic expression; patent and trademark protection is flawed. Trade secret protection is virtually unknown. Guatemala is not a member of most of the world's major treaties and conventions regarding intellectual property.

Visits to Guatemala in January 1994 and July and September 1996 form the basis of this assessment. Information acquired since then has also been incorporated.

Enforceability: Guatemala - Subtract 25 of 25 points

The independence of the judiciary is compromised by the manner in which it is constituted. While there are able people serving in the judiciary, judges in general are not well equipped for their role, with a low level of knowledge for many subjects including intellectual property. The Harvard Criminal Law Reform Project, terminated abruptly several years ago, led to limited improvements in criminal procedure, but these courts have a decidedly poor reputation.

Effective penalties are lacking for most intellectual property offenses. Jail terms are not authorized by statute and timid monetary sanctions, if imposed, amount to simply a marginal cost of infringing. In civil actions, judges are reluctant to impose significant damage awards. Preliminary injunctive relief, although theoretically available, is not granted in practice, particularly for intellectual property infractions. Judges tend to view intellectual property with skepticism. Several litigators noted that judicial support is sometimes available for patents and trademarks because the rights involved are represented by tangible certificates, whereas copyright subsists without benefit of an official piece of paper which makes enforcement more difficult.

Two decrees recently modified the penal code in relation to intellectual property. One broadened the scope of sanctions for

infringements and intensified the penalties. However, a more recent decree severely limited thosepenalties.

Administration: Guatemala - Subtract 8 of 10 points

Funded from the national treasury, the registry has suffered reduced budget allocations to the point of impaired operating ability. Notwithstanding recent computerization, processing times have lengthened to an unacceptable average, and delay becomes interminable if oppositions are presented. Appeals of registry decisions to the ministry will cause further inordinate delays. Patent applications declined by 75 percent after the negative 1986 law changes discussed below. Those changes also eliminated confirmation patents and imposed on the registry the burden of technical examination of applications, a burden for which the registry is largely unprepared. Trademark fees mandated by the Central American Convention are frozen and quite low, causing the registry to operate at a deficit.

Copyright: Guatemala - Subtract 10 of 12 points

The 1954 copyright law does not extend protection to types of expression made available through new technology, chiefly software, databases, sound recordings and audiovisual works. Rental rights are not stipulated. Permitted use provisions are overly broad. A revised copyright law is reportedly in preparation. The new Cable Law for wired retransmission of broadcast signals is burdened by technical defects.

Patents: Guatemala - Subtract 14 of 17 points

The patent law was revised in 1986 to incorporate negative provisions of Mexican and ANCOM statutes then in force which have since been reversed in those countries. The patent term is well short of the new international standard and important fields are excluded from patentability. The value of patents is reduced by various devices including overly broad compulsory licenses without the possibility of justifying non-working. Protection of utility models and industrial designs is not available. A treaty which would provide improved patent protection for Central American countries is being prepared.

Trademarks: Guatemala - Subtract 7 of 9 points

The Central American Convention for the Protection of Industrial Property constitutes the trademark law of Guatemala and several other countries. The convention fails to offer deterrence to

speculative registration of trademarks. The courts of Guatemala have not suppressed speculativeregistrations as they have in Costa Rica. While narrow technical grounds have been found as a basis for resisting speculative registrations in some cases, generally the ability to suppress such registrations is not available. Efforts to reform the convention are being made; however, in 1996 Guatemala's legislature rejected a protocol intended to improve the convention, as has Costa Rica.

Trade Secrets: Guatemala - Subtract 12 of 15 points

There is no effective statutory basis for trade secret protection. The criminal and labor codes provide authority to initiate legal action against a departed employee who has disclosed business secrets, but this does not provide a basis for action against the new employer. Unfair competition provisions in the commercial code could theoretically provide a basis for legal action, but legal analysts are pessimistic about this approach.

Life Forms: Guatemala - Subtract 6 of 6 points

The patent law excludes higher life forms from patentability and there is no plant breeders' protection law.

Treaties: Guatemala - Subtract 5 of 6 points

Guatemala, while a member of the Geneva Convention, is not yet a member of either the Berne or Paris Conventions. Nor is it a member of the Patent Cooperation Treaty. Membership in the Berne Convention was approved by the legislature in late 1995, but official notice of that approval to WIPO has been long delayed.

General Public Commitment: Guatemala - Add 0 of 3 points

Virtually no evidence was found for a general public commitment to support for intellectual property protection. If anything, the reverse was largely true. Several educational courses were held during 1996 both for the relevant public and for judges.

J. India

The rating assigned for India is 46. India's intellectual property regime has developed from British antecedents. Over the nearly five decades since independence and partition, India's judicial system has broadened and deepened in response to the country's economic, population

and industrial growth. Nonetheless, this modernization has lagged behind evolving needs, notably in thearea of patent and copyright legislation. The legislation itself responds poorly to India's needs as an opening economy in a global setting of rapid technological advance. Public administration of the patent and trademark function is plagued by resource limits and the anti-investment bias which characterizes some of India's bureaucracy.

The present assessment is based largely on comments furnished by a retired foreign service officer with recent experience in India, supplemented by generally available written materials and comments from company lawyers. It is current as of early 1996.

Enforceability: India - Subtract 12 of 25 points

The autonomous judicial system performs moderately well in many circumstances, although constrained by limited resources and heavy documentation requirements. Judges are independent and adequately trained, although intellectual property issues receive little attention in Indian legal education and in on-going education for judges. Undue delays in litigation are notorious and can be excessive, stretching for years, even in much-publicized cases of great public interest. Sanctions are often not sufficiently severe to inhibit wrong-doing. Publication of judicial decisions is adequate, with procedural transparency viewed as reasonably good. There is only limited injunctive relief, and practically no capability for seizures in order to block dubious activity while litigation is initiated or runs its course. Corruption is said to play a role in some enforcement activities, including those of the police and customs officials.

As to copyright enforcement, standard presumptions and burdens of proof are missing from the 1994 statute, forcing lengthy evidentiary hearings in already backlogged and burdened courts. Enforcement authorities lack adequate resources for their work. The level of criminal penalties is quite severe, except for the fines, but whether the typically lengthy court proceedings can assure their timely imposition remains in doubt.

Administration: India - Subtract 3 of 10 points

Public administration of the industrial property function is hampered by personnel who are unresponsive and inadequately trained. Unduly limited budgetary resources and a negative mind-set among registry personnel combine to delay applications. Poorly reasoned decisions compound the difficulties. There is adequate transparency in administration and the fees imposed on system users are modest.

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Copyright: India - Subtract 5 of 12 points

Amendments to the copyright statute passed in 1994 introduced tough new criminal provisions and greatly improved protection in most substantive areas. It is not clear that the statute has as yet been implemented to permit actions under its provisions. The term of protection for performance rights is only 25 years, however. Only experience under the new statute will determine whether its provisions will be readily enforceable. Unauthorized satellite transmission rebroadcasts by local cable companies have become rampant. A temporary ordinance targeting this problem was passed in September 1994.

Patents: India - Subtract 11 of 17 points

Patent protection is denied to some fields, while in others the term of protection for inventions is unduly short. Overly-broad compulsory licensing is authorized with provisions favoring dependent patents.

Trademarks: India -- Subtract 4 of 9 points

The trademarks act is antiquated and rigid. It does not sufficiently deal with speculative registration of trademarks. There is some residual discrimination against foreign trademarks and service marks are not protected. The Nice Classification is not followed. Procedural formalities are unduly excessive.

Trade Secrets: India - Subtract 8 of 15 points

There is only very limited statutory authority to combat misappropriation of trade secrets. Still, common law concepts would presumably provide some basis for action. Difficulties would arise from the rigid and cumbersome response of courts to such cases. As larger Indian companies suffer further from predatory hiring, the courts may become adept at protecting trade secrets. Proprietary data submitted to government authorities in support of requests for various types of approvals is not assured protection, and corruption is raised as a concern in this regard.

Life Forms: India - Subtract 6 of 6 points

There is no patent protection for higher life forms. There is strong political resistance to protection for new plant varieties under UPOV.

Treaties: India - Subtract 5 of 6 points

India is a member of the Berne Convention and the Geneva Convention but none of the other major international treaties concerning intellectual property. Its compliance with the Geneva Convention is questioned.

General Public Commitment: India - Add 0 of 3 points

There is little evidence of general public commitment to intellectual property as an important ingredient of economic life. If anything, negative views prevail.

K. Mexico

The rating assigned to Mexico is 69. Enforcement measures are the weakest component of Mexico's regime. Deficiencies in recent copyright law amendments cause concern and some problems remain in the patent law and regarding trade secret protection.

This assessment is based on analysis of relevant legislation and on participation in the Ad Hoc Group for Mexico Intellectual Property Matters since 1978 and on numerous visits to Mexico over the last 25 years. Other observers, including Oscar Becerril and Edwin Einstein, and industry sources have also provided useful recent information. Remarks made by Lic. Jorge Amigo, general director of Mexico's Industrial Property Institute, at public events in May 1995 and May 1996 have also been taken into account. n19

Mexico presents one of the best examples of a country which has improved its intellectual property system out of an increased appreciation of the resulting benefits for the country. Anecdotal information suggests that following the reforms of 1991 and the fine tuning of 1994, private venture capital is beginning to support start-up companies while large private firms are willing to invest in internal research and are able to attract top quality research graduates to conduct that research. Less clear is the role of the system reforms in aiding the transfer of new technology from university laboratories to the marketplace.

Enforceability: Mexico - Subtract 19 of 25 points

In general, questions continue to arise regarding the independence of the judiciary in Mexico. The nature of judicial appointments does

little to prompt confidence, and corruption is not unknown. Legal mechanisms approximating the effectof preliminary injunctive relief are selectively available and reasonably effective, but not in all fields. For example, trademark infringement is effectively dealt with by this mechanism, while patent infringement is proving more difficult. This is largely so because trademark violations are relatively easy for officials to determine, while patent infringement usually requires sophisticated laboratory assessments.

Private civil litigation to enforce intellectual property rights is crippled by the lack of precautionary measures, such as injunctions and seizures. Private litigants can seek only monetary damages, an approach which is normally considered ineffective. For investors, this places greater emphasis on administrative actions and criminal litigation.

In practice, there is authority for ex parte seizures initiated by private parties on request to the Mexican Institute for Industrial Property (IMPI). These actions are proving effective for many kinds of infringements of industrial property. However, copyright actions are said to be making very little progress in reducing high levels of piracy, with suggestions that official initiatives produce few significant results. The 1993 amendments to the copyright law do not meet NAFTA requirements and problems remain regarding matters of evidence and presumptions. Recently, software piracy has been attacked with some success using trademark penalties which are much more severe than those stipulated for copyright violations.

Some public prosecutors, police and customs officials have been reportedly unwilling to perform their duties in an impartial manner, although they are reportedly increasingly prepared to seize infringing goods and even to close production facilities, particularly with the participation of IMPI officials. Federal prosecutors report having taken stern action to address trade secret misappropriations in more than a few cases. This is important in the absence of adequate civil remedies. In criminal litigation, fines and jail terms have been seldom used and therefore lack credibility. The penalties stated for copyright in particular are not adequate. However, this may be changing soon.

For patents and trademarks, the availability of effective arrests and seizures often depends on the willingness of IMPI officials who, in recent years, have shown courage and energy in executing their responsibilities. Private parties are given authority to initiate these proceedings directly in civil cases, but judges have a strong tendency to refer these matters to the IMPI for the substantive decision. Most judges are not yet well versed in intellectual property concepts and tend to rely on expert opinions. It is no longer necessary for the civil courts to wait for the technical opinion of the IMPI, and they may instead issue their opinion

based on the views of experts appointed by the litigating parties. Litigation can be slow and resultsuncertain, as is the case in many countries.

