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CONSULTATIONS ON COMPETITION LAW AND POLICY, INCLUDING THE MODEL LAW AND STUDIES RELATED TO THE PROVISIONS OF THE SET OF PRINCIPLES AND RULES

A preliminary report on how competition policy addresses the exercise of intellectual property rights

Executive summary

Intellectual property rights (IPRs), granted by patents, copyrights, trademarks, etc., play an important role in fostering innovation and sustaining economic growth. These rights allow their holders to exclude, for a limited amount of time, other parties from the benefits arising from new knowledge and, more specifically, from the commercial use of innovative products and processes based on that new knowledge. IPRs, by granting legal exclusivities, may also confer on their holders the ability to exercise market power, at least when similar technologies and products representing viable constraints are not present. Such exercise of market power can lead to allocative inefficiencies. The reward deriving from IPRs is directly related to the duration and scope of those rights. Determining the duration and scope of IPRs is usually not a task assigned to competition policy-makers, but competition policy certainly plays an important role in limiting the extent of market power associated with IPRs, ensuring in particular that such power is not excessively compounded or used as leverage and extended to other unrelated markets. Patents, in fact, do not give the right to exclude competition among different patented products. In this respect, competition policy has a role in limiting monopolistic abuses related to the exercise of IPRs. It plays this role by preventing firms holding competing intellectual property rights from engaging in anti-competitive practices.

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1. Introduction

1. The Intergovernmental Group of Experts on Competition Law and Policy, at its session on 29-31 July 1998, requested the UNCTAD secretariat to prepare for the next meeting a preliminary report on how competition policy addresses the exercise of intellectual property rights 1/ (agreed conclusions, paragraph 7 (c), in annex 1 of the report of the Intergovernmental Group of Experts on Competition Law and Policy (TD/B/COM.2/CLP/5)). On the basis of this preliminary report, delegations may wish to give further guidance to the secretariat on how to proceed with respect to the final draft of the report, as well as provide information on national policies and procedures relevant for the application of competition policy to the exercise of intellectual property rights.

2. The role of intellectual property rights in promoting innovation

2. Intellectual property rights (IPRs), granted by patents, 2/ copyrights, 3/ trademarks, 4/ etc., play an important role in fostering innovation and sustaining economic growth. These rights allow their holders to exclude, for a limited amount of time, other parties from the benefits arising from new knowledge and, more specifically, from the commercial use of innovative products and processes based on that new knowledge. The ability to temporarily exclude others from the enjoyment of the potential benefits deriving from innovation contributes to providing the incentive for individuals and enterprises to allocate financial and human resources in research and development (R & D) and other costly activities to realize new discoveries, innovative products and production processes.

3. In the absence of the legal protection ensured by IPRs, rival firms would be entitled to free-ride on the successful results of R & D investments, imitating and exploiting commercially new inventions. 5/ IPRs also contribute to promoting the dissemination and commercial application of intellectual property. Firms, in fact, can be expected to be more inclined to transfer new technologies and inventions when a sufficient degree of legal certainty regarding the returns from sharing precious innovative ideas is guaranteed. In some cases, even in the absence of IPRs, firms may still be able to exclude competing firms from having access to their innovations. In these cases, IPRs would not be necessary to recover the investments incurred. However, excluding other firms from sharing know-how is not always possible. Also, a sizeable waste of resources can result from the efforts aimed at maintaining secrecy. In the absence of strong IPRs, an inefficient tendency to allocate resources particularly to those innovative activities which can be more easily kept secret can be expected.

