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Study on the Socioeconomic Dimension of the Unauthorized Use of
Signals – Part III:

Study on the Social and Economic Effects of the Proposed Treaty on the
Protection of Broadcasting Organizations

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EXECUTIVE SUMMARY

1. This report of the study on socioeconomic dimensions of unauthorized use of signals explores the types and conditions of unauthorized uses, the economic effects of the uses, the interests of stakeholders affected by the proposed treaty on protection of broadcast signals, and how they are affected by its provisions.
2. The report explains the rationale of the proposed treaty, how unauthorized uses of signals take place in the broadcasting (terrestrial and satellite) and the cable and cable satellite environments and the differences between unauthorized reception, unauthorized decryption, unauthorized retransmission (understood in this report as meaning a *simultaneous* transmission), and unauthorized fixation and post-fixation uses (including reproduction and distribution).
3. This report reviews the economics of broadcasting and identifies the economic effects of unauthorized uses, revealing how they affect company costs, cost recovery, demand for authorized uses, and revenues of companies. It shows that the locations of the unauthorized uses and whether free-to-air or paid signals are involved play significant roles in whether harm occurs and the extent of harm created by unauthorized uses.
4. The report delineates the rights within and related to the signal and the implications of these for authorized and unauthorized retransmissions and post-fixation uses of signals. It also identifies social benefits that may result from unauthorized uses and identifies some uses that some stakeholders argue are worthy of exceptions or limitations to protections.
5. The report then shows the extent to which the interests of stakeholders will be affected by provisions of the proposed treaty, and considers the distribution of benefits and detriments of proposed options in the treaty among the stakeholders and the equity of their distribution.
6. Through its assessment of the treaty, the report shows:
 - that the primary benefits of the treaty accrue to broadcasters and cable and satellite operators;
 - that large international broadcasters and domestic broadcasters and cablecasters disseminating sporting events, concerts, and movies can be expected to be greatest beneficiaries;
 - that authors and performers, production firms, and rights holders/licensers will benefit from an additional layer of protection and enforcement that reinforces their rights under other treaties;
 - that rights of fixation and post-fixation for broadcasters will not generally disadvantage content owners (authors, performers, and other rights holders) because they do not override rights provided elsewhere;
 - that domestic broadcasters and cablecasters, distribution systems and tax receipts will benefit, but to a degree that cannot be projected;
 - that interests of audiences/consumers/users and society are protected only to the extent that contracting parties have or put in place legislation and regulatory measures that protect their interests;
 - that the greatest benefits for broadcasters and various rights holders and licensers can be expected in upper middle and high income states;
 - that some economic benefits are likely to occur in lower middle income states, but that benefits are unlikely to occur in low income states for many years due to other intervening factors;

- that the primary disadvantages of the treaty are the additional expenditures that states/governments will be required to incur to administer and enforce its provisions;
- that the administration/enforcement disadvantage will have the greatest impact on low and lower middle income states;
- that audiences/consumers/users and society will be somewhat disadvantaged by reduced access to some content;
- that the content disadvantage will have the greatest impact on low and lower middle income states.

7. The report concludes that the treaty:

- is likely to provide some positive benefits in terms of revenue for broadcasters and cablecasters and wealth generation and tax benefits for states, but to an extent that cannot now be clearly estimated;
- will provide some additional protection for existing investments in programming, but that it is impossible to project whether it will lead to increased investment;
- is likely to be easier to enforce than other IP treaties because it involves actions of broadcasters, cablecasters and others that are highly visible to authorities;
- will improve and streamline enforcement adjudication processes and procedures through its national treatment provisions.

I. INTRODUCTION

8. The report addresses Part 3 of the study on the socioeconomic dimension of the unauthorized use of signals, including lack of access requested at the last session of the SCCR. It explores the effects of the proposed treaty on various stakeholders, within the framework of policy objectives aimed at protecting against piracy, promoting growth and competitiveness, providing public access to information and content, encouraging creativity, enhancing competition, facilitating political participation, and supporting development.
9. This study is part of a three-part study within the context of “The WIPO Treaty on the Protection of Broadcasting Organizations”¹ and the “Revised Draft Proposal for the WIPO Treaty on the Protection of Broadcasting Organizations.”²
10. The proposed treaty is concerned with transmission and reception of live signals and subsequent uses following the transmission of signals and the grant of post-fixation rights in some instances. It is important to note that the treaty draws upon the definition of broadcasting under the Rome Convention³ and the WPPT⁴, and defines

¹ “The WIPO Treaty on the Protection of Broadcasting Organizations,” Informal Paper Prepared by the Chairman of the Standing Committee on Copyright and Related Rights (SCCR) According to the Decision of the Standing Committee on Copyright and Related Right at its Sixteenth Session (March 2008), SCCR Seventeenth Session, Geneva, Nov. 3-7, 2008.

² “Revised Draft Proposal for the WIPO Treaty on the Protection of Broadcasting Organizations,” Prepared by the Chair of the Standing Committee on Copyright and Related Rights (SCCR) in cooperation with the Secretariat, Standing Committee on Copyright and Related Rights Fifteenth Session, Geneva, Sept. 11-13, 2006.

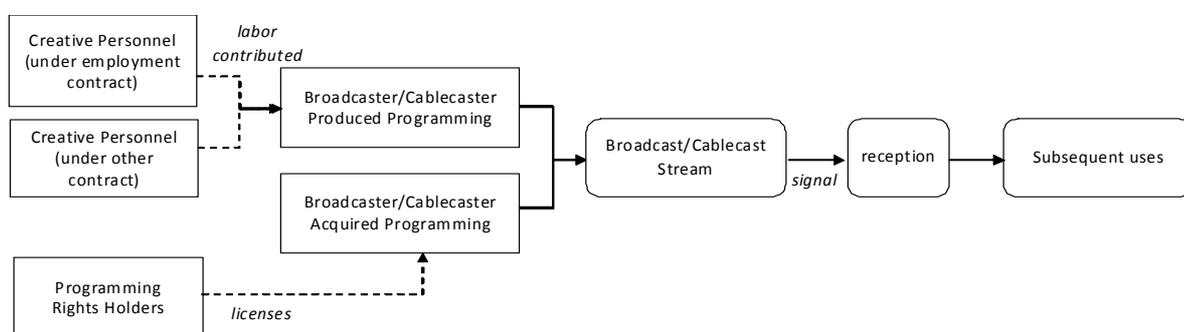
³ “Broadcasting” means the transmission by wireless means for public reception of sounds or of images and sounds.

⁴ “Broadcasting” means the transmission by wireless means for public reception of sounds or of images and sounds or of the representations thereof; such transmission by satellite is also

broadcasting as “the transmission by wireless means for the reception by the public of sounds or of images or of images and sounds or of the representations thereof”. This applies irrespective of whether such transmissions are terrestrial or satellite or open or encrypted signals. The treaty seeks to give protection to signals disseminated by both broadcasters and cablecasters. The definition of ‘cablecasting’ follows the definition of ‘broadcasting’, but is limited to transmission by wire. In its current form the proposed treaty does not apply to signals directly originating from and disseminated over computer networks by any entity, including broadcasters, but may do so if it is decided to encompass webcasting.

11. The study and treaty takes place within an environment in which broadcasters and cablecasters invest in creating and acquiring content, and then organize it into a broadcast or cablecast stream that is transmitted by a signal (Figure 1).