A unique provision, introduced recently, permits courts to arbitrarily compute the damage done by infringement at a minimum of 40 percent of the sales price of infringing goods. While this figure may be low relative to the losses sustained, the calculation of damages in the past was tedious, time consuming and usually quite unsatisfactory as a deterrent. n20

Administration: Mexico - Subtract 2 of 10 points

Patent and trademark administration was recently entrusted to the IMPI, which is an autonomous institute lodged within the Ministry of Industry and Commerce. Even before this, Mexico had made important progress in modernization of its registry functions. Delays have been brought under firm management, and for the most part, decisions are well reasoned, clear and fair, with questions arising when issues become technically complex. There are not enough patent examiners, and in the higher technology fields they suffer from some inexperience. The copyright function, under dynamic leadership, has performed well and provided valuable training for judges in copyright concepts.

Copyright: Mexico - Subtract 7 of 12 points

Questions have been raised regarding compliance of the 1993 revisions to the copyright law with NAFTA requirements. Some of the deficiencies relate to protection of software as a literary work, certain threshold requirements for enforcement action, and the issue of parallel importation. Preparation of an improved copyright law is moving forward. An early test of the NAFTA dispute settlement mechanism is reported to be a possibility.

Patents: Mexico - Subtract 1 of 17 points

The patent law reforms of 1991 were supplemented by further reforms in 1994 and by recent regulations. While Mexico has improved its protection for patents significantly since 1987, a few troublesome difficulties remain. Although improvements have been made in the 1994 law regarding international exhaustion of rights, there are some residual concerns. The legislative history for this provision and a contrast with

the express right of parallel importation for trademarks appear to offer a basis for resisting parallelpatent imports, but the point remains troublesome. A leading Mexican official has asserted publicly that such imports will not be permitted.

The burden of proof reverses in cases involving process claims and computer programs are excluded from patentability. Legitimate reasons which justify inaction will prevent a compulsory license and importation will satisfy the working requirement. The patent may lapse if by two years after the grant of a compulsory license the lack of working has not been remedied, but justification for not working can be presented. Protection for utility models and industrial designs is provided.

Trademarks: Mexico - Subtract 0 of 9 points

The 1991 law was modified in 1994 and regulations have been issued. The treatment of trademarks under the law is considered adequate even though there is an express provision for parallel imports. Service marks can be protected. An unfortunate "linking" requirement was eliminated in 1987. There is a chapter on denomination of origins. There is no provision for opposition proceedings, but cancellation actions, although not an ideal approach, have proven workable.

Trade Secrets: Mexico - Subtract 3 of 15 points

The 1991 industrial property law reforms provided a statutory basis for trade secret protection in Mexico. Unfortunately, the information must be recorded in tangible form, a requirement which leaves many questions unanswered. Efforts which are "reasonable" must be made in order to maintain the secret. This standard will, no doubt, be clarified in practice. Limitations on the ability of private parties to enforce their rights to protect their trade secrets were removed in 1994, permitting direct access to both civil and criminal courts without the need for intervention of IMPI officials. The protection of proprietary data submitted to government authority will be maintained as a protectable secret. Few if any private cases have been brought under the new statute, probably because only money damages can be sought in a civil action. However, as noted above, federal prosecutors have taken firm action against some misappropriations.

Life Forms: Mexico - Subtract 1 of 6 points

The 1994 patent law permits patenting of transgenic higher life forms, while denying patentability to plants and animals produced by traditional breeding. A plant breeders' rights law entered into force in

October 1996. Even before it took effect, a filing date could have been secured by presenting anapplication to the IMPI. A registry for the newly created rights was established in the Ministry of Agriculture and preexisting applications were automatically transferred. However, then existing patent applications intended to protect plant varieties had to be transferred and prosecuted under the new plant varieties law.

Treaties: Mexico - Subtract 0 of 6 points

Mexico is a member of the Berne, Geneva and Paris Conventions and, as of the beginning of 1995, of the Patent Cooperation Treaty. Although not a member of the Budapest Treaty concerning the deposit of microorganism, Mexico, like other countries, has accepted and recognizes the international depository authorities which have been designated under that treaty. In the same fashion, Mexico follows the Nice Agreement classification system for trademarks, although not a treaty member.

General Public Commitment: Mexico - Add 2 of 3 points

Ideological opposition to intellectual property protection has largely vanished from public life except in certain narrow circles. Mexicans working with modern technology in the last few years have come to increasingly appreciate the value of effective protection, while traditional esteem for literary accomplishment continues.

L. Nicaragua

The rating assigned to Nicaragua is 17. For a mixture of reasons, the intellectual property system of Nicaragua is essentially quite weak. The integrity, knowledge and competence of the judiciary is a critical issue. Adequate funding for the Registry of Industrial Property is required to sustain its function.

The Nicaraguan substantive law is lagging behind developments, as science moves ahead with remarkable acceleration. With the partial exception of trademarks, the intellectual property system suffers from antiquity and neglect.

This assessment is based on a one week visit in October 1996.

Enforceability: Nicaragua - Subtract 22 of 25 points

The judicial system is the weakest component of Nicaragua's intellectual property system. Independence of the judiciary is compromised by the manner in which it is constituted. Although there are

various opinions, indications of judicial corruption are manifest. While there are some able people injudicial roles, many are not considered to be outstanding members of the legal profession. Preliminary injunctive relief appears to be theoretically available, but in practice judges are reluctant to grant this form ofrelief, particularly for intellectual property. Cases often languish for extended periods. The criminal courts have a decidedly poor reputation. Civil actions can lead to damages, but as in many countries, damages are difficult to prove without adequate access to accurate books of account kept by the offender. Moreover, judges are reluctant to impose significant damage awards.

In general the application of law is feeble and calls for considerable strengthening. However, administrative decisions regarding industrial property creation are appealed directly to the Supreme Court. This would reduce at least marginally the difficulties faced by investors if litigation becomes necessary.

Judicial knowledge of many subjects including intellectual property is limited. The Criminal Code lacks effective penalties for intellectual property rights offenses. The minor sanctions which are stipulated impose little more than a marginal cost of doing business for offenders.

Administration: Nicaragua - Subtract 5 of 10 points

The patent and trademark registry is led by competent personnel supported by a small staff. They are chiefly hampered by the sporadic lack of sufficient resources to conduct their responsibilities. In practice, in recent years, the Ministry has disbursed less than the amounts allocated in the national budget, leaving the Registry short of funds. Computerization within the Registry has begun.

The time required for the Registry to issue a trademark registration is reasonable, but oppositions cause undue delays. There appears to be an unusually large number of oppositions which are causing a troublesome backlog. The quality of Registry decisions regarding trademarks was rated as adequate to good, while most observers have not had enough experience with patent administration to gain useful impressions.

Copyright: Nicaragua - Subtract 10 of 12 points

There is no law for copyright as such. Instead, certain antique articles of the Civil Code provide some elements of protection. They fail to take account of modern

technology such as computer software, phonograms, videocassettes, electronic databases and cable retransmission of satellite broadcasts. They also fail to reflect most of the modern

concepts for protection of copyright and related rights, including the rights of performers.

Patents: Nicaragua - Subtract 15 of 17 points

The patent law of Nicaragua dates from 1899, with subsequent minor modifications. Antiquity alone is not the problem as the law is vague and contradictory. The term is between five and ten years, at the discretion of a government official. Prior art in Nicaragua alone is to be considered. A patent will lapse in only one year from grant if not worked. Product patents are forbidden. Other provisions sharply reduce the value of a patent once granted.

Nicaragua is participating in the creation of a Central American convention for patent protection. A draft of the treaty has been initialed. If adopted, the level of patent protection in Nicaragua would greatly increase, although a number of its provisions would trouble private investors.

Trademarks: Nicaragua - Subtract 7 of 9 points

In Nicaragua, the Central American Convention for the Protection of Industrial Property was adopted and has, in effect, become the national trademark law. This convention was fashioned in 1968 and activated in 1975. Today four countries are members: Costa Rica, El Salvador, Nicaragua and Nicaragua.

Although the convention has served the four countries well in some regards, it presents specific difficulties for Nicaragua and the other countries today, particularly with respect to attracting investors. The major difficulty is found in its encouragement of speculative registration which now flourishes as a direct result of joining the Trademark Convention. A lengthy Protocol of Modification has been signed by representatives of the four member countries. Unfortunately, the Protocol has encountered difficulties.

Trade Secrets: Nicaragua - Subtract 14 of 15 points

There is virtually no protection for industrial secrets in Nicaragua. There are general provisions of the Criminal Code and Labor Code which could provide a limited basis for initiating criminal or civil actions against a departed employee who has been disloyal. To be effective, however, the law must establish a clear basis for legal action, not only

against the departed employee, but also against the new employer who receives and uses the technology of the former employer.

The Central American Convention for the Protection of Industrial Property (the TrademarkConvention) contains a brief treatment of unfair competition. It provides very general statements which could in theory be used to take action against the loss of trade secrets, but as far as is known no jurisprudence has been developed under these provisions in any country.

Life Forms: Nicaragua - Subtract 6 of 6 points

The patent law in Nicaragua does not expressly exclude from patentability inventions for higher life forms, yet the terms of Article 2 do not inspire confidence that a patent would be granted for a higher life form, such as a transgenic mouse. There is no law to protect plant breeders' rights.

Nicaragua is involved in current discussions regarding creation of a Central American convention intended to protect plant breeders' rights. A regional approach to this subject makes a great deal of sense and is to be encouraged.

Treaties: Nicaragua - Subtract 4 of 6 points

Nicaragua is a member of the Paris Convention but not a member of the Berne Convention or the Geneva Convention.

General Public Commitment: Nicaragua - Add 0 of 3 points

There is little evidence of public commitment to intellectual property as a beneficial factor in the country's development.

M. Pakistan

The rating assigned to Pakistan is 49. Although unreliable in many ways, the judicial system serves the intellectual property regime fairly well in at least some cases. Patent registry functions suffer from inadequate funding although the registry earns more than it spends. Modernization of the industrial property laws is needed. Trade secret protection is apparently adequate, if little used. Except for the Berne Convention, treaty membership is deficient.

This assessment is based on a one week visit to Pakistan in May 1994. The purpose of the visit was to speak to Pakistani audiences regarding global trends in intellectual property protection, but enough information was gained to support this assessment. A distinguished local

attorney later offered constructive suggestions for a better understanding the system.

Enforceability: Pakistan - Subtract 9 of 25 points

The judicial system, established during British colonial rule, today shows strengths and weaknesses. Efficiency is not among the strengths. Although considerable courage has been shown at high levels at times, observers divide over whether the courts are politically independent. The abrupt transfer of one senior judge demonstrates their vulnerability, in spite of tenure and other safeguards. Judges tend to be seriously underpaid, so few people of strong ability are now drawn to the bench at lower levels. Most of those who rise to the higher courts, however, are viewed as competent.

Some judges have gained experience with intellectual property issues and render sound decisions. Higher level courts in particular have demonstrated competence in this area, and the errors of subordinate courts are known to have been corrected on appeal. Original civil jurisdiction in the first instance is directly available in the High Court of Sindh for the commercial center of Karachi; whereas, in other provinces first instance district court jurisdiction is available if a sufficient monetary damage is claimed. Preliminary injunctive relief is available and effectively used for trademarks and patents, but not for copyright, with no reported use for trade secret cases. Privately initiated copyright cases are won with some regularity, while questions persist regarding institutional commitment to enforcement. Increased penalties were authorized in recent law changes. Trademark cases have demonstrated higher court competence. There have been very few patent cases in Pakistan.

Adequate remedies and penalties are reportedly available under both civil and criminal statutes. Foreign litigants have on occasion failed to meet the strict time limits for submission of evidence, thereby undermining their own cases.

Administration: Pakistan - Subtract 6 of 10 points

Only the patent registry was visited and it was found to be understaffed. Four well-trained examiners deal with over 600 patent applications filed per year. Because they must complete their examinations within fixed deadlines, examinations tend to be superficial. The examiners' technical library is badly out of date. Computerization is rudimentary and incomplete. As in many countries, funding for operation of the patent office is chronically inadequate relative to its task and to its potential for earning revenue.