3. Intellectual property rights and the trade-off between allocative and dynamic efficiency

4. IPRs, by granting legal exclusivities, may also confer to their holders the ability to exercise market power, 6/ at least when similar technologies and products representing viable constraints are not present. Such exercise of market power can lead to allocative inefficiencies: owners of exclusive rights are likely to restrict output levels compared to more competitive situations in the markets for the goods and services incorporating those

rights. They will do so in order to maximize their profits. If the supply of these goods and services was expanded, therefore, an increase in society's welfare, through a more efficient allocation of resources, would result. It has been observed, 7/ however, that IPRs, while ensuring the exclusion of rival firms from the exploitation of patented technologies and derived products and processes, do not necessarily confer market power on their holders. 8/ In fact, technologies which can be considered, at least to a sufficient degree, potential substitutes do represent effective constraints on the ability of IPR holders to price their products above competitive levels. Only when alternative technologies are not available can IPRs be said to grant their holders monopolistic positions in relevant markets defined appropriately. 9/

5. The exercise of exclusive IPRs which give monopolistic power leading to allocative inefficiencies in the absence of competing technologies and products may appear to contrast with what is generally perceived in most jurisdictions as the main objective of competition policy: the protection of the competitive process to ensure an efficient allocation of resources, lower prices and greater consumer choice. Competition policy, however, recognizes that in some circumstances, society would be better off by allowing for limited market restrictions, monopolistic profits and short-term allocative inefficiencies, when these can be proven to promote dynamic efficiency and long-term economic growth. 10/ This trade-off, which has to be weighed by competition policy-makers in many areas (mergers, joint-ventures, etc.), is clearly a central issue in the interface between competition policy and intellectual property protection: short-term inefficiencies are expected to be the price that society needs to pay in order to receive the "reward" of long-term economic growth. 11/

6. While the need to grant exclusive rights in order to promote innovation is a relatively accepted principle, defining the boundaries of such rights is a more complex and thorny issue. The risk of reducing social welfare by granting excessive market exclusivities and extra profits compared to those necessary to recover the investments made and ensure sufficient incentives is always present.

7. The reward deriving from IPRs, in fact, is directly related to the duration and scope of those rights. Determining the duration and scope of IPRs is usually not a task assigned to competition policy-makers. 12/ Competition policy certainly plays an important role, however, in limiting the extent of market power associated with IPRs, ensuring in particular that such power is not excessively compounded or used as leverage and extended to other unrelated markets. Patents, in fact, do not give the right to exclude competition among different patented products. In this respect, competition policy has a role in limiting monopolistic abuses related to the exercise of IPRs. It plays this role by preventing firms holding competing intellectual property rights from engaging in anti-competitive practices.

4. Competition policy and the exercise of intellectual property rights

8. Many competition authorities conduct their enforcement activity vis-à-vis the exercise of IPRs by treating such rights as similar to other

forms of property. Differences exist, however, regarding the consideration accorded to the greater risk of free-riding behaviour arising with IPRs and to the fact that intellectual property can be more easily appropriated. 13/ Also, anti-competitive practices are often evaluated for their effects both on products and on technology markets. In fact, restricting competition among competing technologies has welfare-reducing effects parallel to those which would occur with restrictions in products markets.

9. Another important principle of competition policy vis-à-vis the licensing of IPRs, coherent with the general approach adopted in all other areas of enforcement, consists in drawing a clear distinction between the horizontal and vertical effects of licensing arrangements. Horizontal practices, resulting in coordination of activities among actual or potential competitors, are more likely to have negative effects on competition and on welfare. Anti-competitive behaviour related to the exercise of IPRs between direct competitors clearly occurs, for example, when holders of substitutable technologies enter into cross-licensing arrangements which are disguised cartel agreements aimed at setting commonly agreed prices for the (competing) products and services incorporating those technologies. 14/ These closely resemble those agreements, not necessarily confined to the intellectual property area, which are considered by most jurisdictions as the most harmful forms of anti-competitive behaviour.