Figure 1: Context of Broadcast and Cablecast Signal Creation and Use



12. The treaty, if consensus is reached that it is necessary, is designed to protect the signal—not affect other rights in the signal—and is designed to ensure that cross-border signals enjoy the same protection that domestic signals receive. Although the treaty may allow broadcasters to license uses of the signal that contains content owned by other rights holders, the license to use the signal, in itself, will not mean anything to the licensee who wishes to use the broadcast content unless it is accompanied by a separate license for the use of the content carried by the signal. Any subsequent authorized uses of the transmissions would generally require that licenses be obtained from both the broadcasters/cablecasters and—in cases where the broadcasters do not have all rights—the rights holders.
13. In its current iteration,⁵ which includes various alternative clauses, the proposed treaty extends to fixation of signal and subsequent utilization thereof.⁶ However, it should be

[Footnote continued from previous page]

“broadcasting”; transmission of encrypted signals is “broadcasting” where the means for decrypting are provided to the public by the broadcasting organization or with its consent.

⁵ “Revised Draft Basic Proposal for the WIPO Treaty on the Protection of Broadcasting Organizations,” WIPO Document SCCR/15/2, July 31, 2006. Negotiations on the treaty provisions are ongoing and subject to change, so the authors of this report have used this latest draft version and recognized significant points remaining under contention in the analysis.

⁶ The decision of the General Assembly seems to indicate that the main focus should be set on the protection of the ‘live signal’, as this is the moment when the need for protection is most acute. In order to make the protection practicable and effective, it has been argued that the protection could and should, however, in some cases, extend beyond the live signal, to some post-fixation instances. It should be stressed that the signal-based approach by no means precludes granting some exclusive rights to broadcasting organizations. “The WIPO Treaty on the Protection of Broadcasting Organizations,” Informal Paper Prepared by the Chairman of the Standing Committee on Copyright and Related Rights (SCCR) Seventeenth Session, Geneva, Nov. 3-7, 2008.

noted that discussion is ongoing whether to include direct webcasting, that is, signals originating in and transmitted over computer networks.

14. Issues of fixation and post-fixation are increasingly relevant because of developments in on-demand television based on broadband and Internet services, and also because of new technologies in producing and distributing fixations of broadcasts. However, the primary issues in a post-fixation phase can generally be expected to invoke concerns about copyrights around content, rather than signal rights as such.
15. The proposed treaty is concerned with the protection of investments in the dissemination of copyrighted works, which is a neighboring right, to copyright works themselves. Consideration of its effects takes place within the fundamental concept that intellectual property and related rights are designed to produce broad social benefits. These include creating the means for society to benefit from increased production and dissemination of knowledge and cultural expression and the creation of better economic foundations that support increased creativity and production.
16. This report identifies stakeholders in the treaty milieu and their interests relative to copyright and the treaty specifically. It discusses the economics of broadcasting and the relationship of unauthorized uses to costs, revenue, investment, and profit. It then explores the primary unauthorized use of signals and the economic effects of unauthorized uses. Subsequently, it explores the rights within and related to the signal, the abilities of broadcasters and cablecasters to exploit these rights through subsequent uses, and how unauthorized uses affect these rights. Ultimately, it identifies social benefits resulting from unauthorized uses and some uses that some stakeholders deem worthy of exceptions or limitations to protections.
17. The study then investigates the extent to which the interests of stakeholders will be affected by provisions of the proposed treaty and provides a balance of benefit and detriment analysis that considers the distribution of benefits and detriments of proposed options in the treaty among the stakeholders and the equity of their distribution.

II. RATIONALES FOR PROTECTING SIGNALS

18. The primary rationales for seeking protection of signals come from the view that broadcasters need to be able to protect investments in disseminating program content to the public and investments in rights and licenses, as well as to recover operating costs expended and defend their revenue generation capacity. According to proponents of the treaty, these functions are threatened by unauthorized uses that are inadequately addressed, prohibited, or policed in many nations. The proponents also argue that an updated protection of signals would protect their investments in the production, assembly, and scheduling of programs, in the installation of broadcast infrastructure including technical and transmission facilities, and in specialized programming to create a niche market with sufficient revenue to pay for the exclusive content. Broadcasters (terrestrial and satellite) and cablecasters and related systems operators also invest in electronic access controls, hardware (e.g., set-top boxes) and software (encryption).
19. Whereas copyright is intent on protecting and rewarding creativity, the proposed treaty would create protection for economic investment in disseminating creative works via signals.⁷ It would protect the market-based commercial activities, as well as non-commercial activities, of broadcasting and cablecasting organizations upon which contemporary domestic and international broadcasting and cablecasting is increasingly based worldwide.⁸

⁷ Thomas Dreier, "Reflections on the Draft WIPO Broadcasting Treaty and Its Impact on Freedom of Expression," *e-Copyright Bulletin*, July-September, 2006. UNESCO

⁸ Peter Dunnett. *The World Television Industry: An Economic Analysis*. New York: Routledge, 1990; Alessandro Silj. *The New Television in Europe*. London: John Libbey & Co., 1992;

20. Although content elements within signals are protected by other measures, broadcasters and cablecasters argue that contemporary unauthorized uses of signals make it difficult for them to fully exploit expensive content—especially coverage of live events, such as sports and concerts—because the unauthorized uses undermine investments in the transmissions and make cost recovery and profitable operation difficult. They argue that protecting signals is a mechanism that will enable them to protect intellectual property rights in which they have invested, and they say a parallel protection is provided with respect to phonogram producers and protects the entrepreneurial activity in producing a phonogram. According to broadcasters and cablecasters, a signal carries audiovisual content and—like a phonogram—is a vehicle that requires technical, financial, and organizational investment.
21. Broadcasting has traditionally been a domestic activity relying on free-to-air government, public service, commercial, and community broadcasters, depending upon domestic opportunities and policy choices. A legacy of that system is domestic broadcasting structures and policy and regulatory perspectives based on the ideas of universal access (to the extent possible) through state-related or commercial funding mechanisms. These perspectives are less consistent with new services involving cable, satellite, digital terrestrial television, and broadband. This is especially true for services that are designed to attract less than universal audiences—even when across national borders—that are increasingly requiring direct consumer payments.
22. Proponents of the broadcast treaty assert that this new environment creates needs for additional protection that is not provided in existing treaties related to broadcasting or cablecasting.
23. Although wide differences exist worldwide in the availability and use of advanced broadcast and related technologies, these technologies are increasingly being rolled out in developing nations. Nevertheless, significant disparities exist among nations.⁹ The patterns of rollout also reveal wide domestic disparities, often related to urban-rural patterns of development and differential incomes. These produce differences in availability and access to television, pay television, multi-channel television, digital television, and video-on-demand services¹⁰ and wide differences in costs for acquisition, with consumers in developing nations paying a far higher proportion of GDP per capita for services.¹¹
24. Nevertheless, it is clear that there is a growth of paid services worldwide and that there is an increasing ability of many consumers in developing nations to pay for services. This increases the potential for creating commercial markets for broadcasting in its various forms. However, unauthorized uses of signals, particularly by commercial competitors or in ways that interfere with audiences of authorized signals, make it difficult to create effective markets in some states and regions, according to treaty supporters.

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William Davis. *The European TV Industry in the 21st Century*. London: Informa Publishing Group, 1999; *Asia Pacific TV*. London: Informa, 2007; *Middle East and African TV*. London: Informa, 2009; *Americas TV*. London: Informa, 2009; Albert Moran. *Television Across Asia: TV Industries, Program Formats and Globalisation*. London: Routledge, 2009.

⁹ See Screen Digest, *Current Market Technology Trends in the Broadcasting Sector*. Study for the WIPO Standing Committee on Copyright and Related Rights, Dec. 2009.

¹⁰ The significant gaps between developed and developing nations in these services were documented in a report recently prepared for WIPO as part of the study on the socio economic dimension of the unauthorized use of signals. See Screen Digest, *Current Market Technology Trends in the Broadcasting Sector*. Study for the WIPO Standing Committee on Copyright and Related Rights, Dec. 2009.