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The trademark registry operates on a similar financial basis and appears to suffer accordingly. Computerization is underway. The main office is in Karachi with a branch office in Lahore. The registry plays a role in fighting piracy.

The patent office and trademark registry are institutionally separate, reporting to different ministries. Both offices have experienced increased workloads since the economy was opened to greater foreign trade, commerce and investment in the late 1980s, but corresponding increases in funding have not been forthcoming.

Copyright: Pakistan - Subtract 8 of 12 points

Copyright matters are the responsibility of the Ministry of Education. The 1962 Copyright Ordinance is drawn from the British act of 1956. Amendments to the 1962 Ordinance were made in 1992, clarifying, among other things, that software is protectable as a literary work. However, exceptions to protection are excessively broad. A compulsory license provision for books remains in effect. The Ministry of Education openly fosters piracy of educational books, aided in this by an express 1973 provision which amended the 1962 Ordinance. The 1992 amendments, while incorporating many modern copyright concepts, lag behind technological developments in a number of fields. There appears to be no rental right. Design copyright in relation to textiles has spawned controversy.

Patents: Pakistan - Subtract 14 of 17 points

The patents act, which dates from 1911, is based on the British Patents and Design Act 1907. The text examined included amendments up to 1961. The only fields excluded from patentability by the act appear to be inventions considered contrary to law or morality. However, a patent office guide book for inventors cautions that medicinal preparations, commonly called "patent medicines," are protected under the Drugs Act and thus cannot be patented. The guide book also asserts that in order to be patentable, an invention should relate to "a manner of manufacture." The ensuing discussion is not altogether clear. In practice, the patent office follows pre-independence and pre-partition British case law. As a result, product protection for chemical, pharmaceutical and agricultural-chemical inventions is not granted. Instead, process claims must be presented. Practitioners find the actions of the patent office are usually predictable. Some biotechnology inventions have been granted patents.

The patent term, at 16 years from filing, is short, but "if the patent has not been sufficiently remunerative" the government or the

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High Court may, on petition, extend the term to as much as 26 years from filing. Early publication ofapplications is authorized, and pre-grant oppositions are permitted although none has ever been received. Compulsory licenses may be granted, apparently without a requirement of adequate compensation, if market demand for the patented product is not being met "to an adequate extent or on reasonable terms" and there is unfair prejudice to any trade or industry in Pakistan. There is no provision for the patent holder to justify his situation. After four years from filing, the patent is subject to revocation if not worked in Pakistan, unless the patentee gives "satisfactory reasons" for non-working. There is no provision for dependent patents.

New and original ornamental designs are protected by registration which gives rise to copyright protection for five years. There is no special protection for petty patents or utility models.

Trademarks: Pakistan - Subtract 5 of 9 points

The statute consists essentially of the British law of 1938 with supplemental rules issued in1963. Speculative registration of famous trademarks abounds. There have been many recent cases, some skillfully argued with good results, particularly in defense of famous marks. Still, the prospect of litigation to secure what the law could make clear is hardly a strong invitation to investment. There is no provision for registration of service marks. Defensive trademarks may be registered.

Trade Secrets: Pakistan - Subtract 1 of 15 points

The British approach of common law protection is followed, and if a point is not developed in Pakistan or in India, British case law will be followed. In a vacuum, even American or Canadian case law could be presented. Injunctive relief is said to be available. Sketchy information indicates few if any cases have been brought. No information regarding protection for registration data was obtained.

Life Forms: Pakistan - Subtract 2 of 6 points

Patents for higher life forms are granted by the patent office. No definitive information regarding seed protection was obtained, but apparently none exists or if it does it is not very effective, given the reduced state of scientific agriculture in Pakistan.

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Treaties: Pakistan - Subtract 6 of 6 points

Pakistan is a member of the Berne Convention (and of the Universal Copyright Convention) but not of the Paris or Geneva Conventions, nor of the Patent Cooperation Treaty.

General Public Commitment: Pakistan - Add 0 of 3 points

The esteem for literary expression prevailing in other parts of the world is not found in Pakistan except among small segments of the population. In general there is no awareness of intellectual property as such, although trade secret protection has been effectively present for centuries in certain industries, such as rug making.

N. Panama

The rating assigned to Panama is 36. Panama's intellectual property regime is in transition. It is antiquated in many respects, exhibiting gaps and weaknesses and evidence of neglect. Yet the regime shows scattered signs of strength. A modern copyright law was enacted in August 1994, and more reforms are under consideration. Administration of industrial property laws is weakened by underfunding. Infringements are curbed by enforcement actions in some instances, while in others disregard for rights is rampant. The Free Zone presents special problems.

Visits of a week each to Panama in June 1994 and March and May 1995 are the basis of this assessment. Selective information received since then has also been incorporated. There have been subsequent changes which are not reported here. Thus, this assessment may be not be up-to-date in some components.

Enforceability: Panama - Subtract 17 of 25 points

Funding of the judicial system at a fixed percentage of national expenditure is mandated by the current and former constitutions. This was honored for the first time in 1995, but still appears inadequate. Panama's judicial system was revamped following the ouster of General Noriega. The Supreme Court was entirely refreshed with new judges who are viewed as competent and impartial for the most part. They serve for only ten years, however, raising questions about their independence, while federal judges of the first and second instance hold their positions for life. Heavy case loads burden the courts, with resulting delays. The competence of judges is being upgraded, but this takes time.

Their knowledge of intellectual property is quite limited. There is authority for preliminary injunctive relief, and it is used with success.

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A remarkable 1991 Supreme Court constitutional ruling forces low-level trademark conflictresolution out of the trademark office and into overcrowded civil courts. A new copyright law has been enacted under which penalties, which were far from adequate under prior law, have been increased and may prove sufficient. The penalties for patent and trademark infringements are deemed too thin. A 1991 revision of the criminal procedural code has had the effect of providing advance notice of seizures, which to be effective must rely on the element of surprise.

In at least partial response to the 1991 Supreme Court decision, legislation creating specialized civil courts for intellectual property at both first instance and appellate levels was approved recently. The new courts may improve the quality of enforcement proceedings. The legislation was modeled on the specialized maritime courts which have worked effectively.

Administration: Panama - Subtract 5 of 10 points

Underfunding has impaired efficient operation of the patent and trademark office (PTO) with lengthening delays in processing applications. The copyright registry is poorly developed. In some matters, PTO officials have disregarded provisions of the law when exercising their discretion. The 1991 Supreme Court decision noted above under Enforceability would lighten PTO responsibility, but that decision has been suspended pending a clarification from the court. The new copyright law has eliminated formalities, but an adequate depository is yet to be created.

Copyright: Panama - Subtract 3 of 12 points

A new copyright law took effect at the beginning of 1995. The law was immediately subjected to court challenge for unconstitutionality in the manner of its enactment. It contains many but not all elements of strong, modern protection. Although flawed, it is a considerable improvement over the prior law. The presumptions of ownership and the treatment of software, databases and sound recordings are inadequate, and confusion has already arisen regarding certain definitions, among them understanding of works for hire, collective works and moral rights.

Patents: Panama - Subtract 7 of 17 points

The patent law of 1916 has many flaws. It is so cursory that it is difficult to predict what it means for important questions. It makes no provision for important modern technology. The patent term is variable, at the discretion of the patent office, but the terms cannot

exceed 15 years. The criteria for exercise of that discretion are obscure. Although there is a workingrequirement, there is no provision for compulsory licenses. There are no subject matter exclusions. There is no protection for utility models and industrial designs. A provision in the 1972 labor code provides that inventions made by employees are owned by the employer.

A new industrial property code is under preparation. It would cover not only patents and trademarks, but also utility models, industrial designs, service marks, commercial names, and trade secrets. The most recent draft, however, would present numerous difficulties. n21

A treaty is being prepared which would provide improved patent protection for the Central American countries and Panama.

Trademarks: Panama - Subtract 8 of 9 points

The trademark law also dates from 1916. It lacks provisions for discouraging speculative registration of well-known, or potentially well-known, foreign trademarks by those who intend to eventually demand a price for the registrations from their originators. This is a well-developed business in Panama. Registration of service marks has no statutory basis. Panamanian registrations based on foreign trademark registrations are considered weak. As noted above, a new industrial property law which includes trademarks protection is under preparation. n22

Trade Secrets: Panama - Subtract 12 of 15 points

As in other Latin American countries, the law has non-explicit statutory provisions from which, in theory, limited trade secret protection might be derived. However, this basis has apparently not been used at all, and the remaining aspects of protection not theoretically available by statute are missing entirely. Several statutory provisions provide explicit authority for protection in narrow situations, but they are not used in practice. There is no provision for maintaining the secrecy of submissions to government officials which must be disclosed in order to obtain permission to sell products in Panama. As noted above, a new industrial property law which would provide for trade secret protection is under consideration in the National Assembly. n23

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Life Forms: Panama - Subtract 6 of 6 points

Panama has no plant breeders protection law and therefore does not comport with the UPOV system. It is difficult to determine whether the 1916 patent law would provide protection for the application of biotechnology to higher life forms because of its brevity. There are no exclusions under this law. Revalidation patents are routinely registered, but local counsel are not certain that durable protection is thereby obtained. As noted, the PTO has felt free to override the 1916 law to disallow applications in certain subject matter areas.

Panama is involved in current discussions regarding creation of a Central American convention intended to protect plant breeders' rights. A regional approach to this subject makes a great deal of sense.

Treaties: Panama - Subtract 6 of 6 points

Panama is a member of several specialized copyright conventions, including a highly relevant treaty dealing with satellite transmissions and the Geneva Convention (phonograms). However, Panama is not a member of the Berne or Paris conventions, nor of the Patent Cooperation Treaty. Legislation to attain membership under Berne and Paris is pending in the National Assembly.

General Public Commitment: Panama - Add 0 of 3 points

There is very little evidence of general public awareness of, or support for, intellectual property protection. In fact, an impression which swirls around the Free Zone is that infringement is acceptable, although this is beginning to change.

O. Paraguay

The rating assigned to Paraguay is 22. The country's antiquated regime is weak and fails to protect modern technology. Although undergoing reform, the judicial system must recover from years of duress. Public administration is dedicated and marginally efficient but hampered by underfunding and occasional political interference. Copyright abuses abound and industrial property rights are poorly defended. Trade secret protection is unknown. Treaty membership has improved recently.

A one week visit to Asuncion in March 1992 was the basis of the initial assessment. This was augmented by four additional visits, the most recent in May 1994. Although limited information received since then has also been incorporated, this assessment is likely not up-to-date in some respects.

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Enforceability: Paraguay - Subtract 21 of 25 points

As is well-known, in the past the judicial system was subjected to heavy political influence. Court cases were irrationally decided. Reforms now taking place are reportedly bringing improvements. On paper, the reformed judicial system will present the appearance of being well-designed. Corruption of young and inexperienced judges is being curbed through significantly increased salaries. Injunctive relief is available and used effectively, a strong point of the country's judicial system. Judges are little versed in intellectual property matters and few cases are brought to the courts. An unfortunate choice of forums for trademark cancellation actions spawns repeated and unnecessary litigation over procedures. Official action has been said to thwart private enforcement efforts. Penalties for infringements are not adequate to their purpose. Border enforcement is in deplorable condition. The secrecy of raids is not assured.

Administration: Paraguay - Subtract 5 of 10 points

Paraguay suffers from a curious system of double registration whereby those wishing to obtain and enforce intellectual property rights must register with both the appropriate registry and the courts. In practice this creates unnecessary confusion and increases the cost of obtaining and defending rights.

Local counsel offered few negative comments regarding trademark administration. The industrial property registry operates under occasional political pressure, with serious underfunding and increasing delays. Patent applications are sent to Brazil for examination under an informal arrangement which has worked fairly well. Registry computerization is primitive. The registry operates at a serious financial loss. Registry fees, which are relatively low, are paid over to the national treasury, with only a portion returned through the annual budget process. Although the copyright law contemplates a copyright office, none exists. The national library, which serves as a depository, was found in deplorable condition.