10. Other types of horizontal agreements among holders of competing technologies such as joint ventures can also adversely affect competition. These types of agreements, however, are more likely to be associated with efficiencies (the realization of economies of scale, elimination of duplication in R & D, etc.), resulting in a net welfare benefit. Competition authorities, as with their approach to other horizontal practices, evaluate these types of agreements on the basis of the specific circumstances of the case, analysing the underlying market conditions, such as the degree of concentration and the relative intensity of barriers to market entry. The market share held by the firms involved in the licensing practices is usually particularly important in the analysis. When licensors hold limited market shares, negative effects on competition are less likely.

11. Vertical arrangements (i.e. restrictions between holders of IPRs and firms using those rights as inputs for their activities), on the other hand, are often viewed as tools to coordinate the incentives of downstream licensees with the interest of upstream licensors, so as to reduce transaction costs, opportunistic behaviour and free-riding opportunities by either upstream or downstream firms. 15/ A general exception to the generally more lenient stance vis-à-vis vertical licensing arrangements applies, in almost all jurisdictions, to practices aimed at fixing the resale price of goods or services incorporating intellectual property. Vertical price fixing (resale price maintenance) is banned in most jurisdictions, including in the context of technology licensing arrangements. Vertical arrangements can be expected to result in anti-competitive and welfare-reducing effects when they are imposed on downstream firms by companies holding a strong and unrivaled market position. To be considered vertical, a licensing agreement needs to involve firms which are not actual or potential competitors. This assessment is often

difficult to make, as licensees may often have the necessary capabilities for developing independently new technologies and therefore be, in reality, potential competitors.

12. The role that competition policy plays in monitoring excessive exploitation of market power in connection with the exercise of IPRs is particularly important in the review of the anti-competitive effects of licensing contracts (regulating the transfer or exchange of rights to the use of intellectual property) containing exclusivity or restrictive clauses. It is commonly agreed that the licensing of intellectual property generally has beneficial effects. It facilitates the diffusion of technological innovation and know-how and their exploitation by firms which may have a greater comparative advantage. Production can be made more efficient and product quality enhanced when technologies are used in a complementary manner. Also, licensing patented technology may increase the return to IPR holders, therefore increasing firms' incentives to pursue investment in R & D. In fact, welfare would be reduced if innovators and IPR holders were forced to enter into direct production and commercialization and not allowed to license their know-how to third parties better positioned to manufacture and market licensed goods and services.

13. Nevertheless, the transfer of patented technology may involve excessive and unnecessary restrictions on competition, depending on the specific contractual arrangements and market conditions. An overview of the pro-competitive and anti-competitive effects of four frequently used types of contractual restrictions is presented below (the final report will attempt to provide a more exhaustive treatment of licensing restrictions, such as refusal to license, excessive pricing, etc.). These restrictions are territorial exclusivities, exclusive dealing, tying requirements, and grant-back requirements. They are often used as tools to facilitate the transfer of technology, but under some circumstances, they may also lead to an undue restriction of competition.

14. A general principle when reviewing licensing restrictions is to assess what the consequences would be for the concerned markets if such restrictions were prohibited. In fact, prohibiting contractual restrictions might simply lead licensors to decide no longer to license the concerned technologies, preferring to integrate vertically into direct production or deciding altogether not to exploit them commercially. The alternative predictable outcome, for example forcing the licensor to enter into downstream activities, may ultimately lead to a reduction in welfare. As part of the analysis of competition authorities, an assessment of the likely alternative scenarios in case of prohibition of contractual restrictions is often conducted.

Territorial exclusivity and parallel imports

15. When it is feasible to divide up markets into separate territories and block or sufficiently limit trade flows to keep prices at the highest level that each market can bear, licensors may choose to assign areas (a region, a city, or an entire country) in exclusivity to single licensees. Two different types of territorial exclusivity exist: an "open" and a "closed" version. Open territorial exclusivity refers to the contractual right to be the exclusive licensee in a given area, without protection from competition by

parallel importers getting their products from licensees of other areas. 16/ Closed territorial exclusivity refers to the complete exclusive right to any sale within a territory. With closed territorial exclusivity, parallel imports are barred and stop representing a source of competition for the products distributed by the local exclusive licensee.