¹¹ See Screen Digest, *Unauthorized Access to Broadcast Content—Cause and Effects: A Global Overview*. Study for the WIPO Standing Committee on Copyright and Related Rights, Nov. 2009.

25. The underlying rationale for the treaty is thus to use state power to facilitate the creation of and protection of investments in signals to reach markets for commercial and non-commercial television activities.

III. STAKEHOLDERS AFFECTED BY THE PROPOSED TREATY

26. The proposed treaty has implications for a large number of stakeholders, including the 184 WIPO Member States and hundreds of organizations recognized by the World Intellectual Property Organization with permanent observer status, such as international non-governmental organizations, international intergovernmental organizations, and national non-governmental organizations. Some stakeholders primarily represent national interests; some represent organizational and enterprise interests; others represent individual or broader social interests. Although the proposed treaty deals with signal protection rather than copyrighted works themselves, stakeholder stances regarding signal protection are often shaped by their interests in the dissemination of content because content is embedded in signals.
27. Stakeholders have varying interests that sometimes diverge from and converge with each other. In order to focus on the fundamental interests of stakeholder groups and the ways the proposed treaty will affect them, we have divided stakeholders into seven broad categories: authors and performers, production firms, rights owners and licensors, broadcasters (terrestrial and satellite) and cable and satellite system operators, audiences/users/consumers, states/governments, and society. This allows functional identification of the divergence of interests among the stakeholder groups and provides the ability to highlight distinctive interests.
28. It is recognized, however, that individuals and organizations may perform activities that pertain to more than one category of stakeholder interest, and that there is therefore sometimes divergence of interests among members of the same groups. Thus, although the stakeholder groups below are separated into discrete categories, one must bear in mind that individuals and firms may have interests that cross over the categories and that the distinctions are not completely clear or mutually exclusive.
29. Examples of this include an 'author' who maintains some of her or his rights but has passed on management of some of the rights to a collective rights organization. A broadcaster may also have interests as a producer and as a holder of rights to original content or rights purchased from external sources. At times there may be tensions between roles played by these cross-over activities, but there is a shared common interest in intellectual property measures to achieve optimal protections for creations and the systems that underpin them and provide the ability to benefit from them.
30. Stakeholders vary widely in economic terms, with some holding greater bargaining power and receiving the larger portion of industry receipts. This occurs because there is, relatively, a highly competitive supply of creative works and labor from authors and performers, but a limited number of production and distribution companies in broadcasting and cablecasting. Similarly there is more competition among production companies, but far less competition among broadcasting and cablecasting systems due to structural, economic, technical, and regulatory conditions limiting the number of broadcaster and cablecasters and cable and satellite systems. Although contemporary telecommunications are reducing the monopolistic control over production and broadcasting distribution activities that existed in the twentieth century, greater bargaining power still remains with broadcasters and cablecasters, although it is being somewhat offset by the growth of large content rights holders and licensors and the rise of computer network platforms for distribution.
31. In discussing stakeholders, we do not assert any preferential positions, but attempt to explicate as clearly as possible their fundamental interests and concerns relative to copyright protections and the proposed treaty.

Authors and Performers

32. Authors and performers obtain income from licenses and sales of rights based on their creative works and performances. Copyright traditions vary around the world, but distinctions are generally made between ‘authors’ and others, including performers.
33. An ‘author’, in this sense, refers to the individual or individuals who originate expressions. Copyright is seen to vest initially in this source, meaning economic rights and, in some cases, moral rights as well. Moral rights link the creator and the creation, and are therefore said to bear on the authenticity of the product. Authorship covers literary authors, journalists, writers, photographers, film and TV directors, satirists, graphic designers, lyricists, composers, and others. In the European tradition, they are automatically vested with economic and moral copyright, essentially meaning that they stand as independent creative producers selling their creative work to an employer or other purchaser who needs to negotiate over additional exploitation of the products not envisioned in the original terms of employment or exchange. In the Anglo-American tradition, authors may be independent creators or employees. Employment status is understood to signify a default position whereby employees transfer all their rights to the creative work as part of the employment agreement, and the work belongs to the employer. This is known as the “work for hire” system and is a tradition not universally embraced worldwide.
34. Performance is generally understood as distinct from authorship, in that it represents a subsidiary expression—as in, for example, a singer performing a song written by someone else on a television entertainment program. The rights of performers can be seen as ‘neighboring rights’ to authors’ rights, with certain protection entitlements, and are of a different nature. Performers are thus often attributed such ‘neighboring rights’, which enable them to authorize both live performances and recorded ones.
35. Authors and performers share a strong common interest in obtaining a fair share of economic benefits from any use, reuse, or adaptation of their creations or performances. In addition, some authors and most performers are heavy users of copyrighted works¹² and generally support ease of access to works of other creators for their own use, reuse, and adaptation. Consequently many creators support Creative Commons’ licensing possibilities, which provide explicit flexibility in the form of diverse reuse categories and combinations for content.
36. It should be noted that the interests of highly successful authors and performers sometimes differ significantly from those who are less successful. These differences are sometimes manifest in the sources of their incomes, in differing abilities to protect their incomes contractually, and in costs and prices paid for collective rights management services.
37. Regarding protection of signals, this category of stakeholders generally supports it inasmuch as it limits unauthorized exploitation of their work. However, in instances where their motivation as authors or performers is the maximum unconditional dissemination of their work, authors and performers are concerned that any potential user of their broadcast work could possibly be construed, under the treaty, to be required to obtain a separate consent of the broadcasters whose signals carry their content, even when creators have waived copyrights to their product. Because broadcasters’ rights in their signals do not extend to rights in the content, however, the user who wishes to use the content has the option of dealing directly with the author/performer and seeking permission for the use of their content, without involving the use of the version embedded in specific broadcast signals.

¹² Some authors adapt or use elements from other works in their literature and songs, for example, and playwrights may adapt works from literature, music or film. Artists create collages and adapt images and designs. Performers normally use compositions, lyrics, and arrangements created by others.

38. Authors and performers as stakeholders are directly represented by a variety of organizations worldwide, including professional associations of authors, journalists, composers, actors, and musicians.

Production Firms

39. Most firms involved in media production are small- and mid-sized enterprises, but the media industries in which they participate, especially audiovisual media, are dominated by a few large firms because of the capital and operational requirements for national and international operations.
40. Production firms involved in broadcasting and cablecasting share common interests in that they create content, make rights available for sale and licensing, and want to protect their investments in the programming or the licenses to broadcast activities (sporting events, performances, etc.) that they organize.
41. This category of stakeholders generally consists of individuals or corporate business enterprises that have assembled personnel and resources for creative output purposes, and thereby invested in content creation with the aim of generating a return. Their business model depends on the protection of copyright and the predictability of a system of production over many years.
42. These institutions and individuals lean towards a commercialized model of copyright, wherein rights are bought and sold within transactions that set the terms of the exchange, preferably in their favor. They generally have an interest in the longevity of copyright and in ensuring that they receive fair shares of economic benefits from any subsequent uses of their productions.
43. These business-based stakeholders in content generation have an interest in ensuring protection of signals in order to prevent uses outside the terms that they have struck with broadcasters and cablecasters. They recognize that protection of signals also protects some content rights which they have not sold to the broadcaster or cablecaster, and they are concerned that such protection should not provide overriding rights to broadcasters and cablecasters, i.e., rights that supersede their own content rights.
44. Amongst the organizations representing these stakeholders are book, magazine, and newspaper publishers associations, music publishers associations, authors and composers societies, television producers associations, and motion picture production associations.