Copyright: Paraguay - Subtract 10 of 12 points

The law of 1951 was modified and supplemented in 1985. While these laws have limitations and deserve clarification, they provide the means to curtail some forms of piracy. The law does not have explicit coverage for databases, rental rights or software. The exception for educational and scientific purposes is excessively broad. Audiovisual works are not adequately protected. Control of cable retransmissions is

not functional. A local association is given the monopoly right to collect performance royalties whichreportedly do not reach foreign copyright owners. Parallel importation of protected works is not prohibited.

Patents: Paraguay - Subtract 15 of 17 points

The patent law of 1925 excluded certain fields of invention from patentability. In the absence of any specific provisions, other new fields of technology have not been accepted by the patent office as a matter of administrative practice. This may be because until recently the Brazilian patent office, on which the Paraguayan patent office relies, shelved applications in some fields even though patentability was not expressly denied under the Brazilian statute at the time. The patent term is only 15 years from filing. Compulsory licensing authorization is excessively broad. Confirmation patents are permitted, a positive factor for a small country. Utility patents are not available.

Trademarks: Paraguay - Subtract 7 of 9 points

Speculative registration of trademarks, viewed as a sport by some in Paraguay, is difficult to challenge under the law. A helpful use requirement once available to some through a treaty was quashed in a rather bizarre court case a decade ago. No priority is available for registrations where applications have already been filed abroad. The Nice Agreement classification system is used.

A protocol for common treatment of trademarks has been created within the structure of the MERCOSUR trade area arrangements, but it has not yet come into force as a treaty.

Trade Secrets: Paraguay - Subtract 12 of 15 points

There is no statutory basis for the protection of trade secrets. No information was obtained regarding protection of registration data for government approvals.

Life Forms: Paraguay - Subtract 6 of 6 points

The patenting of higher life forms is hampered by administrative hesitation in the absence of clear statutory authorization. There is no seeds protection law.

Treaties: Paraguay - Subtract 2 of 6 points

Treaty memberships are in a stage of flux. The Berne Convention, adhered to in 1991, has been implemented. The Paris Convention

was joined recently. Paraguay is a member of the Geneva Convention. Of the important treaties, onlythe Patent Cooperation Treaty is missing from the list.

General Public Commitment: Paraguay - Add 0 of 3 points

There is little if any evidence that intellectual property plays a role in the thinking of any significant segment of the population. To the contrary, many view counterfeiting as an acceptable way of life, although this is beginning to change. Paraguay is sometimes referred to as South America's supermarket for pirated goods, chiefly from the Far East.

P. Peru

The rating assigned to Peru is 61. The regime has been modified in stages in the last few years in response both to Andean Group reforms and to national policy initiatives. High quality attention has been given to these reforms.

A recently created institute, INDECOPI, is the centerpiece of the regime and has authority for all forms of intellectual property and combines administrative and enforcement responsibilities. It also is responsible for public education regarding the benefits of intellectual property for Peruvians.

Institutional arrangements built into INDECOPI partially shield enforcement proceedings from judicial system weaknesses. Administration by INDECOPI is handled effectively and efficiently. The substantive laws are based largely on ANCOM norms which embody certain weaknesses, but recent legislative decrees have, in some instances, raised national protection to a higher level.

This assessment is based on visits of about a week each in July and September 1996. The assessments of four components are marked as tentative and preliminary. Peru's unique recent experience warrants more extended discussion.

Enforceability: Peru - Subtract 14 of 25 points

For a variety of reasons, the judicial system of Peru, in both the civil and criminal areas, does not work well. Public regard for the judiciary is low. Reform efforts begun by

President Fugimori have made some headway but have encountered resistance and may be faltering.

INDECOPI has ample authority to play a central role in the enforcement of intellectual property, either on its own initiative or at the request of interested parties. This is important since private actions

in the courts are not an attractive option for most holders of intellectual property. Criminal actionsagainst intellectual property violations do not function well. During a recent period, of well over one thousand copyright infringement cases, four out of five plaintiffs sought action by the INDECOPI copyright enforcement team.

The principal instrument for enforcement by INDECOPI is stiff fines. Injunctions and seizures are also available to INDECOPI authorities. Conciliation is built into the process and favorable results are produced in a notable percentage of cases. Direct authority for criminal actions is not granted to INDECOPI, but there is a degree of cooperation with the public prosecutor and with police. The principal constraint on enforcement by INDECOPI is the allocation of limited funds for this function within INDECOPI.

Enforcement actions taken by INDECOPI officials, as well as their administrative decisions, are appealable to a tribunal. The tribunal is an administrative board within INDECOPI which has many of the characteristics of a court within the judicial power. Its decisions are appealable directly and exclusively to the Supreme Court. Members of the tribunal work part time, are appointed for life, and are drawn from the legal, economics and engineering professions. In the four years of its existence, the few tribunal decisions which have been appealed have been upheld, but none of the cases has involved major issues, large amounts or major litigants.

The tribunal reflects an attempt to create a specialized forum for resolution of intellectual property disputes while largely bypassing the judicial system. Yet, in the end the tribunal must rely on the judicial system for its effectiveness. Collateral attacks on decisions by INDECOPI officials and by the tribunal are possible through actions brought in regular civil courts, although the grounds are narrowly drawn.

On balance, the system in place for enforcement of intellectual property rights by INDECOPI is capable of working quite well. It is subject, however, to considerable constraints imposed by limited financial resources allocated within INDECOPI to enforcement and to the threat of dysfunction when important litigation reaches the judicial system.

Administration: Peru - Subtract 1 of 10 points

INDECOPI administers all of the forms of intellectual property in Peru. This semi-autonomous institute also deals with unfair competition, consumer protection, and several other matters. In addition to administration and enforcement, INDECOPI has programs

for educating the public regarding all the matters under its jurisdiction. The institute is largely, but not entirely, self-financed through reliance on trademark fees

that it collects. Since its formation in 1992, INDECOPI has been staffed by a capable and dedicatedgroup, largely young professionals. Some have recently been hired away by private companies, indicating that INDECOPI is becoming a highly regarded "graduate school."

Administrative functions within each of the intellectual property offices are capably and efficiently performed in a timely manner. Trademark registrations are handled efficiently with average processing times of about three months. Local trademark agents can access the computer database from their offices. Most patent applications are processed expeditiously. Many are sent for examination through WIPO to several foreign offices, although some applications are examined locally on a contract basis by local engineers and professors. In one case, prior art was found locally which had escaped the attention of foreign examiners. There have been only a handful of conflictive patent cases since INDECOPI was founded. As to trade secrets, some confusion exists within INDECOPI because of overlapping jurisdiction between the patent office and the commission on unfair competition. Plant variety protection is being administered by the patent office. INDECOPI has primary responsibility for this form of protection, relying on support from the Ministry of Agriculture. Use of the registry service, however, has been very slight thus far.

The volume of patent applications has been rather low, leaving in question the ability of the patent office to respond adequately if the new patent decree, once more widely appreciated, attracts more applications. Recourse to the Patent Cooperation Treaty is contemplated, but use of a modified confirmation system may provide the best approach to administration in the future.

The usual tensions within any bureaucracy are present within INDECOPI. Among and within each of the three intellectual property offices there is competition for the allocation of funds for education, enforcement and administration. A separate new office intended to investigate infractions and infringements will further add to these tensions.

Copyright: Peru - Subtract 3 n24 of 12 points

A legislative decree promulgated in April 1996 constitutes the law for protection of copyright and related rights and is meant to incorporate the provisions of Decision 351 of the Andean Group and of the TRIPS Agreement of the World Trade Organization and to reflect the first three years of INDECOPI's experience in administering copyright protection.

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A cursory review ofthis decree indicates that the range of works to be protected is comprehensive. Theterm of protection is ample at life plus 70 years. Computer software is treated as a literary work. It is not clear that moral rights can be waived or passed to others. The treatment of economic rights takes account of modern electronic means of expression and communication including the Internet. A rental right is provided. Limits on the right to prohibit unauthorized uses exhibit some weaknesses.

Patents: Peru - Subtract 9 n25 of 17 points

Another legislative decree promulgated in April 1996 constitutes the law for protection of patents, as well as utility models and industrial designs. The decree is meant to incorporate the provisions of Decision 344 of the Andean Group and of the TRIPS Agreement of the World Trade Organization and to reflect the first three years of INDECOPI's experience in administering patent protection.

A cursory review of this decree indicates that although a broad range of inventions may be patented, there are important exclusions, among them computer software programs, transgenic animals, and pharmaceutical products which appear in a World Health Organization list. Limits are imposed on the exercise of rights conferred by a patent. There is an express obligation to work patents which importation can satisfy.

Patents may be licensed, but are subject to the Conditions of ANCOM Decision 291. Compulsory licenses can be granted for non-working, although "legitimate excuses" can justify inaction in this regard. There is a useful and fairly broad definition of what may justify inaction. If a compelled license is granted, the licensee must act within two years or lose the license. However, legitimate excuses for inaction can be offered by the licensee to forestall the loss.

Compelled licenses can also be granted for reasons of public interest. In addition, they can be granted for "abuse of a dominant position" in the market, a phrase which is partially further defined by reference to procedures established in another legislative decree governing free competition. There is no limit on exportation of goods produced under such a license. Compelled licenses to aid dependent patents can also be granted under loosely defined circumstances.

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Trademarks: Peru - Subtract 1 n26 of 9 points

One of the legislative decrees promulgated in April 1996 constitutes the law for protection of trademarks, as well as for collective marks, marks of certification, commercial names and denominations of origin. It is meant to incorporate the provisions of Decision 344 of the Andean Group and of the TRIPS Agreement of the World Trade Organization and to reflect the first three years of INDECOPI's experience in administering copyright protection.

A cursory review of this decree with regard to trademarks indicates that the definition of what can constitute a trademark excludes forms which must be permitted under the TRIPS Agreement. The treatment of "notorious" or "well-known" trademarks is generally adequate; the public to which reference is made in determining notoriety is the specific public for which the product or service would be pertinent and not to the public in general. Service marks are protected. Renewals are for ten years.

Trade Secrets: Peru - Subtract 7 of 15 points

Two legislative decrees constitute the basis for protection of industrial secrets. One was promulgated in 1992 to deal with unfair competition. The other, promulgated in April 1996, is meant to incorporate the provisions of Decision 344 of the Andean Group and of the TRIPS Agreement of the World Trade Organization.

Trade secret protection is generally sound and a considerable advance over prior conditions. Unfortunately, there is a lack of congruence between the two decrees, and the drafting of the two texts is far from clear, with inconsistent use of terms and lack of definitions. For example, the definition of what constitutes a protectable secret in the decree on unfair competition is not qualified by any requirement of reasonable efforts to maintain the secret.

Further, there are deficiencies in the trade secret text. Among them is the unnecessary stipulation that, to be protected, the information must refer to three defined categories of activity. Information that is obvious to a specialist in the field is not protectable. Information furnished to officials in order to obtain government permission of various kinds is not to be considered in the public domain, but beneficial use by others is not expressly prohibited. To be protected, information must be in some tangible form, a conflict with TRIPS requirements and common business practice.

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Life Forms: Peru - Subtract 3 n27 of 3 points

Patents for transgenic animals are clearly prohibited. A balancing test is being introduced regarding plants so that under some circumstances patents for transgenic plants may be available. However, some confusion has been generated in the interplay of ANCOM Decision 344 and Peru's 1996 legislative decree in this regard.

As to plant breeders' rights, Decision 345 of the Andean Group has been implemented in Peru and is the underlying basis for protection of new plant varieties. The implementing decree has not been examined. Decision 345 establishes generally adequate protection for new plant varieties but among other shortcomings provides a very broad "saved seed" exemption for farmers.

Treaties: Peru - Subtract 2 of 6 points

Peru has adhered to the Berne, Paris and Geneva Conventions, but not yet to the Patent Cooperation Treaty.