16. It has been observed 17/ that a holder of IPRs who divides up the market among different licensees, each with an exclusive territory, does not create additional monopoly power. He already holds exclusive rights in each area (or country) where local territorial exclusivities are set up. Territorial exclusivities may in fact be created for different reasons, some of them unrelated to anti-competitive behaviour, which can promote efficiency and consumer welfare. A reduction in intra-brand competition (competition among distributors of the same good) may be a necessary condition to enhance inter-brand competition (competition among different brands). Local licensees, for example, may need to incur substantial investments in order to promote new products recently introduced in the market, still unknown to most consumers. They might do so, for example, through advertising campaigns, distribution of free samples of the products, showrooms, etc., or through an improvement of the licensed products, adapting them to local demand. Territorial exclusivity may avoid free-riding opportunities on these investments by other licensees. 18/

17. For a limited number of products, open territorial exclusivities may produce a sufficient return for the investments incurred by local exclusive licensees. Nevertheless, when trade barriers are limited and transportation costs are non-substantial, significant free-riding can occur through sales by parallel importers which undermine the possibility of local licensees to recover local costs. Closed territorial exclusivities might, on the other hand, lead to excessive double mark-ups by licensees, hurting the interests of IPR licensors. Licensees with downstream monopoly power may in fact reduce outputs and charge prices that are excessively high, to the detriment of the whole vertical structure: lower prices deriving from greater vertical coordination would lead to greater profits for both licensors and licensees. With parallel imports, exclusive licensees are constrained in their ability to impose excessive mark-ups. If prices become too high, parallel imports can exert downward pressure on prices.

18. Another important reason for IPR holders to enter into territorial exclusivities is to profit from price discrimination. Particularly when regions or countries have different demand elasticities, charging different prices in different areas would lead to an increase in total profitability. More specifically, total profits are maximized by charging higher prices in areas where demand is more inelastic. With international price discrimination, national objectives of competition policy, i.e. maximizing the welfare of a country's own citizens, might, however, diverge from the achievement of global welfare. From an international welfare perspective, exclusive licences across countries can be employed, as mentioned, to achieve price discrimination and therefore be associated with efficiency-enhancing effects, because of the resulting worldwide expansion in output. However, from the perspective of the country in which higher prices are charged, an elimination of territorial exclusivities (or at least of the ban on parallel imports) may bring about net benefits, particularly when the holders of IPRs

are located abroad. In fact, competition will bring down prices, entirely to the benefit of national welfare, while the costs of reduced incentives to innovate will be spread among all countries. This is particularly true for countries which are net importers of technology. Such is the case for most developing countries. It might therefore be a totally rational choice to prohibit territorial and other forms of licensing restrictions.

19. It is important, however, to consider the consequences of attempts to impede inernational price discrimination: TNCs might opt to block licensing of their technologies altogether. Also, it has been argued 19/ that international price discrimination and the ban on parallel imports benefit mainly developing countries because enterprises from more industrialized (and wealthier) countries can charge lower prices in poorer markets without being forced to lower their prices in rich markets as well. In this way, TNCs supply markets which would not have been serviced in a content of forced uniform pricing. 20/

20. An additional consequence of territorial exclusivities is that they can also facilitate the implementation of disguised cartel arrangements. For example, competing firms holding a significant amount of the total patents specific to a particular class of products could agree to issue exclusive licences to a jointly owned corporation, which would then divide up the market among the associated firms through territorial exclusivities. Such an agreement would clearly lead to a substantial reduction in competition because it would concern firms which otherwise (in the absence of the licensing agreement) would have competed head-to-head with each other and would not involve firms operating at different levels of the vertical production chain.