Content Rights Holders and Licensers

45. Rights holders, including representatives of authors, music publishers, performers, phonogram producers, and film and television producers, have for several years made joint statements and responses to developments regarding the proposed treaty. This category of stakeholder is one with which other stakeholders have significant overlaps. Authors, production firms, and broadcasters are also rights holders and licensers.
46. As a group, their interests involve protecting investments made in rights, gaining new opportunities to exploit those rights, and in ensuring that protection of signals does not interfere with exercise of their rights or elevate the rights of broadcasters above those of rights holders. They also assert that improvements in cultural and economic development in the developing world will result from strengthening rather than weakening copyright protections because states will gain additional income from their own protected works.

47. Content rights holders are individuals and organizations who have, or have acquired, intellectual property rights. These are frequently the authors, producers, or business entities that acquire and exploit rights.
48. Many broadcasters, especially those producing large amounts of original programming, are also significant rights holders.
49. It is often the case that non-authors have acquired the rights from the authors or that they act on behalf of authors or their employers with regard to management of the rights. Authors or other rights holders may assign full or partial rights to another party, or license such for particular exploitation of their work.
50. In many countries, collecting societies are also set up to operate on behalf of the content rights holders. Their activities are generally not about primary content usage, but about reuse and copying. They operate with licenses to grant authorizations and to collect payment and distribute it back to rights holders. They also may detect infringement of rights, and seek sanctions and remedies for such.
51. Rights holders share a strong common interest in ensuring that they receive compensation for all uses of the rights they hold and in halting unauthorized utilization of their content. This is critical for ensuring compensation for the works they have created or the rights they have purchased.
52. Costs for enforcement of rights have traditionally been borne by rights holders and licensors and enforcement has most often been sought by rights holders, licensors, and international broadcasters who have purchased rights. Domestic broadcasters tend to seek enforcement of the rights they hold only when their core activities are clearly harmed by unauthorized uses. Broadcasters, rights holders and license holders tend to be unwilling to incur enforcement costs if the gains from such enforcement are limited or the costs or financial risks involved are seen to outweigh the potential gains.
53. It is recognized that there is a sub-category of rights holders who may waive all or many of their rights in order to promote dissemination as long as it is not commercially exploited. Their interests are in ensuring that no other party (such as a broadcaster) gains exclusive rights over the content by signal transmission and protection.
54. Generally, rights holders' interests lean towards supporting the effort for broadcast signal protection as a means of gaining an additional layer of protection for rights or licenses that they have sold to broadcasters and as providing some additional protection for rights they retain. They see the treaty as providing protections that they, themselves, need not act to enforce. However, they are concerned that the treaty not make broadcaster and cablecaster rights paramount or in any way diminish the position of their rights.
55. Amongst the groups representing rights holders are authors organizations, print publishers associations, recording industry organizations, television and motion picture producer and distributor organizations, collecting societies, and content retail organizations.

Broadcasters/Cablecasters and Cable and Satellite System Operators

56. This category of stakeholders is primarily radio and TV channel broadcasters and cablecasters who acquire content rights for the purposes of distribution by signal transmission. In this regard, they are traditionally seen as having related rights rather than central copyrights because of their roles in distributing content to the public. It must be recognized that the development of contemporary telecommunications-based platforms serving some functions of traditional broadcasting is creating new players with some parallel interests.

57. The primary interests of this category of stakeholder are to protect the value of their broadcasts, to gain economic benefit from subsequent uses of their signal streams (in which content is embedded), and to halt uses that may interfere with economic benefits from subsequent uses that they may prefer. Some assert interests that are more akin to moral rights than economic rights that would allow them to choose whether and how retransmission can occur regardless of its economic effects.
58. The position of broadcasters and cablecasters is complicated because they may own only some or none of the content rights in the signal stream. They may own content that they have produced themselves, may have acquired rights to broadcast some programs,¹³ and may make use of publicly available content—such as the stream from parliamentary meetings. Broadcasters cannot fully exploit all subsequent uses of broadcasts without subsuming rights to all the embedded content or ensuring that the rights or licenses they acquire are extensive enough to cover those subsequent uses.
59. Amongst these stakeholders are regional broadcasting unions, commercial television channels, cable and satellite associations, public broadcaster organizations, and related technology manufacturing associations. Where they exist, signal distribution agencies that supply services on contract to broadcasters and cablecasters are also stakeholders.¹⁴

Audiences/Consumers/Users

60. This stakeholder group includes members of the public who access media for information and entertainment, and organizations such as libraries and educational institutions that acquire content for public use. This group is interested in issues of price, choice, and quality. Its members share common interests that prices are reasonable, that a wide range of domestic materials from which to choose is available, that materials not available domestically can be accessed by other means to increase choice, that a continual stream of new creative content is available, and that the content is of good quality, however defined.
61. Depending upon the relationships in the acquisition of content, this stakeholder group is made up of individuals and organizations variously referred to as audiences, consumers, or users.
62. It is recognized that wide differences in access to domestic and foreign content exist globally and that these are related to income levels and the existence of supporting infrastructures such as electricity, cable systems, broadband, roadways, retail shops and libraries.
63. Members of this stakeholder group have some conflicting interests in copyright because it raises prices (a negative result for them), but also tends to increase the range of choice (a positive result for them). Some members of the group—educational institutions, for example—have very specific interests in copyright exceptions and limitations. In general, this group prefers shorter rather than longer periods of copyright protection.

¹³ Acquisitions of rights to broadcast or cablecast rarely involve all rights but rather licenses for particular uses, such as a single transmission or an initial transmission, plus two reruns, during a given period of time.

¹⁴ However, distribution agencies appear not to be covered by the treaty because it defines broadcasters as an entity that “takes the initiative and has the responsibility for the transmission to the public of sounds or of images or of images and sounds or the representations thereof, and the assembly and scheduling of the content of the transmissions.”

64. The group includes those who read, listen to, or view copyrighted material for general informational and entertainment purposes, as well as students, researchers, patrons of libraries and archives, and those with disabilities. These latter groups have strong interest in authorized exceptions being made for them as regards content that would otherwise be fully protected by copyright. They argue that the interests of research and education are best served by free flow of content that can feed knowledge dissemination and creation. Encryption of signals is not generally favored by this group. Libraries generally argue in favor of maximum accessibility and therefore for only limited copyright. Academics also argue against full copyright protection for published research conducted with public funds.
65. Members of this stakeholder group generally prefer easy, free access, but they also benefit from increased availability of content those results from paid and encrypted services. These stakeholders generally oppose aspects of the proposed treaty that might apply to public-funded or to user-generated content, whose motivations are maximum exposure rather than restriction. Amongst representatives of this stakeholder group are library associations, consumer organizations, and civil society organizations.

States/Governments

66. States are geo-political entities that are represented and administered by governments that exercise sovereign power. They vary widely in size (area and population, economies, and size of governments). Although governments may change, the international commitments of states are generally inherited by new authorities unless specially annulled.
67. The interests of states and their governments coincide in desires that copyright and related rights promote domestic economic growth, improve domestic employment, and potentially increase tax receipts that can be used in a variety of ways. However, differences in the levels of contributions of copyright-related industries to national economies, whether states are net importers or exporters of copyright products, and the extent to which short-term enforcement activities primarily protect foreign or domestic revenues tend to create divergence of interests among states and governments.
68. It is also recognized that low, middle, upper middle, and high income countries, as defined in the World Bank classification system,¹⁵ are often affected differently by policy measures and thus have differing interests. Higher income countries with more intellectual property are likely to pursue international policies requiring higher enforcement standards and state expenditures, whereas those with lower incomes tend to try to limit the standards and enforcement costs because they receive less short-term benefit from those expenditures. Similarly, lower income states tend to place greater emphasis than wealthier states on the social benefits of free or inexpensive access to information and entertainment, because larger portions of their populations are excluded from access when commercial models increase consumer costs and exclude use. These considerations have a bearing on each state's calculations of the national and international costs/benefits of the proposed treaty.
69. States and governments have a responsibility to enforce their national laws and international obligations regarding copyright and in doing so must balance the interests of stakeholders in their countries, e.g., between rights holders and users, and in serving public interests. The proposed treaty requires contracting parties to undertake to adopt, in accordance with their legal systems, the measures necessary to ensure the

¹⁵ <http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,contentMDK:20420458~menuPK:64133156~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>.

application of the treaty. Governments also have a stake in ensuring that public data and other state information (e.g., laws, regulations, official reports, video feeds of legislative proceedings), as well as publicly funded research, should be widely available.