General Public Commitment: Peru - Add 1 of 3 points

INDECOPI has mounted a serious and sustained effort to educate the public regarding intellectual property protection as well as the resulting economic benefits for Peruvians. Intellectual property was favorably mentioned on a popular television soap opera. However, the effect of educational effort has thus far been limited. There are reports of impact in some areas, particularly regarding copyright protection for some forms of expression.

Q. South Korea

The rating assigned to South Korea is 74. In general, the intellectual property regime is adequately equipped and functions reasonably well with the judicial system able to support the rights which the laws create. In recent years, there has been significant progress in the protection of patents and trademarks, with further amendments in 1996. Administration has also been greatly improved over the last decade. Most of the regime deficiencies are found in the area of copyright and plant breeders' rights. Korea is a party to most of the major international treaties relating to intellectual property.

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Significant changes were made in Korea's patent law in 1987. It is striking that by 1993, of the47,344 patent applications filed with the Korean patent office, about 45 percent were submitted by Korean residents.

The present assessment is based on a detailed analysis provided by a distinguished local intellectual property practitioner and author, Young Kim of Kim and Chang. Written material provided by Park, Kim and Partner, and comments from other local counsel have supplemented her contribution. The comments of several users of South Korea's intellectual property regime were also incorporated. The assessment is current as of July 1996. The assessment of several of the components is tentative and preliminary and are so identified.

Enforceability: South Korea - Subtract 7 of 25 points

In general the courts are viewed as fair and reliable. For the most part, judges are well educated and highly respected. Judicial independence and integrity are not normally questioned except, rather ominously, in some politically influenced cases. Dramatic recent cases demonstrate action against high- profile political and business leaders. Judges have relatively broad discretion and, in certain areas which include intellectual property, may consult the laws and practices of other jurisdictions. Various means of discovery are available, as is immediate relief in the form of preliminary injunctions and seizure of infringing goods. Court proceedings are said to be relatively fast and efficient.

As for intellectual property enforcement, significant progress has been made in recent years. Judges have at least a reasonable grasp of the concepts involved except in litigation involving more complex technology. Trademark litigation is common, patent cases are much less frequent, while trade secret actions are quite rare. Civil remedies, such as injunctive relief, monetary damages and destruction of seized materials, are available against infringements. Preliminary and permanent injunctions are available to stop impending infringements. Criminal sanctions, such as fines and imprisonment, are also available with three years the maximum jail term. In patent and trademark infringement cases, it may be necessary to obtain a declaratory judgment from the Korean Patent Office before initiating either civil or criminal proceedings. For the most part, those industries seeking relief in the copyright areas report effective enforcement, although there is still room for improvement. A specialized patent court of appeals is scheduled to begin operation in 1998, taking over some jurisdiction from the KIPO's Appellate Trial Board.

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Administration: South Korea - Subtract 2 n28 of 10 points

The Korean Industrial Property Office (KIPO) has grown in size over the last decade in response to increasing demands for its services. The staff are tenured civil servants and therefore protected from termination. Training has been provided to many of the staff, both abroad and at the training institute associated with the KIPO.

Most office actions and decisions are reported to be well reasoned. Communication with KIPO officials is reported to be reasonably effective. Computerization is advancing, with completion by the end of the century in contemplation. KIPO is not financially independent. About 90 percent of its revenues in fiscal 1994 were derived from fees collected by the KIPO, with the balance coming from the national treasury.

Information regarding delays in proceedings was not obtained.

Copyright: South Korea - Subtract 3 n29 of 12 points

The Korean copyright law, which was revised as recently as July 1, 1996, in anticipation of Berne Convention membership, extends protection to all forms of creative expression. The definitions of what can be protected are not entirely clear, which in practice tends to broaden the range of protection. Protection for satellite rebroadcast transmission appears to be in some doubt.

Computer programs receive protection under the copyright law. There is also a nearly identical, but separate, Computer Program Protection Law with a slightly broader scope of protection. It includes retroactive protection for foreign works created prior to 1987.

Authors enjoy personal (moral) rights. Whether they may be waived was not determined. Rental rights and performance rights are protected and the term is adequate. Under the new law of July 1996, the works of foreigners are protected without regard to when they were created. This has created the concept of a "restored copyrighted work" as to which special rules apply. Discrimination against foreigners who are performers of live broadcast works exists under the copyright new law.

A law for integrated circuit layout designs requires novelty and registration for protection although a two year "trial use" period is permitted before registration is required.

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Patents: South Korea - Subtract 6 n30 of 17 points

In response to the TRIPS Agreement, Korea revised its patent law effective July 1, 1996. Limitations on the inventions of foreigners have been largely eliminated. Exclusions from patentability are few. Claims tend to be narrowly constructed and construed, although leading recent cases have had a broadening effect. Applications are laid-open after 18 months and a request for examination may be made by anyone within five years from the filing date.

The value of a patent is reduced by a limitation on the ability of the patent holder to prevent research and experimentation by others, and by the possibility of a compulsory non-exclusive license granted on any of several grounds. Among those grounds are a claim of public interest, a delay in working the patent within the country without reasonable justification or by reason of force majeure, and a failure to satisfy domestic demand. Such a license may also be awarded to permit commercialization of a dependent patent where the holder of the dominant or blocking patent has unjustifiably refused to give consent to a license or if such consent is impossible to obtain. The granting of these compulsory licenses is done by a Trial Board of the KIPO. Its decisions are appealable to the Appellate Trial Board of the KIPO, and to the Patent Appeals Court after its creation in 1998.

Utility models and industrial designs are protected.

Trademarks: South Korea - Subtract 1 of 9 points

The revised trademark law took effect January 1, 1996. Service marks are protected. Color may comprise an element of a mark but color alone may not constitute a mark. Proof of use remains necessary to sustain a registration against cancellation for non-use but is not otherwise required. Prior use of unregistered marks confers no rights. However, prior notoriety of an unregistered mark may block registration thereof by another. To this end, the KIPO maintains a list of "famous international marks" which will normally serve as a basis for rejecting speculative applications by others. A "remarkably" well known, but unregistered mark may have an even stronger effect. In parallel with these provisions, the Unfair Competition Prevention Act can also supply a basis for resisting or attacking speculative registrations. Korea does not yet adhere to or use the Nice Agreement's classification system.

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Trade Secrets: South Korea - Subtract 5 n31 of 15 points

The Unfair Competition Prevention Law, as amended effective December 1992, may provide some protection for business secrets. The statute extends to block third party use of misappropriated information. There have been few cases to test the strength of the law and in some cases the courts have imposed time limits on the duration of obligations to maintain confidentiality. To be protectable, the information in question must be unknown to the public, must have independent value, and "considerable effort" must have been used to maintain the secrecy of the information. It is not clear how this latter phrase may be interpreted.

Proprietary data submitted in support of government approval for commercialization has not been specifically protected, as of late 1995, but may have changed.

Life Forms: South Korea - Subtract 2 of 6 points

The patent law of July 1996 provides for the granting of patents for inventions of asexually (palingenetically) reproducible varietal plants. It is generally believed that transgenic animals are patentable since genetically engineered animals are not expressly excluded from coverage.

There is as yet no law to protect plant breeders' rights. A draft law is in preparation and may enter into force sometime in 1998.

Treaties: South Korea - Subtract 2 of 6 points

Korea's treaty memberships include most of major agreements. Only Berne Convention membership is awaited and is expected soon.

General Public Commitment: South Korea - Add 2 of 3 points

As noted, a remarkably high percentage of patent applications are filed by Korean residents, indicating an awareness of the value of intellectual property protection. Major national companies have become vocal supporters of robust protection.

The public at large has an increasing awareness of the value of protection, although counterfeit goods are still readily available in Korea, as they are in many countries including the United States.

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R. Uruguay

The rating assigned to Uruguay is 48. While judicial support for intellectual property is close to adequate, the balance of the regime is weak. Administration, which was woefully inadequate, is reported to have greatly improved. Recent modernization of the industrial property legislation has been only partial. Trade secret protection is not available.

This assessment is based on a one week visit in April 1992, supplemented by a brief visit late that year and a brief visit in October 1995. This assessment may not be up-to-date although no information has been received to suggest recent changes.

Enforceability: Uruguay - Subtract 7 of 25 points

The honesty and fairness of judges distinguishes the judicial system. Injunctive relief is available and can be used effectively. Oral presentation may now be made to supplement written submissions. Delayed proceedings, however, are common. The very system which contributes to the integrity of the judicial system also tends to produce judges with little experience in business or technology and this diminishes the effectiveness of the courts in intellectual property matters. While penalties are sufficiently severe, judges tend to lack appreciation of intangible property and impose relatively light sanctions for industrial property infringements. For copyright, both the civil and criminal codes provide sanctions and remedies for infringement. Seizures and jail terms are commonly imposed by the courts.

Administration: Uruguay - Subtract 2 of 10 points

In the past, colossal administrative delays characterized the industrial property office. There was no tenured civil servant cadre in the registry, with the work ethic of the employees chiefly accounting for the problem. Efforts at clearing the backlog did not seem to address the underlying causes of the problem.

Partly as the result of an InterAmerican Development Bank program to improve public administration of the registry, the backlog has been cleared, and as of 1995 the registry was reported to function efficiently. Whether this level of effectiveness can be sustained remains to be seen.

Copyright: Uruguay - Subtract 8 of 12 points

The copyright law of 1937 has been amended several times. By decree only, software is protectable as a literary work. Contrary to the

Berne Convention, Uruguay has formal requirements for obtaining copyright protection. The educationalexemption is unduly broad. Sound recordings receive less protection than other forms of expression. Rental rights are not protected. Moral rights are not subject to waiver and compulsory licensing is broad. A new project of law is under preparation, but its legislative future is far from clear.

Patents: Uruguay - Subtract 14 of 17 points

The patent law dates from 1941 and excludes certain subject matter from patentability. Other subject matter is being excluded by administrative practice. The conditions for grant of a compulsory license are very broad. Dependent patents are also assisted by compelled licensing. The patent term is shorter than international standards. Confirmation patents and utility models are available. A new project of law is under preparation, but its legislative future is far from clear.

Trademarks: Uruguay - Subtract 5 of 9 points

The ability to counter speculative registration of trademarks originated by others is not helped by the trademark law. Still, the courts have quashed some such registrations, but as of 199 the registry was not enthusiastic in following these decisions, so litigation faces investors. A%wime limit arbitrarily cuts off cancellation proceedings. A requirement that a trademark be used is lacking as another tool to defeat speculative registrations. Service marks are authorized and the Nice Agreement's classification system is used. A new project of law is under preparation, but its legislative future is far from clear.

A protocol for common treatment of trademarks has been created within the structure of the MERCOSUR trade area arrangements, but it has not yet come into force as a treaty.

Trade Secrets: Uruguay - Subtract 10 of 15 points

There is no fully adequate protection for trade secrets. A patent law provision establishes partial protection under limited circumstances and at least one case has reached the courts under it. Vague articles in the law of unfair competition offer theoretical but unused help. Traditional life- time employment in Uruguay has limited the importance of trade secret protection, but this is beginning to change.

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Life Forms: Urugua y - Subtract 4 of 6 points

By administrative decision, the patent office denies patent protection for higher life forms even though the patent law does not expressly preclude such protection and this has led to litigation. A seeds protection law with a broad "saved seeds" and research exceptions was introduced by decree in 1987.

Treaties: Uruguay - Subtract 2 of 6 points

Uruguay is a member of the Paris, Berne and Geneva conventions but not yet the Patent Cooperation Treaty.

General Public Commitment: Uruguay - Add 0 of 3 points

Although, as elsewhere, traditional copyright protection for literary works is part of the culture, there is little evidence that any important segment of the population is positively inclined toward or even aware of intellectual property as a potential factor in national economic growth.

VI. Summary of Results of the Present Study

On the next four pages, a summary of the results of the study are provided in four tables. In Table 20, the points subtracted for all categories studied are presented, listed by country in alphabetical order. The same information is found in Table 22 except the countries are listed in numerical order, from lowest amount of points subtracted to highest.