21. Assigning territorial exclusivities may also be a direct tool to facilitate collusion among competing licensors, by making it easier to monitor downstream violations of cartel agreements. Competing licensors, in fact, may find it difficult to agree on prices for royalties regarding licensed technologies and may find it easier to agree on prices of the final products supplied by their licensees. Territorial exclusivities allow for easier monitoring of licensees' final prices. The treatment by competition policy-makers of territorial restrictions clearly depends on the prevailing motivation for their use in each specific case and their likely effect. Particularly when these arrangements do not appear to lead to any sizeable efficiency but rather are part of a scheme to ensure market cartelization, their impact on competition and welfare can be expected to be negative. If, on the other hand, they are used to overcome free-riding, to cope with asymmetries in information between licensors and licensees or to ensure price discrimination, their impact on welfare is more ambiguous and depends largely on market concentration and barriers to entry.

Exclusive dealing

22. Exclusive dealing arrangements prevent licensees from manufacturing products which employ technologies supplied by competitors of the licensor. This parallels exclusive dealing arrangements in distribution agreements whereby retailers are not allowed to carry competing brands. The rationale for entering into exclusive dealing restrictions in intellectual property licensing is similar to that applying to product markets: to avoid

free-riding opportunities between competing licensors and to promote the development of relationship-specific technologies by both licensors and licensees. 21/

23. Licensors transferring know-how to licensees also manufacturing goods under licence of other firms may risk leakage of information and misappropriation of their patented knowledge. The development of exclusive relationships with licensees can be a way to overcome this potential free-riding situation. Also, exclusive dealing may increase the return on specific investment because the likelihood of licensees interrupting a consolidated relationship with the licensor is reduced. Exclusive dealing arrangements may, however, also result in market-foreclosing effects to the detriment of rival licensors and restrict competition in the market, particularly when the firms entering into such arrangements already hold a large share of the relevant product market. The foreclosing effect depends to a large degree on the availability of alternative manufacturing capacity for existing or new licensors.

Tying requirements

24. Tying refers to a contractual obligation whereby a manufacturer agrees to sell a certain good only to buyers which agree to buy other, unrelated products. Tying can be used for purposes which may increase welfare such as to protect the reputation of licensed technology. For example, a manufacturer of a new model of photocopy machines may require that buyers of the new model purchase spare parts and repair services from the manufacturer. This requirement may be used to ensure that the perceived quality of the machine to users is not reduced by low-quality maintenance services or spare parts. Tying may also reduce the risk inherent in the licensing of innovations whose commercial value is still uncertain. This can be achieved by charging less for the innovation and tying it to an additional good whose demand is correlated with the use of the innovation.

25. More generally, tying is used to price discriminate between consumers who use products or technologies with varying intensity. For example, cameras may be leased to customers on condition that films used be bought from the leaseholder. Price discrimination, as noted earlier, can promote welfare because it may lead to an expansion of output, making products available to users who would not otherwise have been supplied because of monopoly output restrictions associated with uniform pricing. Tying, however, can also result in clearly welfare-reducing effects when it is employed as a tool to foreclose other markets. This can be achieved if the licensor holds considerable market power in the tying product and the foreclosing effects in the tied products are substantial.

Exclusive grant-backs

26. This type of restriction refers to the situation whereby licensors ask to receive all the rights on new technologies developed by licensees through improvements on the licensed technology. While it may facilitate the transfer of technologies to licensees, it may also negatively affect licensees' incentive to engage in R & D. Non-exclusive grant-back clauses, whereby

licensees are allowed to deal with other buyers of their incremental inventions, are less likely to reduce competition while maintaining adequate incentives to license new technologies.

5. The TRIPS Agreement, competition policy and intellectual property rights

27. The recognition of the contribution of intellectual property protection in fostering economic growth is one of the main tenets of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) negotiated during the Uruguay Round. The Agreement has introduced common minimum standards of protection and enforcement of IPRs in the international trading system which are binding for all member countries. It is expressely stated that the protection and enforcement of IPRs should contribute to the promotion of technological innovation and to the transfer and dissemination of technology (arts. 7 and 8). IPRs should contribute to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare and to a balance of rights and obligations.