70. Because intellectual property rights are private rights, efforts to enforce the rights largely fall on rights holders. It is the primary responsibility of right holders to seek legal remedies in order to protect their rights; however, civil remedies are not the only way of enforcing intellectual property rights. In most countries, criminal proceedings are provided in domestic laws, in addition to civil remedies, in cases of deliberate infringements or infringements done for commercial purpose or which have resulted in particular harm to the right holder.¹⁶ At the international level, the TRIPS Agreement requires contracting parties to provide for criminal procedures and penalties in cases of copyright piracy on a commercial scale. Member states may add criminal procedures and penalties to be applied in other cases of infringement of intellectual property rights, in particular, where they are committed wilfully and on a commercial scale.¹⁷ This necessitates greater governmental efforts and costs to enforce copyright law, as effective enforcement requires the involvement of persons or entities, such as attorneys, judges, customs, police, prosecutors, administrative authorities,¹⁸ as well as the creation of specialized IP courts.
71. Governments also have to oversee an effective balance between content protection and circulation, because an imbalance can impact negatively on economic activity, job creation, and investment and tax revenues. Where copyright is allowed to be overridden with impunity, the result can be a surfeit of counterfeiting that can negatively impact the sustainability of local content production.
72. Governments in developing countries are also recognized as special stakeholders in that they have a special dispensation in an Appendix to the Paris Act of the Berne Convention that provides for translation, reproduction, and even broadcast or cablecast of copyrighted works for educational and research purposes upon notification to WIPO.
73. In terms of protection of broadcast signals, governments have a general stake in this as part of their wider commitments under the TRIPS Agreement, Rome Convention, WIPO, the World Trade Organization, and the International Telecommunication Union.¹⁹ There may be instances where the interests of consumers and the disabled, of education and knowledge generation and dissemination, and of traditional knowledge communities would be sufficient to encourage states to seek exceptions and some limitations on protection.
74. Amongst the stakeholders in this category are Member States of WIPO, non-member states, and especially all government ministries that deal with intellectual property issues.

Society

75. Society is not a stakeholder in the sense of being an actor as is the case in the previous six stakeholders. The interests of society will be affected by implementation of the proposed treaty, so it is included as a stakeholder in this report—a necessity for studying the social effects of the proposed treaty. The interests of society are handled

¹⁶ http://www.wipo.int/enforcement/en/faq/criminal_proceedings/faq01.html

¹⁷ Article 61, TRIPS: Agreement On Trade-Related Aspects Of Intellectual Property Rights
http://www.wto.org/english/tratop_e/trips_e/t_agm4_e.htm#5

¹⁸ <http://www.wipo.int/enforcement/en/faq/>

¹⁹ Although not dealing with IP issues, the ITU has some relevance through obligations related to issues of integrity of spectrum and signals through its competence in technology, operations, and procedures, and its development agenda and service to the disabled agenda.

this way because these separate interests are not always articulated and pursued by the other stakeholders that have clear private and governmental interests in the proposed treaty.

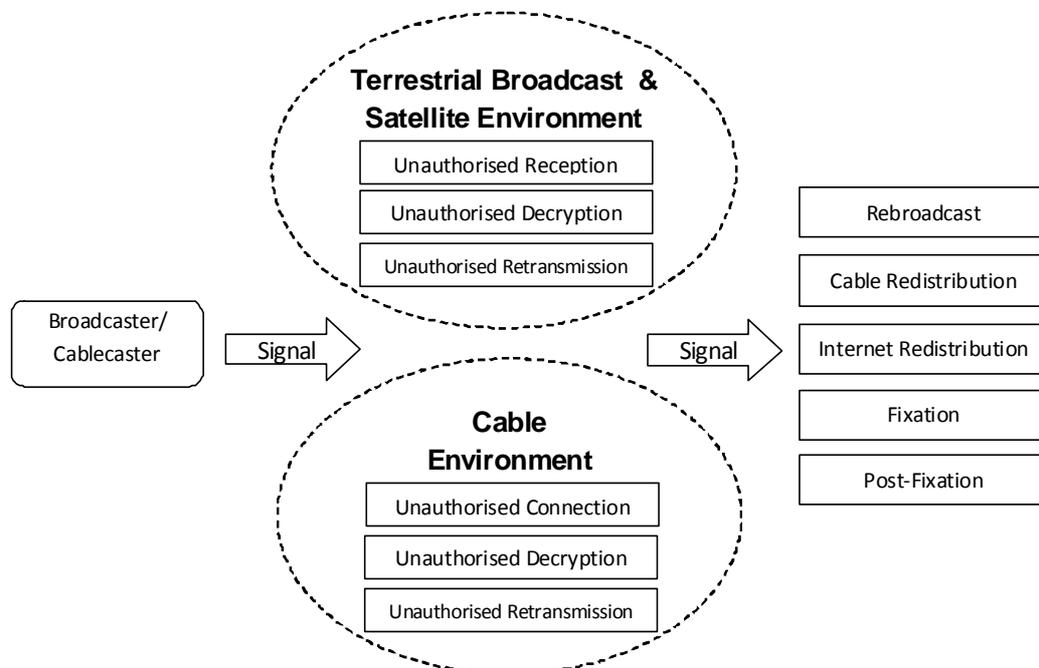
76. Society represents the way members of a group live interdependently for mutual benefit. Society exists at community, local, regional, national, and international levels. Because it is both sub- and supra-national, society has interests separate from those of states and governments.
77. Because the concepts of society and its interests are somewhat vague, articulating its interests is by nature imprecise. As a stakeholder, society is concerned with non-market effects created by goods, services, interactions, and outcomes involving individuals, groups, enterprises, and social institutions.
78. A particular group of social concerns is based on the fact that the capabilities of members of different societies to communicate and express themselves and to access protected works vary widely because of individual and collective economic, social, and cultural developmental differences.
79. With regard to intellectual property issues, concerns focus on social welfare issues relating to improved compensation for creators, domestic employment opportunities, increased production and trade in content products and services, and cultural expression.
80. Some social concerns revolve around individual and collective expression, use of protected works in promotion of education and personal development, use of works and systems to promote expressive and democratic functions, and uses of content for the health and well-being of members of society. Some concerns have specifically related to desires to separate treatment of webcasting from that of broadcasting and cablecasting and to ensure that access to knowledge is not harmed by provisions for technical protections in the proposed treaty.
81. The interests of society are represented by no single organization or entity and tend to involve issues at a higher level than private, institutional, or sectoral interests. Social concerns are voiced by a variety of organizations and institutions, including social, cultural, consumer, and religious groups, non-governmental organizations, civil society organizations, states, and even stakeholders with economic interests in copyright protections. The interests of these groups may be broad or singular. The concerns of society relative to the proposed treaty have been voiced in WIPO and other international debates by creators' organizations, consumer organizations, non-governmental organizations concerned with media development, civil society groups, organizations concerned with the flow of information, and at times by regional broadcasting unions. They are also sometimes represented by the variety of identified stakeholders, including consumers and states.