In Table 21 the reciprocal of points subtracted (theoretical score of 100 minus the total points subtracted) are provided along with the "bonus" points for General Public Commitment to give the "rating" assigned to each country in the right hand column; the countries are listed alphabetically. The same information is provided in Table 23, except the countries are listed numerically, from the country with the highest rating to the country with the lowest rating.

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VII. Reflections on the Rating System and its Application

A rating scale of this type is rather crude and necessarily somewhat arbitrary, as noted above. Its two objectives are, first, to reflect the primary concerns of those who would invest in inventions and creative expressions and, second, to point to those aspects of an intellectual property regime which appear to be most relevant to the economic development process in relation to enhancement of a nation's technological base.

In seeking to approximate a general perspective, the rating system surely undervalues aspects ofprotection deemed more highly important by certain industries or fields of invention or expression oreven by a particular investor. Moreover, it may not precisely fit conditions unique to a particular country as, for example, to Panama with its heavy reliance on services rather than industry or agriculture.

The dominant importance given to enforcement is easily justified by its impact on each of the other regime components. The trade secret, by its nature, is little known. Its importance will be most readily understood by those who work closely with the incremental development of new technology.

As to the application of the rating system, a low rating should not be misinterpreted. It does not signify that the country has no intellectual property regime, but rather that potential investors will be discouraged by what they find. For example, a strongly negative rating could be applied to a country which complies with many of the TRIPS Agreement requirements.

While there is clearly room for divergent views regarding the calibration of the points to be subtracted, adjustments that might be made would probably fall within a range of only a few points.

There is, to be sure, considerable leeway for judgment in applying some of the criteria. For example, in many of the countries, preliminary injunctive relief was found to be theoretically available but not utilized in practice. Up to ten points could be subtracted. The tendency was to allow for the possibility that resourceful local litigates could turn theory into practice if pressed. That judgment was tempered, however, where the judicial system was rated poorly in regard to judicial capability. The reader has been spared an exhaustive explanation of the judgments employed in applying the ratings.

In applying the numerical rating scale, the importance of investment-oriented reforms can be seen. Mexico was widely congratulated for its 1991 reforms. Yet the score assigned to Mexico in an earlier version of this assessment increased by over ten points as a result of the fine-tuning of the regime done in 1994. This vaulted Mexico to roughly the threshold for investment attractiveness for high technology.

Countries receiving identical or closely similar ratings may have regimes which nonetheless differ considerably. Costa Rica and El Salvador are examples. El Salvador's judicial system is quite weak, yet the new patent law is exceptionally favorable to

investment stimulation, while Costa Rica's enforcement capability is much stronger but is coupled with a very weak patent law.

Several patterns emerge from the ratings. The ratings for enforcement tend to be either very good or very bad, with only a few

countries somewhere in between. Enforcement tends to be the greatest weakness in the copyright area. Judicial support may be somewhat more available for patents and trademarks than for copyright because the former are represented by certificates issued by a government office, whereas copyright subsists from the act of expression or creation and not from the issuance of an official piece of paper.

In regard to administration of industrial property laws, there is a close correlation between adequate performance and adequate funding of registry operations. Those registries which are allowed to function as autonomous entities and retain fees they receive tend to function well.

Four of the five substantive areas showed country ratings spread across the spectrum. On the other hand, trade secret protection was either quite strong or very weak, with weakness predominating.

Many of the patent laws which received negative ratings tend to create an adequate patent right but then reduce its value through exceptions and limitations. Most striking in this regard are compulsory licensing provisions which tend to reflect contradictory public policies. n41

The treaty component shows remarkable flux in the last three years, with many countries joining the major international conventions.

Most of the countries had at least a few fairly strong components in their regime, with only Guatemala and Nicaragua reflecting high negative ratings in all or nearly all components. Yet there was little uniformity in the patterns of weakness and strength other than for enforcement and trade secrets, both of which reflected a high incidence of weakness.

As stated, the rating system does not incorporate the standards of the TRIPS Agreement. For comparative purposes, however, the rating system was applied to the TRIPS Agreement, with a resulting score of 55. The rating system was also applied to Chapter 17 of the NAFTA with a resulting score of 68. See Appendices A and B for the application and accompanying explanations.

VIII. Comparison With Other Studies

While it is not the purpose of this study to make a comprehensive review of other studies which assess national intellectual property regimes or of those which draw correlations between intellectual property systems and economic performance, several are worth mentioning.

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One is a study by Rapp and Rozek titled "Benefits and Costs of Intellectual Property Protection inDeveloping Countries." n42 The second is a study by Belay Seyoum n43 which examines the influence of intellectual property on foreign direct investment. The third and fourth are studies conducted by Edwin Mansfield for the World Bank n44 in which he surveyed American, German and Japanese company reactions to the intellectual property systems of sixteen countries.

In addition to these studies and the works noted among the selected references at the end of this article, various studies by Robert Evenson of Yale and Keith Maskus of the University of Colorado deserve attention. Also, a recent paper by Walter G. Park and Juan Carlos Ginarte of American University in Washington, D.C., presents an index of intellectual property rights in 110 countries for the period 1960-1990 and examines for characteristics in national economies which they suggest may account for various levels of protection. n45

A. Rapp and Rozek Study

The Rapp and Rozek study compared statistically the stage of economic development with the strength of patent protection for 87 countries. Of the eighteen countries studied here, only Bahamas and Paraguay are missing from the Rapp and Rozek study. They found that the level of patent protection in about twenty countries was "out of phase" with what was predicted from the stage of economic development.

The Rapp and Rozek study rated the degree of patent protection in each country on a scale of zero to five. The rating was confined to the patent laws, with only passing reference to enforcement and apparently with no consideration of implementation (administration). Rapp and Rozek followed the methodology of Gadbaw and Richards n46 which drew on

minimum criteria for GATT negotiations recommended by the United States Chamber of Commerce. From therecollections of the author, who chaired the Chamber task force when it articulated those criteria, they were derived for trade negotiation purposes with only incidental concern for investment stimulation.

For the sixteen countries common to both studies, nine of the patent component ratings under the numerical rating system presented here correlate fairly well with the Rapp and Rozek (U.S. Chamber) ratings. Four countries (Costa Rica, Guatemala, Pakistan and Uruguay) are rated more negatively here than in the Rapp and Rozek study. Three of the countries (Chile, El Salvador and Mexico) have made significant patent reforms in the interval since the Rapp and Rozek study in 1990.

B. Seyoum Study

Seyoum's study sought to determine the influence of intellectual property rights on foreign direct investment and finds they are a strong determinant. He used empirical findings from a mix of 27 developing and developed countries. He examined for the level of protection for patents, trademarks, trade secrets and copyrights and assigned a number to rate the level for each. It is not apparent that enforcement and administration were part of his survey.

Seven countries are common to Seyoum's study and this numerical rating system: Argentina, Brazil, Chile, India, Mexico, South Korea and Uruguay. The correlation between the two sets of findings is only moderate, with some differences probably resulting from the timing of assessments. Recent changes in several countries may not have been incorporated into Seyoum's findings. Other differences may result from the chronic optimism characteristic of local counsel who provided the bulk of the information through responses to Seyoum's questionnaire.

C. Mansfield Studies

1. Scope

Mansfield's studies for the World Bank surveyed American, Japanese and German companies in six industries at a headquarter's level regarding the effect of the intellectual property regimes in sixteen countries on their investment, joint venture and licensing decisions.

His studies appear to be the first major empirical work on the importance of intellectual propertyprotection for the stimulation of private investment decisions in developing countries. He examined the relevance of intellectual property protection in the selected countries to three categories of investor decisions: investment in joint ventures with local partners, transfer of best technology to wholly owned subsidiaries, and transfer of best technology to unrelated local firms.

The study also examined for the importance of intellectual property relative to its effect on direct investment decisions at the following five levels of activity: research and development facilities, facilities to manufacture complete products, facilities to manufacture components, rudimentary production and assembly facilities, and sales and distribution outlets. Mansfield found that the higher the level of technological activity, the greater the importance of effective intellectual property protection. For example, about 20 percent of the responding American companies were troubled by weak intellectual property protection at the level of sales and distribution (with food industry companies showing the greatest concern) while some 80 percent expressed concern at the level of research and development.

2. Tentative Correlation With Mansfield's Findings

A very rough correlation can be made between the findings of this study and the findings of Mansfield's studies. This correlation is tentatively portrayed in Table 24. The Mansfield findings are aggregated from selected industries, while this numerical rating system presents a composite impression of investor perspectives.

Argentina, Brazil, Chile, India, Mexico, South Korea and Venezuela are common to the Mansfield studies and the one presented here. Venezuela is included, with caution, in the common list by using Ecuador as a proxy, since both are members of the Andean Group which has a common intellectual property regime. (Peru is distinguishable because of the unique and favorable contribution made by INDECOPI.)

Mansfield found that companies viewed these seven countries rather negatively to about the same degree. His findings correlate with the findings presented here which assign relatively low ratings to Argentina, Brazil, India and Venezuela (via Ecuador as proxy).

A rating relatively higher than Mansfield's is assigned here to Chile and Mexico. This is because much of the information gathered by Mansfield was obtained during 1991, the

year Chile upgraded its regime and the year Mexico first took significant steps to upgrade protection.

On rechecking after the 1991 reforms, companies gave Mansfield a better impression regarding Mexico, butexpressed continuing reservations about enforcement, a concern which continues. Mexico fine tuned the industrial property law with further adjustments in 1994. They are reflected here but not in Mansfield's report, which may further account for the non-concurrence with Mansfield's findings. It also indicates how seemingly small adjustments in a regime can enhance its rating from an investment perspective.

Mansfield's findings for South Korea are also relatively lower than those of this study. The explanation lies partly in the timing of the assessments, with the more recent assessment of this study including changes in the patent, trademark and other laws made during 1996. An increasingly positive experience with enforcement of rights in Korea in the last two years also contributes to the explanation.

Drawing on the Mansfield findings, it may be observed that intellectual property systems which satisfy a trade-based international standard, such as the TRIPS Agreement, will tend to adequately serve the lower levels of technological activity. That is to say that at about 50-60 and below rating, an intellectual property system provides support for activity which is primarily trade-related, that is for sales and distribution, assembly and component manufacturing.

Sales and distribution in most industries tend to be a manifestation of trade, with the related investment devoted primarily to inventory financing. Assembly and rudimentary production, and even component manufacturing, tend to also reflect trade-like activity, with inventory financing dominant, but with a partial allocation of funds to human resource development and bricks and mortar. Still, this type of investment can reflect short-term commitments or even get-rich-quick ventures.

Intellectual property systems which are capable of stimulating higher levels of technological activity appear to be those which rise above the rating of the TRIPS Agreement. There is probably no clear threshold, but somewhere in the vicinity of 60 to 70 the favorable influence of stronger protection for the higher levels of technology begins to appear. At that level the stimulation and support needed for complete manufacturing of sophisticated products and for product development and research come into full play. In the present study, neither Spain or Japan were assessed, but certainly Japan would rank above the threshold, while Spain because of enforcement weaknesses would rank lower, but perhaps still above a 55.

The Mansfield study does not help us, except in a general sense, to understand the relative gradations of an intellectual property system in relation to investment decisions because companies were asked simply to

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report the consequences of each country's intellectual property system, however the company might chooseto appraise it. It can be presumed that the companies took into account all of the elements of each intellectual property system which were germane to their investment decisions, and industries differed from one another in their sensitivity to protection. Some of the interviews Mansfield reports did disclose particularities which are of interest.

The intellectual property regimes of the United States, Japan and the advanced European countries have not been assessed using this numerical rating system. If assessed, it is likely that their regimes would be found in the range of 75 to 90 or even above. No country can achieve a perfect score because institutions are imperfect by their nature and, more importantly, because technology is constantly racing ahead of the legislation required to offer relevant protection.

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[SEE TABLE IN ORIGINAL]

Table 24 suggests that national intellectual property systems which reach the TRIPS level of protection will stimulate investment activity related to sales and distribution, to assembly operations and to

component manufacture. Such systems appear unlikely to stimulate investment in complete manufacturing,product development and private research.