28. The role of competition policy in ensuring that IPRs promote economic growth and innovation is expressly stated in the TRIPS Agreement: *"Nothing in this Agreement shall prevent Members from specifying in their legislation licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market"* (art. 40.2). It allows Member countries *"to adopt, consistently with the other provisions of this Agreement, appropriate measures to prevent or control such practices ... in the light of the relevant laws and regulations of that Member ..."*. The repression of anti-competitive practices associated with IPRs is therefore assigned to national competition laws and policies. Nevertheless, the need for international cooperation is also emphasized. In particular, consultations among Member countries are envisaged, 22/ *inter alia* through the supply of publicly available non-confidential information.

6. Recommendations for future work

29. The Intergovernmental Group of Experts was given the task by the Third United Nations Review Conference (1995) to further strengthen common ground among States in the area of competition law and policy, identifying restrictive business practices that affect the economic development of countries. "The interface between competition law and policy, technological innovation and efficiency" and "the competition policy treatment of the exercise of intellectual property rights (IPRs) and of licences of IPRs or know-how" were recognized as two areas where the identification of broad similarities in approach should be promoted. A greater convergence of competition law and policy enforcement principles vis-à-vis the exercise of intellectual property rights may in fact enhance global welfare by reducing inconsistencies and preventing friction in the international trading system. To advance this long-term objective, a major step would consist in strengthening the mutual understanding of national approaches, including commonalities and divergencies. This learning process would particularly profit those countries that have only recently created institutions

responsible for the enforcement of competition policy and intellectual property protection 23/ and which therefore lack enforcement experience.

30. The specific problems facing developing countries in the application of competition policy in the area of intellectual property rights - due to their constraints in terms of specialized personnel - were identified in a 1996 UNCTAD report 24/ on the consequences for developing countries of the TRIPS Agreement. The importance for developing countries of developing sufficient expertise with respect to the proper application of competition policy principles in the area of intellectual property is related to the fact that the assessment of the anti-competitive effects of IPR licensing practices is very complex in many cases and best conducted by taking into account both welfare enhancing and welfare reducing effects.

31. The final draft of this report should therefore aim at including a detailed analysis, based on national contributions submitted to the secretariat, of the analytical framework adopted by competition authorities in different jurisdictions having already acquired experience in this area (including countries at different stages of economic development). A substantial amount of information about some jurisdictions (United States, European Union, Canada and Japan) is already available to the secretariat, but information will have to be obtained on a greater number of countries. In particular, for different jurisdictions, the final report will look at: the existence of competition policy provisions which apply specifically to the IPR area; the role of guidelines used by competition enforcement agencies in the evaluation of IPR-related practices; national notification systems for IPR practices; relevant cases in the IPR area; the contribution made by competition authorities to the definition of the scope and duration of patents. A section of the final report will also examine alleged inconsistencies between the achievement of national welfare on the one hand and global welfare on the other and possible ways to overcome these inconsistencies.

Notes

1/ The Third United Nations Conference to Review all Aspects of the Set of Multilaterally Agreed Equitable Principles and Rules for the Control of Restrictive Business Practices, held in 1995, had already identified "*the competition policy treatment of the exercise of intellectual property rights (IPRs) and of licenses of IPRs or know-how*" as one of the policy areas to be examined more closely by the Intergovernmental Group of Experts in order to identify and strengthen common ground among member States.

2/ "*Patents provide an inventor with exclusive rights to a new and useful product, process, substance or design. New products include machines (mechanisms with moving parts) or manufactured articles, such as tools, without moving parts. New processes, or methods, include chemical processes for treating metal or manufacturing drugs, mechanical processes for manufacturing goods, or electrical processes. New substances include chemical compounds and mixtures: the concept covers the composition of matter. New forms of plants can also be covered. New designs include the shapes of products where the shapes serve a functional purpose. In addition,*

improvements on products, processes, and substances may be patented." Dennis W. Carlton and Jeffrey M. Perloff, Modern Industrial Organization, New York, HarperCollinsPublishers, 1989.