IV. UNAUTHORIZED SIGNAL USE

82. The core function of the proposed treaty on the protection of broadcasting organizations is to restrict uses of signals that are not authorized by the broadcasters. To comprehend the impact of the treaty, it is important to understand the range of

unauthorized uses that exist. These uses can be made by individuals²⁰ or enterprises and be either non-commercial or commercial in nature. The types of unauthorized use are related to the environments in which signals are distributed (see Figure 2).

Figure 2: Types and Means of Unauthorized Signal Use



83. The broadcast (terrestrial and satellite) environment involves signals that use radio spectrum for signal transmission, whereas the cable environment involves signals using wired infrastructure for signal transmission. Both may involve free or pay services.
84. This section discusses the nature of these uses—involving both free-to-air and paid transmissions—which can be for non-commercial or commercial gain. The economic effects of these differ depending upon the type of broadcasts or cablecasts involved and the uses made. Those effects will be discussed in the following section.

Unauthorized Pre-Public Transmission Signal Uses

85. In broadcast or cable environments some content is fed to broadcasters from live events—sports, concerts, etc. —via microwave, satellite, or broadband telecommunications links, and some recorded programs are being distributed in similar ways. Pre-broadcast signals are sent via these means for broadcasters to include in their own transmissions. The signal transmitted from the studio or the venue of the live event direct to the broadcaster/cablecaster (or to them via terrestrial or satellite transmitters) facilitates creation of the signal that is ultimately broadcast to the public. Because the pre-public transmission signals are not for reception by the public, their transmission is not within the definition of ‘broadcasting’ nor ‘cablecasting’ under the proposed treaty.
86. Unauthorized pre-public transmission signal use occurs when parties intercept those transmissions before they are integrated into the broadcast/cablecast stream and the

²⁰ We include individuals here because they are important in a general discussion of unauthorized uses, but recognize that they are not specifically relevant to the provisions in the proposed treaty.

broadcasters'/cablecasters' signal. This can occur for the purposes of arranging unauthorized reception, avoiding decryption, or unauthorized retransmission.

Unauthorized Use in the Terrestrial and Satellite Environment

87. In the terrestrial broadcast and satellite broadcast environment five types of unauthorized uses primarily occur: unauthorized reception, unauthorized decryption, unauthorized retransmission, unauthorized fixation, and unauthorized post-fixation use.²¹

Unauthorized Reception

88. Unauthorized reception involves acquisition of signals outside the market for which it is intended, typically as a result of spill over of terrestrial and satellite broadcasting.²² It occurs when the signal range or footprint extends beyond intended market or territorial boundaries and is accessed by audiences in other states or markets. This is sometimes called 'grey market' reception and may involve both free-to-air and pay signals.
89. Unauthorized reception provides consumers more choice in content than may be available in their domestic markets, but typically does not provide additional revenue for broadcasters.
90. When advertising-supported broadcasting is involved, advertisers pay for the audience in the intended market, but may gain additional benefits from the external audience being exposed to their messages. This is sometimes the case for multinational brand advertisers and local advertisers in cases where trading areas cross market or national borders. However, some advertisers in the unintended territory or the external market may be negatively affected by the competing ads carried by the signals that are received without authorization.
91. Unauthorized reception also relates to the right of making available to the public. Broadcasts and cablecasts are often made directly available to the public through receipt on a screen in a café or tavern, hotel lobby, or in other premises open to the public. Often such entities need to procure special licenses for the exploitation of intellectual property through receiving it in such a locality. In turn, such licenses generate revenues for rights owners (including broadcasters), for example, through payments to collection societies. It appears that the treaty would not require such businesses to acquire an additional license for receiving the signal as such, unless the signal was fixated, retransmitted, or redistributed.
92. Unauthorized reception does not in itself increase the production, programming, or distribution costs to broadcasters because those costs were incurred for serving the intended market and audience. It may increase distribution costs if contractual provisions for acquiring content rights require use of encryption technologies to limited unauthorized reception outside the intended market.
93. Portions of the objections to unauthorized reception result from the traditional business practice of selling and acquiring content rights on a territorial basis. Broadcasters that acquire content rights from external suppliers and include the content in their broadcast streams are authorized only to use the content within their designated territory. Significant unintended acquisition in neighboring territories may result in diminished value for the rights holders if they also sell the rights to broadcasters in those markets.

²¹ The order in which these occur may vary slightly depending upon the technologies involved or the uses made of the signal.

²² Unauthorized reception itself is not the target of the proposed treaty because this WIPO initiative involves factors other than copyright infringement. It is included in this analysis, however, to provide the broader conceptual framework of unauthorized uses.

Similarly, unauthorized reception in neighboring countries may result in diminished value for broadcasters if they also broadcast in those markets. This is especially applicable to international broadcasters.

94. Unauthorized reception is somewhat sheltered by human rights conventions. Article 19 of the Universal Declaration of Human Rights, for example, stipulates that “Everyone has the right to ... receive and impart information and ideas through any media and regardless of frontiers.” This would seem to have relevancy to and implications at least for efforts to halt unauthorized reception of free-to-air spill over signals, although many accept the right to receive paid signals as conditioned by payments.

Unauthorized Decryption

95. Unauthorized decryption involves unscrambling an encrypted signal. In the terrestrial and satellite broadcasting environment, encryption has typically been used only for pay satellite broadcast signals, but digital terrestrial broadcast signals can also be encrypted. Encryption systems are typically used to exclude those who have not paid for services. Authorized users receive decryption boxes or smart cards that permit access to the encrypted signals. Unauthorized decryption involves circumventing encryption systems to gain access to the signals.
96. Unauthorized decryption does not affect broadcasters’ costs of production, programming, or current distribution because those must be borne to serve existing paying customers. If the unauthorized decryption induces broadcasters to invest in additional encryption technologies, or switch encryption technologies, however, the investment and switching costs for that technology increase distribution costs.
97. Those engaging in unauthorized decryption who would otherwise be able and willing to pay for service deny that revenue to the broadcaster. Consequently, the average price per legitimate customer increases as broadcasters recover costs across fewer paying customers.
98. An exception to unauthorized decryption can result when decryption is for uses that would be condoned under copyright exemptions and limitations. In such instances, intellectual property considerations should supersede narrow signal protection considerations, according to proponents of consumer and social positions. Their position is that such uses of signal should be considered as authorized.

Unauthorized Retransmission

99. Unauthorized retransmission occurs when—absent permission of the broadcaster—an original live signal is rebroadcast, redistributed by a cable system, or redistributed by any means, including the Internet, so that it is received concurrently or in a delayed form. Such retransmission can be undertaken by individuals²³ and private or public entities.
100. This retransmission does not increase the costs of production, programming, or distribution to originating broadcasters. Price and revenue effects of retransmission differ, depending on whether free-to-air or paid broadcasting is involved and where the retransmission takes place.
101. Free-to-air broadcasters are not denied revenue from those who receive the rebroadcasts because their services are provided free of charge to audiences and are not denied revenue from the retransmitting organization, unless it would otherwise be able and willing to pay. However, if the free-to-air broadcaster is able to charge those receiving the retransmission, it loses the revenue from those able and willing to pay;

²³ We include individuals here because they are important in a general discussion of unauthorized uses, but recognize they are not specifically relevant to the provisions in the proposed treaty.

and if it has the ability to charge for retransmission, the unauthorized retransmission may interfere with the ability to sell the signal to an operator willing to pay. Because such retransmission is often made to areas outside the broadcaster's intended market and to additional audiences, it does not affect demand in its intended market. Demand in the intended market may be affected if the unauthorized retransmissions are reintroduced into the broadcaster's intended market and advertising is removed or the content is disaggregated from the original stream. If consumers shift from viewing free-to-air broadcasts to viewing on unauthorized platforms and the original broadcaster does not benefit from that viewership in ratings, the originating free-to-air broadcaster may sustain harm.