A relationship between intellectual property protection and the duration of investment is also implicit in the correlation. Quite possibly, higher levels of protection encourage longer investment duration. Complete manufacturing, product development and company research tend to require facilities which stay in place over time, whereas sales and distribution and the lesser activities of assembly and component manufacture require less durable investment.

Likewise, the relationship between intellectual property protection and human resource development is little appreciated. Training of employees is more likely to take place where higher levels of technical activity are indicated over long periods of time. Particularly where training could involve employee exposure to sensitive proprietary technology, the presence of effective intellectual property protection is likely to encourage companies to undertake that training. In the absence of such protection, training may well be discouraged. An empirical study of trade secret protection in Brazil points in this direction. n47

The addition of more country assessments to the present study could enrich cross-comparison with the Mansfield findings, although as intellectual property systems are upgraded, the opportunity will be attenuated.

IX. Questions Regarding Intellectual Property in Development

Given the assessment of intellectual property systems in developing countries, a number of questions still remain considering investment in these countries. For example, what level of protection must be reached before investment stimulation kicks in? It is suggested that "take off" for sustained technological development may be roughly commensurate with a rating of between 55 and 70 under the system presented here. Only six countries of the 18 under study have attained that level: Bahamas, Barbados, Chile, Mexico, Peru and South Korea. Below that level it probably matters little whether a country is at 50 or 35 or 25. The regime is likely to have little positive influence on private decision-making for higher levels of technological activity.

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The role of effective intellectual property protection is little understood in developing countrieschiefly because such protection has never been tried there. One view, largely the view of static welfare analysis, has theorized that protection will result only in increased rent transfers on the assumption that all new technology will invariably come from outside such countries. Another view finds that intellectual property protection influences investment decisions, at least by foreign companies.

The influence of intellectual property protection may differ between foreign and local private capital, although the question has barely been studied. Local capital is probably more sensitive than foreign capital to a country's level of intellectual property protection. Typically, local capital has fewer options than foreign capital, particularly when research and development are necessary for originating its products or service, or where acquisition of the technology from others is desirable.

In countries with low levels of intellectual property protection, most local companies are virtually ignorant of the rules of protection because they are irrelevant to their decisions. Only as protection rises to a fairly high level does it become worthwhile for local capital to take an interest in intellectual property.

The contribution of enhanced intellectual property protection is likely to be incremental, as are most other contributions to growth potential. The costs arising from adoption of a high-level intellectual property system seem fairly limited. Rents in some areas will increase but will almost surely be small in relation to the overall economy. Moreover, they will be more than offset, in time, by the benefits described above. n48

As Carlos Primo Braga of the World Bank has written concerning the World Trade Organization's new TRIPS Agreement "The main challenge for developing countries is to transform it from a rent transfer mechanism into an effective instrument for technological development." n49 To do so most effectively, developing countries may well want to institute a level of protection higher than the purely trade-enhancing provisions of the WTO agreement.

Recent experience in Mexico, which has not yet been systematically researched, points to positive results in the aftermath of major intellectual property system upgrading in 1991 and 1994. Science graduates are reportedly finding satisfying employment with local firms now willing to invest in internal company research. New companies based on new technology are attracting private investment capital.

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Increasingly sophisticated foreign technology is being licensed into Mexico. Anecdotal information of asimilar nature is available for South Korea. In other words, there appears to be evidence that enhanced protection in a developing country serves to do what it does in developed countries, that is to draw investment capital to the support of activity leading to the introduction of fresh technology into the local economy.

Notwithstanding the weaknesses of some current systems, local inventors have sometimes made positive contributions to a local economy. One example involves a small plastic pedestal which is placed under ripening melons to help prevent rot for which a patent was obtained in both Nicaragua and the United States.

At the same time, other examples illustrate the losses resulting from the lack of stronger protection. In one example, Colombian coffee which grows successfully at high altitudes was introduced in Nicaragua but failed at lower altitudes. Since protection for the results of research in biotechnology is not available, genetic re-engineering of this variety of coffee for Nicaraguan conditions is not encouraged.

It is quite possible that even a little attention to upgrading the commercial plant varieties in countries like Nicaragua, Paraguay and Guatemala through biogenetic engineering or more traditional plant research could make a big difference for their economies.

X. Investment Oriented Protection: A New, Yet Old Paradigm

The protection of intellectual property is ancient. It came into being to encourage private creativity on the understanding that it benefits the entire community. Potters' marks were honored. The right to copy books was circumscribed. Craft guilds' secrets were guarded. Inventions were granted exclusive rights.

Over the centuries, intellectual property has been created precisely because of a desire to encourage private effort in innovation and creative expression. In villages and nations, people have seen the wisdom of giving special encouragement to individuals who are prepared to take risks for the purpose of bringing new ideas and new ways of doing things into the economic life of the community. The main purpose, then, of intellectual property protection is to stimulate private investment directed to activity which is viewed as particularly beneficial to the community.

The work of the American economists Robert Solow and Edwin Mansfield over the last 40 year has shown that the injection of new technology into an economy produces significant expansion of public

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wealth and social welfare. Recent work by Mansfield has shown that investment in technologicaldevelopment in, and technology transfer to, developing countries is noticeably influenced by their levels of intellectual property protection. n50

This is not surprising since intellectual property rules are designed to reduce investors' risks. This is accomplished by offering exclusive rights, not to a market itself, but to the means to compete in market activity. The rights created are imperfect in the sense that others remain free to compete for the market served by the protected right. For example, a patented ulcer medicine may not be produced by others without authorization, but others may produce competing ulcer medicines which provide a better therapy. Or a trademark developed by one company may not be used by another without authorization, but another company may develop another trademark which better captures purchasers' attention in that market.

Given the increased certainty established by the right to intellectual property, risk is reduced and investment thereby stimulated, but without excluding new entrants. This means that still more investment will be encouraged in competition for market attention.

At least three benefits for a developing country would appear likely to increase as a result of enhanced intellectual property protection. First, there is increased private investment in the development and application of new technology. Second, enhanced human resource development and expanded employment follow. Third, improvement in social welfare results from the injection of new technology into the economy. Thus, the test of an intellectual property system is not whether it reduces trade friction, but whether it stimulates investors, researchers and businesses, both inside and outside the country, to undertake activity which is beneficial for the country.

Interviews with inventors, researchers, business people and venture capital firms in most of the countries surveyed has identified what might be called a pent-up demand for more robust protection. For example, in Ecuador, numerous individuals were found who have developed new technology of various kinds but who are unable to realize its full potential or bring it to utilization in the national economy because of inadequate protection for their intellectual property. The extent of this pent-up demand appears substantial in many countries, but these individuals feel isolated and are usually not organized to convey their perspective to legislators or policy-makers or to the public in general.

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Historically, the main purpose of intellectual property protection has been to stimulate privateinvestment in specific activity, namely that which is designed to introduce new technology into the economy. Intellectual property can be thought of as a private creation, generated by invention or expression, to which the state grants the status of property. Intellectual property and advancing technology are two sides of the same coin. The introduction of new technology into the economy of virtually any country, large or small, provides a powerful stimulus for economic growth. It appears that many developing countries are denying themselves that stimulus.

XI. Closing Comments

It is an error to assume that new technology cannot be created in developing countries. Science is advancing with such speed that even the largest companies cannot keep pace. They increasingly track small companies around the world which are working ahead of them at the cutting edge of new frontiers in science. With the biological sciences at the base of many industries today, even a small country, with biogenetic resources, could play a role at the global level if adequate means to protect research results were available to stimulate investment there.

The role of intellectual property in the development process is beginning to be better understood. Effective intellectual property protection has never been seriously tried in most developing countries, yet there is reason to believe a modern system of intellectual property that works well would aid the development process in virtually any developing country.

In a closed economy, intellectual property plays a limited role in economic activity. In the former Soviet Union, for example, patents and copyrights had withered and trademarks were not used. When an economy opens, however, private activity oriented to the use and advancement of new technology is supported in important ways by reliance on an effective intellectual property system. Thus, as an economy opens, the role of intellectual property can be seen as an important part of a country's infrastructure. n51

As state command decreases around the world and private decisions take over as the driving force in economic activity, the creation of intellectual property serves as an invitation to investment, as a

magnet for financial resources and as a stimulus to creativity and inventiveness. The regimes whichcreate these assets typically remain in the background, like the availability of electricity, roads, ports, education and running water. Yet without them, much less happens, and private activity is hampered.

The first hypothesis of this study has been that for private investors who are sensitive to intellectual property protection, there will be a salient difference between the TRIPS level of protection and higher levels of protection which serve to stimulate investment.

The second hypothesis of this study has been that all the elements of a national intellectual property regime need to function well together for the regime to provide an investment stimulant. It is important, not only that the laws read well, but also that judicial enforceability and public administration of the rights created by the system are effective.

In this regard, judicial system performance in relation to intellectual property increases in importance in opening economies as private actors are expected to provide the driving force for economic activity. In liberalizing economies, the role of the courts takes on very considerable importance for intellectual property, as well as for most private economic activity. n52

An evaluation of those aspects of national intellectual property systems which constitute the difference between trade conflict reduction (TRIPS) and investment stimulation is timely in the context of world developments. To this end, it is hoped that the numerical rating system will offer a means by which national intellectual property regimes may be both assessed and compared. While the rating system examines regime effectiveness in relation to private investment stimulation, it is hoped that it may also assist assessment of the contribution of intellectual property to the process of economic development.

XII. Rating System Applied to TRIPS and NAFTA

The author was urged to apply the rating scale of this study to the TRIPS Agreement and Chapter 17 of NAFTA. It was urged for comparative purposes. Doing so, however, requires modifications of the rating scale in several regards, largely because of the inherent differences between treaties and national regimes.

Both TRIPS and NAFTA apply broad brush strokes to the intellectual property landscape and leave details to be filled in by

domestic laws. For example, the TRIPS Agreement has only eight articles on patents, whereas a typicalpatent law has 50 to 100 or more articles. Yet the eight articles are of particular relevance to investment decisions. Also, a disembodied treaty has no "real world" experience to report, although sometime after the year 2000 it should be possible to report how many countries have implemented the TRIPS Agreement.

The TRIPS and NAFTA texts are similar or identical in many passages. When the NAFTA negotiators began their work in 1992, they started with the TRIPS text as it stood at the end of 1991. Although few changes were made in the TRIPS negotiating text between then and its completion at the end of 1993, the NAFTA negotiators tightened, clarified and simplified language at a number of places in their text. They also made substantive alterations.

Appendix A - TRIPs Agreement

The rating assigned to the TRIPS Agreement is 55. The TRIPS Agreement came into effect January 1, 1995, in tandem with creation of the World Trade Organization. Transition provisions stipulate the dates by which WTO member countries are obliged to modify their intellectual property regimes to reach compliance. For the countries studied here, most of the TRIPS provisions are to be reflected in national law by January 1, 2000. This assessment is based primarily on analysis of the text of the TRIPS Agreement.

Enforceability: TRIPS - Subtract 18 of 25 points

The TRIPS Agreement contains an extended treatment of enforcement, including general obligations to enforce and specific requirements regarding provisional measures (preliminary injunctive relief), border measures, and criminal procedures. Of necessity, some of these provisions must rely on somewhat subjective terminology. Terms like "reasonable," "fair," and "unwarranted" will surely give rise to disputes. In general, these provisions are laudable.

However, Article 41(5) stipulates that member countries are not obligated "to put in place a judicial system for the enforcement of intellectual property rights distinct from that for the enforcement of law in general." Nor do the enforcement provisions "affect the capacity of Members to enforce their laws in general." Moreover, the enforcement provisions do not create "any obligation with respect to the distribution of resources as between enforcement of intellectual property rights and the enforcement of law in general."

These provisions, in effect, undermine the TRIPS enforcement provisions, and for the purposes ofthis rating scale, call for a judgment as to whether the entire 25 points allocated to enforcement should, indeed, be subtracted. However, to the extent the enforcement provisions provide a blueprint for judicial system reform relative to intellectual property, some countries might be stimulated to adopt some or all of its stipulations.