3/ "*Copyrights give a creator the exclusive production, publication or sales rights to artistic, dramatic, literary or musical works. Examples include articles, books, drawings, maps, musical compositions or photographs*." Dennis W. Carlton and Jeffrey M. Perloff, Modern Industrial Organization, New York, HarperCollinsPublishers, 1989.

4/ "*Trademarks are words, symbols, or other marks used to distinguish a good or service provided by one firm from those provided by other firms*." Dennis W. Carlton and Jeffrey M. Perloff, Modern Industrial Organization, New York, HarperCollinsPublishers, 1989.

5/ The free-riding problem associated with intellectual property can be well illustrated by way of an example. Once a firm has incurred substantial expenditures in R & D for the development, for instance, of a new, more powerful, type of underwater camera and the first prototype has been realized, it can produce and market the camera on a large scale at a relatively low cost. If the results of the R & D efforts cannot be kept secret but can be easily appropriated, then competing firms would be able to quickly use the results of that research, enter into production of the same innovative new model of underwater camera and sell it at a much lower price. These rival firms, in fact, would not need to recover the costly R & D activities. The innovative firm, on the other hand, might not be able to recover all the costs incurred, since it might be expected that it will have to charge a higher price. If this is allowed to happen, no firm, in the expectation of free-riding behaviour, would incur the mentioned sunk costs in R & D. With well enforced IPRs, conversely, the innovative firm can take advantage of temporary exclusivity in the exploitation of its R & D efforts and produce the new type of camera avoiding potential free-riding practices of other firms.

6/ Market power can be defined as the ability to maintain prices above competitive levels for a significant amount of time and profit from such rise in prices.

7/ See, for example, Competition Policy and Intellectual Property Rights, Paris, Organization for Economic Co-operation and Development (OECD), 1989.

8/ In a survey conducted in 1981, licensors reported that they faced no alternative supplier only in 27 per cent of cases. Competition Policy and Intellectual Property Rights, Organization for Economic Co-operation and Development (OECD), 1989, pp 16-17.

9/ In order to delimit relevant markets, an assessment of all goods (or services) that are perceived as directly interchangeable by consumers is usually conducted. To verify substitutability, reference is often made to the cross-elasticity of demand: two goods are viewed as belonging to the same market when the increase in the price of the first one causes a non-marginal increase in the quantity requested of the second. In view of resource and time constraints, competition authorities very often do not have access to

actual estimates of cross-elasticity in their determination of relevant markets. Use is therefore made of other types of evidence such as market surveys of consumer preferences. The relevant market also has a geographic dimension: it is defined as including all areas where concerned consumers are able and willing to redirect their purchases.

10/ "*The domestic economy can continue to expand only if it succeeds in producing either new products that consumers desire or existing products at lower costs. In the language of welfare economics, a reduction in cost typically has a greater welfare consequence than an equal reduction in price. A reduction in price increases total economic welfare (the sum of the economic benefits to consumers and producers) only to the extent that it increases output. The change in price by itself is a transfer of economic benefits between consumers and producers, with no direct impact on the total. A reduction in cost has a direct benefit by freeing resources that can be used elsewhere in the economy.*" Richard J. Gilbert, Steven C. Sunshine "Incorporating Dynamic Efficiency Concerns in Merger Analysis: the Use of Innovation Markets", Antitrust Law Journal, Vol. 63, 1995.

11/ Several studies have revealed the important role played by technological innovation in increasing productivity and promoting economic growth. Some of these studies are referred to in UNCTAD, "Empirical evidence of the benefits from applying competition law and policy principles to economic development in order to attain greater efficiency in international trade and development" (TD/B/COM.2/EM/10/Rev.1).