102. Unauthorized retransmissions in the external market may have beneficial effects for the broadcasters if some advertisers find the larger market and audience effective and the broadcasters are able to *ex ante* price advertising services accordingly. However, an advertiser may not agree to pay higher advertising fees based only on a broadcaster's proposition that it expects its signals to be 'pirated' and will reach beyond its intended market. In many cases, those making unauthorized retransmissions remove the ads from the original broadcasts and replace them with their own, removing the possibility of the potential benefit of higher-priced advertising services.
103. When unauthorized retransmissions reach external markets, broadcasters in the external markets face the possibility of lower audience ratings if their viewers shift to viewing unauthorized retransmissions. When this happens, broadcasters in the external markets are less likely to be able to negotiate better advertising services fees because of reduced audience ratings. Where paid broadcasters are involved, retransmission typically does not deny them payment for reception in the new areas served because they are not providing service there themselves and usually do not own rights and licenses in those areas. If their rights permitted such sales, however, they would be denied revenue obtainable by selling their services in the new market areas, but would need to build or acquire service infrastructures in the new market area.
104. In situations where unauthorized retransmission to new territories exists, the value of rights for rights holders may be diminished if they also market those rights in the new territory.

Unauthorized Fixation

105. Unauthorized fixation occurs when broadcasts are recorded or incorporated using whatever means and medium. The act of recording or incorporating the broadcasts results in a 'fixation', which is defined in the proposed treaty as the "embodiment of sounds or of images or of images and sounds or of the representations thereof, from which they can be perceived, reproduced or communicated through a device".
106. Broadcasts may be recorded in their entirety or in part as in the case of highlights of sports programs. The program highlights may in themselves constitute the entire program when broadcasters invest in the production of the highlights of certain sporting events, such as the FIFA World Cup or the Olympic Games.
107. The proposed treaty does not provide conditions on the permanence or stability of the fixation. This could imply that recordings of broadcasts may qualify as fixations regardless of the duration of the life of the embodiment, subject to the usual authorized exceptions as regards both copyright and signal, such as ephemeral fixations.
108. Unauthorized fixation may also involve the making of still photographs of a broadcast stream if the concept of 'fixation' extends to fixing parts of a broadcast. However, this requires an understanding of the technical composition of a broadcast and whether a still picture of a broadcast off a television screen is part of a broadcast. This also requires a determination of whether protected broadcasts involve a singular image or relate to programs in terms of segments, items and themes.

Unauthorized Post-Fixation Use

109. Unauthorized post-fixation use involves the exploitation of fixed broadcasts, such as reproduction and distribution of fixations, delayed retransmission of broadcasts using fixation, showing fixations on large screens in places accessible to the public, and making available to the public the broadcasts/cablecasts from the fixations, by wire or wireless means, in such a way that members of the public may access them from a place and a time individually chosen by them.
110. Unauthorized reproduction occurs when fixations of broadcasts are copied or reproduced without the authorization of the broadcasters and the owners of the content embodied in the broadcasts. Digitalization of broadcast signals makes it easier and faster to reproduce fixations of broadcasts. An exclusive right of reproduction, by itself, is not sufficient to stop any unauthorized distribution of fixations because the distributor can always claim that someone else made a copy or arranged the distribution.
111. Unauthorized distribution includes distribution of the original or copies of fixations of broadcasts and of reproductions of their broadcasts. This also occurs when original or copies of fixations of broadcasts are sold, imported, exchanged, or transferred without the consent of the broadcasters and the owners of the materials embedded in the fixed broadcasts. Unauthorized distribution includes the commercial sale to the public of videocassettes or DVDs of unauthorized copies of a sports program, in the broadcaster's country and abroad; sale to the public of recordings of a music concert derived from an unauthorized reproduction of the soundtrack of a radio or television event; rental of unauthorized recordings of a television broadcast by a video club; offering the service of making unauthorized copies of pre-selected television programs with a view to the sale thereof in video format; sale to the public of unauthorized recordings of broadcast programs by a dealer in video; and importation of fixations of broadcasts.
112. Making fixations available to the public includes on-demand transmission of the fixations of broadcasts without the authorization of the broadcasters and the owners of the content embodied in the broadcasts. 'On-demand delivery' spreads the broadcasters' footprint wider and enables the public to choose individually the time when and the place from which they access the protected materials. Broadcasters argue that for the same reason that corresponding 'making available' rights have been granted to authors, performers, and phonogram producers under the WIPO Internet treaties, broadcasting organizations should also have the right to make their broadcasts from fixations available to the public, by wire or wireless means.
113. Unauthorized transmission following fixation includes deferred retransmission, which is a new transmission from a fixation. Not all broadcasts are shown 'live' and many of them are made on a delayed basis, using fixations of broadcasts. Unauthorized transmission following fixation covers all transmissions by any means for reception by the public, including broadcasting, cablecasting, and transmission over computer networks, following fixation. This may, however, be qualified if the purposes and extent of retransmission falls within the framework of authorized exceptions.

Unauthorized Use in the Cable Environment

114. Cable systems themselves do not produce broadcast signals, but redistribute signals of broadcasters and distribute other content by digital or analogue means. Cablecasters—those operating cable channels—act akin to broadcasters, often producing original programming for which they are rights holders, and provide a signal for redistribution by cable systems.²⁴ In the cable environment, the primary types of unauthorized uses include unauthorized connection, unauthorized decryption and unauthorized retransmission.

²⁴ There are cases in which firms carry out dual roles as both cable systems and cablecasters.

Unauthorized Connection

115. Unauthorized connection occurs when individuals or entities connect to the cable system without approval of the operator. This is typically done to avoid payment of a fee for the cable service, but can occur even when no direct payment is required. Unauthorized reception is sometimes referred to as 'signal theft', 'piracy,' or 'splicing'.
116. This unauthorized connection is not covered by the proposed treaty because it is an individual act for private purposes; however, it is included in this analysis for comprehensiveness.²⁵
117. These connections do not increase the costs of production or programming, but may marginally increase distribution costs by requiring systems to deploy more amplifiers or signal boosting equipment than necessary for serving the paying customers.
118. Unauthorized connection denies revenue to the cable system provider and broadcasters to the extent that those making unauthorized connections are able and willing to pay for service. It may increase the price to legitimate customers if systems must recover their costs with a smaller customer base than otherwise would exist.

Unauthorized Decryption

119. Unauthorized decryption in the cable environment is similar to that in satellite and digital terrestrial broadcasting, where encryption is used to exclude those who have not paid for services or are not authorized users. Some states prohibit the circumvention of encryption systems, such as unscrambling signals, to gain access to broadcasts without authorization or in ways that are not permitted by law.
120. Unauthorized decryption does not affect the cable service providers or broadcasters' costs of production, programming, or distribution because those are borne to serve paying customers. However, those engaging in unauthorized decryption that would otherwise be able and willing to pay for service deny that revenue to the cable system and broadcasters. Consequently, the average price per legitimate customer could be increased as part of cost recovery.