Behind the words on paper, the reality in a large number of countries is that their judicial systems are simply not up to the task of effectively and efficiently enforcing intellectual property rights, however Article 41(5) may be implemented. This is a major inherent weakness faced by the TRIPS Agreement. After reflection, 18 of the possible 25 points have been arbitrarily subtracted, knowing that any rating between 15 and 25 could be rationally supported.

Administration: TRIPS - Subtract 3 of 10 points

TRIPS Article 62 says that public administrative procedures are to be reasonable, fair and equitable, not unnecessarily costly or complicated, and shall not entail unreasonable time-periods or unwarranted delays. Time periods are to be reasonable so as to avoid unwarranted curtailment of the period of protection. Decisions by officials shall preferably be written and reasoned and available to the parties involved.

Only evidence as to which the parties have had an opportunity to be heard may determine decisions on the merits of a case. Most final administrative decisions are to be subject to judicial review.

This is a fairly brief provision. It is oriented to measuring results and covers most of the relevant issues. Its requirements are "soft," relying on subjective measurements such as "reasonable" and "fair." There is no caveat about allocation of public funds, as there is regarding enforcement in Article 41. This implies that countries must assure that public administration will meet the criteria established by Article 62.

The reality behind this provision, however, is that in many developing countries, public administration in general is underfunded and of poor quality. It is common for patent-trademark offices to be chronically at the low end of national budget priorities and, in consequence, to be poorly staffed and equipped. In the author's experience, those offices which are semi-autonomous, and therefore authorized to retain some or all of the fees they receive, tend to be better able to provide a higher quality administration.

The burden and cost of public administration for patents can be greatly reduced by utilization of the Patent Cooperation Treaty (PCT), under which countries refer patent applications to other treaty- member

countries for examination. In effect, small and medium-sized countries rely on the handful of largecountries with full examining capabilities. The PCT was added to the rating scale under Treaties for this reason.

In practice, it will be difficult to enforce the requirements of Article 62. It is inherent in the treaty that no basis is provided for determining whether decisions are corrupt or irrational. Moreover, judgments as to what is reasonable, necessary or warranted are subjective. Rather arbitrarily, three of a possible 10 points are subtracted for administration.

Copyright: TRIPS - Subtract 4 of 12 points

The TRIPS provisions regarding copyright are sparse and build from incorporation of the Berne Convention by reference. Computer software is to be protected as a literary work and databases are to constitute intellectual creations and be protectable as such. Rental rights are established for movies and software although some limits apply. Exceptions to exclusive rights are to be limited, but this text will engender subjective interpretation. Amplification of protection for performers, sound recordings and broadcasters is provided. It does not address parallel imports, the exhaustion of rights, or the unrestricted transfer of economic rights.

Patents: TRIPS - Subtract 10 of 17 points

Under circumstances which are not well defined, the ability to defend patent rights may be curtailed by a provision which allows a country to place unspecified limitations on remedies otherwise available to a patent holder. It appears, for example, that if a "significant investment" was made in a developing country before January 1, 1995, in machinery capable of producing goods which later become infringing as protection comes into force, sanctions against such infringements can be limited as that country sees fit.

Certain subject matter may be excluded from patentability. Transition provisions delay patentability for other subject matter under defined conditions. The treatment of compulsory licenses, while establishing many limitations, remains without clarification as to what constitutes an abuse and what would constitute legitimate reasons to justify inaction. Dependent patents are aided by compelled licenses. Exhaustion of rights is expressly excluded from the TRIPS Agreement.

Although there is provision for industrial design protection, there is no explicit mention of utility models. Nor is it clear that incorporation of portions of the Paris Convention by reference will mandate protection for utility models.

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Trademarks: TRIPS - Subtract 0 of 9 points

Adequate protection for trademarks, including service marks, is provided.

Trade Secrets: TRIPS - Subtract 3 of 15 points

An adequate basis for protection of trade secrets is established. A footnote defines honest commercial practices with a reference to "gross negligence in failing to know," which suggests, unfortunately, difficult standard. Protection against disclosure or beneficial use of information submitted to authorities to obtain government approval for marketing is provided but confined to pharmaceutical and agricultural chemical products only. There is no requirement that secret information must be in tangible form to be eligible for protection, nor is there any definition of what may constitute a trade secret, referred to in the TRIPS text as "undisclosed information."

Life Forms: TRIPS - Subtract 4 of 6 points

TRIPS calls for protection of plant varieties through patents or plant breeders' rights, or both. Higher animal life forms are denied patent protection and are not otherwise protected. This provision is to be reviewed January 1, 1999.

Treaties: TRIPS - Subtract 4 of 6 points

Although the TRIPS Agreement is itself part of a treaty, it incorporates the Paris and Berne Conventions (1967 versions) by reference. There is no mention of the Patent Cooperation Treaty (PCT) or the Geneva Convention. Portions of the Treaty on Intellectual Property in Respect of Integrated Circuits (Washington Treaty) are incorporated and supplemented by other requirements.

TRIPS contains provisions for national treatment and most-favored-nation treatment. While not assessed by the rating system presented here, these provisions have been questioned for their lack of directness. The comparable provisions of the NAFTA text speak more directly.

While it might seem rather illogical for the TRIPS Agreement to have required PCT adherence, particularly given the objectives of the TRIPS negotiations, the omission must

nonetheless be assessed in assigning a rating. The omission of the Geneva Convention, if only for the sake of form, must also be assessed.

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General Public Commitment: TRIPS - Add 1 of 3 points

This category does not apply as readily to a treaty as it does to a national regime. Still, global public awareness that intellectual property protection facilitates international trade has been initiated.

Appendix B - NAFTA Chapter 17

The rating assigned to the NAFTA Chapter 17 is 68. The North American Free Trade Agreement, created by Mexico, Canada and the United States, took effect January 1, 1994. Chapter 17 of the agreement contains the intellectual property standards established by the three countries. This assessment is derived from analysis of the text of Chapter 17.

Enforceability: NAFTA - Subtract 12 of 25 points

NAFTA is substantially similar to TRIPS in regard to general obligations to enforce, to provisional measures, to border measures, and to criminal procedures. NAFTA contains a unique provision which permits a member country to limit remedies against itself to payment of money damages should it be found to have infringed an intellectual property right.

Article 1714(5) states that no member country is obliged to establish judicial mechanisms for intellectual property enforcement which are distinct from the system for law enforcement in general. It does not contain the additional provisions found in TRIPS which relate to the application of resources and to the capacity to enforce their law in general. This should permit member states to eventually complain about inadequate resource allocations to the judicial system in other members if low quality litigation becomes the pattern of experience.

Since judicial enforcement is a particularly weak component of Mexico's intellectual property regime, the "escape" provided by Article 1714(5) must be given due weight. As with TRIPS, the assignment of 12 points is arbitrary but reasonable within the range of a few points.

Administration: NAFTA - Subtract 5 of 10 points

NAFTA has few provisions regarding administration. They appear as scattered references throughout the enforcement provisions. Article 1715(6) implies that public officials can be subjected to remedial measures for their actions in administering intellectual property laws except where action is taken or intended in good faith.

The paucity of administrative provisions presents the option of either subtracting some points foradministration or ignoring this component. From an investment perspective, ignoring it would imply that deficient administration does not influence investment decision-making. At the same time, administration in the three current member countries is not a major issue for the most part. However, if membership in NAFTA is extended to other countries in the future, the lack of administrative requirements could present problems. Rather arbitrarily, five points are subtracted.

Copyright: NAFTA - Subtract 2 of 12 points

NAFTA provisions regarding copyright are sparse. They build on the Berne Convention through incorporation by reference. Computer software is to be protected as a literary work, and databases are to constitute intellectual creations and be protectable as such. Rental rights are established without the limits of the TRIPS text. Exceptions to exclusive rights are to be limited, but this text will engender subjective interpretation. Amplification of protection for performers, sound recordings and broadcasters is provided. Specific protection for encoded satellite signals is provided. The text addresses parallel imports, the exhaustion of rights and the unrestricted transfer of economic rights. There is an unfortunate exclusion for Canada's "cultural industries."

Patents: NAFTA - Subtract 5 of 17 points

Certain subject matter may be excluded from patentability. There are no transition provisions delaying patentability for any particular subject matter. Transition protection is offered when previously excluded subject matter becomes patentable. The treatment of compulsory licenses, while establishing many limitations, remains without clarification as to what constitutes an abuse and what would constitute legitimate reasons to justify inaction. Dependent patents are not aided by compelled licenses. Patent rights are valid without regard to whether imported or locally produced.

A product patent confers the right to prevent others from making, using and selling, but does not extend to prevention of importation as does the TRIPS agreement. Although there is provision for industrial design protection, there is no explicit mention of utility models, nor is it clear that incorporation of portions of the Paris Convention by reference will mandate protection for utility models.

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Trademarks: NAFTA - Subtract 0 of 9 points

Adequate protection for trademarks, including service marks, is provided.

Trade Secrets: NAFTA - Subtract 5 of 15 points

An adequate basis for protection of trade secrets is established. However, member countries may require that secret information must be in tangible form to be eligible for protection, as does Mexico. Protection against disclosure or beneficial use of information submitted to authorities to obtain government approval for marketing is provided for a limited time but confined to pharmaceutical and agricultural chemical products that utilize new chemical entities. There is no definition of what may constitute a trade secret.

Life Forms: NAFTA - Subtract 3 of 6 points

NAFTA calls for protection of plant varieties through patents or plant breeders' rights, or both. Higher animal life forms may be denied patent protection and are not otherwise protected.

Treaties: NAFTA - Subtract 1 of 6 points

NAFTA requires each member to adhere to the Berne, Paris, Geneva and UPOV Conventions among others, but is silent regarding the Patent Cooperation Treaty.

General Public Commitment: NAFTA - Add 1 of 3 points

This category does not apply as readily to a treaty as it does to a national regime. The general public commitment which is already strong in Canada and the United States does not stem from NAFTA. The NAFTA agreement helps to build up public commitment in Mexico. At the same time, regional public awareness that intellectual property protection is important for regional trade has been strengthened.

XIII. Selected References

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n1 See Robert M. Sherwood, Intellectual Property and Economic Development (1990); Edwin Mansfield, Intellectual Property Protection, Foreign Direct Investment, and Technology Transfer (International Finance Corporation of The World Bank Group Discussion Paper 19, 1994) [hereinafter Mansfield Discussion Paper 19]; Edwin Mansfield, Intellectual Property Protection, Direct Investment, and Technology Transfer: Germany, Japan and the United States (International Finance Corporation of The World Bank Group Discussion Paper 27, 1995) [hereinafter Mansfield Discussion Paper 27]; Carlos A. Primo Braga, Trade-Related Intellectual Property Issues: The Uruguay Round Agreement and Its Economic Implications, in The Uruguay Round and the Developing Economies, (World Bank Discussion Paper 307, William Martin & L. Alan Winters eds., 1995).

n2 To further assess a country's attractiveness to investors, points might have also been added to reflect a country's determination to adjust rapidly to new technology.

n3 Sherwood, supra note 1, at 58.

n4 United States Chamber of Commerce, Guidelines for Standards for the Protection and Enforcement of Intellectual Property Rights (Mar. 11, 1987).

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n19 This assessment does not cover the copyright law enacted in December 1996 which takes effect in early 1997.

n20 For further impressions, see Edwin Einstein's recent trenchant assessment: Edwin Einstein, NAFTA: Little Protection for Technology, les Nouvelles, Mar. 1995, at 28.

n21 This law was recently enacted but has not been reviewed.

n22 This law was recently enacted but has not been reviewed.

n23 This law was recently enacted but has not been reviewed.

n24 This is a preliminary assessment.

n25 This is a preliminary assessment.

n26 This is a preliminary assessment.

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n49 Primo Braga, supra note 1.

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n52 See Sherwood et al., supra note 7.