12/ In a recent round table organized at the OECD, one of the points stressed by participants was that competition authorities should also use their competition advocacy powers in order to ensure that patent offices are aware of the anti-competitive effects of over-broad patents. See Competition Policy and Intellectual Property Rights, OECD, 1998, Executive Summary, pp. 7-12.

13/ For example, in the "Antitrust Guidelines for the Licensing of Intellectual Property", issued in 1995 jointly by the United States Department of Justice and the Federal Trade Commission, it is stated that: "*The Agencies apply the same general antitrust principles to conduct involving intellectual property that they apply to conduct involving any other form of tangible or intangible property. That is not to say that intellectual property is in all respects the same as any other form of property. These characteristics can be taken into account by standard antitrust analysis, however, and do not require the application of fundamentally different principles*".

14/ Agreements aimed at sharing markets and restricting output have similar anti-competitive effects.

15/ See "Competition policy and vertical restraints" (UNCTAD/ITCD/CLP/Misc.8), 1999.

16/ This is the case, for example, within the European Union, where barring parallel importation of goods and services supplied by foreign manufacturers is prohibited. Allowing open territorial exclusivities but barring closed territorial exclusivities is referred to as the exhaustion principle.

17/ See, for example, Patrick Rey and Ralph A. Winter, "Exclusivity restrictions and intellectual property" in Competition Policy and Intellectual Property Rights in the Knowledge-Based Economy (General Editors: Robert D. Anderson and Nancy T. Gallini), 1998.

18/ Without repression of free-riding behaviour, licensees would not invest in local markets and ultimately consumers would not have access to their goods.

19/ See David A. Malueg and Marius Schwartz "Parallel imports, demand dispersion and international price discrimination", Economic Analysis Group Discussion Paper, United States Department of Justice, Antitrust Division, 25 August 1993.

20/ A criticism to the arguments brought forward in the article by Malueg and Schwartz illustrating the benefits for developing countries of international price discrimination can be found in Frederick M. Abbott, "First Report (Final) to the Committee on International Trade Law of the International Law Association on the Subject of Parallel Importation", Journal of International Economic Law (1998). It is stated that "... (Malueg and Schwartz) ... *do not consider the impact of an international price discrimination system on developing country producers and consumers acting outside the field of the monopolist's product. Most importantly, they do not consider the broader effects of an international price discrimination system on the international allocation of resources. If developed country producers are not pressured to become more efficient as a consequence of price competition, this will distort the efficient allocation of resources in the developed countries. If developing country producers/licensees are limited in the profitability of their operations, this will limit developing country investments in future production. If the profit-making potential of capital investments in developing countries is limited, this will encourage developing countries to continue to rely on capital intensive developed country exports ...*". It is also noted that *"... A substantial part of international trade is in goods that are not protected by IPRs, particularly in the commodities and unfinished goods sectors. Developing countries are not unserved with these products. Developing country buyers may be served with lower-priced IPRs-protected goods through product differentiation.*"

21/ See Patrick Rey and Ralph A. Winter, "Exclusivity restrictions and intellectual property" in Competition Policy and Intellectual Property Rights in the Knowledge-Based Economy (General Editors: Robert D. Anderson and Nancy T. Gallini), 1998.

22/ "*Each Member shall enter, upon request, into consultations with any other Member which has cause to believe that an intellectual property right owner that is national or domiciliary of the Member to which the request for consultations has been addressed is undertaking practices in violation of the requesting Member's laws and regulations on the subject matter of this*

Section, and which wishes to secure compliance with such legislation, without prejudice to any action under the law and to the full freedom of an ultimate decision of either Member." TRIPS Agreement, Article 40.3.

23/ In some countries, the two functions (competition policy and intellectual property protection) are assigned to a single agency. This is the case, for example, in Peru.

24/ UNCTAD, The TRIPS Agreement and Developing Countries, New York and Geneva, 1996 (United Nations publication, sales no. 96.II.D.10).

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