Unauthorized Retransmission

121. Rebroadcasting has been possible since the earliest days of radio broadcasting, but because of control of radio spectrum retransmission, it was generally carried out by broadcasters themselves, the state, or authorized intermediaries. Unauthorized retransmission became an issue when community antenna television, the predecessor to contemporary cable television, developed a half-century ago. Many broadcasters accepted CATV retransmission because it extended their markets and audiences into areas where poor signal reception existed and was often done on a relatively non-commercial basis.
122. In countries with large commercial cable services, there was significant opposition to retransmission of broadcasting signals because broadcasters did not want their product to support what they perceived as a growing competitor. In the U.S. and elsewhere, broadcasters initially sought to block cable retransmission of their signals, but later—as systems and audiences expanded—many broadcasters saw benefit in the authorized retransmission because it expanded their markets, audiences, and advertising sales

²⁵ The proposed treaty does not expressly mention unauthorized cable connections by entities. However, entities engaged in unauthorized connections usually do so for the purpose of redistributing the signals obtained from unauthorized connections. In this case, the treaty will apply to such unauthorized retransmissions.

opportunities. They sought 'must carry' rules to force cable systems in their areas to retransmit their signals. Later they sought rules giving them the ability to negotiate terms of that retransmission, including channel placement, payments, etc.

123. Unauthorized retransmission occurs when, absent permission of the cable operator, its distribution signals are rebroadcast or redistributed by any means, including cable or the Internet. This is less common than unauthorized retransmission of broadcast signals.
124. Today, unauthorized retransmission via cable tends to exist primarily in developing regions where retransmission regulations or enforcement are absent or weak.
125. With the development of broadband and Internet technologies, individuals and firms worldwide are increasingly acquiring television broadcast signals and feeding them onto the Internet, permitting global distribution. This practice has the effect of providing content to globally dispersed audiences from the nation of the broadcast and to others whose linguistic abilities permit its use.
126. Unauthorized retransmission does not in itself increase the production, programming, or distribution costs to cable systems, as those costs must be incurred for serving the intended market and audience. As with unauthorized reception, it can provide benefits to some advertisers who may gain from the external audience being exposed to their messages if their ads are not removed or replaced. However, advertisers in the unintended territory or external market will be negatively affected by the competing ads carried by the unauthorized retransmissions. Unauthorized retransmission may also interfere with sales of content rights in some states or markets.
127. Unauthorized retransmission denies revenue that might be possible to the extent that the retransmitting organization is able and willing to pay, but can only deny revenue from the receiving audience if the originating cable system has rights and licenses to offer services in the additional territories covered.

Unauthorized Fixation

128. Unauthorized fixation of cable transmissions is similar to unauthorized fixation of free-to-air broadcasts, except that the materials subject to fixation in cablecasting are cable-originated or distributed transmissions.

Unauthorized Post-Fixation Use

129. In contrast to broadcasting, cable is typically part of the pay-TV industry. Unauthorized uses of transmissions here are mainly individual connections and unauthorized 'real time' retransmissions, or the result of satellite overspill. However, unauthorized post-fixation uses of cable transmissions also occur in the form of unauthorized distribution and reproduction of fixations of transmissions via cable and satellite, as well as retransmissions following fixations in the form of P2P streaming. Cable and satellite broadcasters are potentially harmed by the commercial sale to the public of unauthorized videocassette or DVD copies of their programs and the distribution of copies of broadcast programs via Internet auction sites.
130. In Asia, after pay-TV cable (and broadcast) signals are taken by unauthorized means (i.e., hacked set-top boxes or 'overspill' boxes from neighboring countries), they are replicated and sold to hundreds or thousands of consumers without the consent of either the broadcasters or the content owners.²⁶

²⁶ http://ustraderep.gov/assets/Trade_Sectors/Intellectual_Property/Special_301_Public_Submissions_2008/asset_upload_file329_14481.pdf.

V. FUNDAMENTAL ECONOMICS OF BROADCASTING AND CABLECASTING

131. The very term 'broadcasting' integrates the concept of size with the idea of communicating to a large (broad) audience. In order for broadcasting or cablecasting to achieve economic efficiency, an aggregation of a sufficient number of listeners or viewers is necessary. Because costs for facilities, equipment, and operations are relatively fixed, economies of scale in service are related to audience size.
132. Absolute size of the target audience (10 million persons, for example) rather than relative size (the percent of the population) is a central factor for producing inefficiency or efficiency. Size in geographic area and population density also influence efficiency because they affect the infrastructures necessary for providing broadcasting or cablecasting services and may create needs to provide localized services in different locations.
133. These economic efficiency factors are why urban areas tend to have more infrastructure and communication services of all kinds—electricity, sewers, telecommunications—than rural areas and why minorities (usually defined in relative size terms) also may fail to reach the absolute size necessary for efficient broadcasting services to be provided.
134. Private firms become interested in providing services when efficiency exists and can be used to produce commercial gain; in the absence of commercial sustainability, public intervention in the forms of public broadcasting, state broadcasting, volunteer community broadcasting, subsidy, public access channels, or other mechanisms may be necessary to achieve some or universal service.

Broadcasting as a Public Good

135. By its nature, broadcasting is a public good. This is particularly relevant to consumer behaviour on the demand side.²⁷ When public goods are involved, use by one consumer does not reduce its availability to other consumers.²⁸ Because of this lack of rivalry, unauthorized use does not reduce the supply of the product available for legitimate use, does not create uncompensated production and distribution costs for the producer, and may or may not increase the price of available products that can interfere with legitimate sales.
136. The issue of consumer rivalry to acquire a product is crucial on the demand side because rivalry is a central factor in price creation; when the availability of a desired product is low, consumers are willing to pay a higher price and *vice versa*.²⁹ Rivalry is increased if consumers who do not pay can be excluded from access to the product or service;³⁰ if they cannot be excluded, rivalry diminishes or disappears.³¹

²⁷ Bruce M. Owen, Jack H. Beebe, and Willard G. Manning Jr.. *Television Economics*. Lexington, Mass.: D.C. Heath, 1974; Bruce M. Owen and Steven S. Wildman. *Video Economics*. Boston: Harvard University Press, 1992; Andreu Mas-Colell, Michael D. Whinston, and Jerry R. Green. *Microeconomic Theory*. Oxford University Press, 1995.

²⁸ See Samuel A. Wolpert and Joyce Friedland Wolpert. *Economics of Information*. New York: Van Nostrand Reinhold, 1986; Benjamin Bates, "Information as an Economic Good: Sources of Individual and Social Value," pp. 76-94 in V. Moscow and Janet Wasko, eds. *The Political Economy of Information*. Madison: University of Wisconsin Press, 1988; Robert E. Babe, *Communication and the Transformation of Economics: Essays in Information, Public Policy, and Political Economy*. Boulder, Co.: Westview Press, 1995.

²⁹ Martin Bronfenbrenner, Werner Sichel, Wayland Gardiner. (1990). *Microeconomics* 3rd ed. Boston: Houghton Mifflin, 1990 and Kuenne, R. E. *Price and Nonprice Rivalry in Oligopoly: The Integrated Battleground*. Palgrave Macmillan, 1998.

³⁰ It is argued that some excludability exists in broadcasting based on the decision to acquire a television receiver or pay a license fee. See Clive D. Fraser, "On the Provision of Excludable

137. Although there is no rivalry in this sense for reception of unencrypted broadcast signals, there can be rivalry for subsequent retransmitted uses. In the cable environment, reception by some reduces its availability to others unless additional bandwidth and signal amplification capabilities are added. If use or appropriation affects the supply and availability of the product, it can affect demand because of the rivalry issue.
138. The excludability issue is significant because if individuals cannot be excluded from using a product and there is no rivalry, the development and effective operation of a broadcast marketplace can be constrained by 'free riding'. The free riding phenomenon is an economic term that refers to individuals and entities using and enjoying the benefits of investments or expenditures made by others but not paying for their own use.³²
139. The challenges of public goods and free riding have been a justification for collective financing and provision of public service broadcasting and state broadcasting. Free-to-air commercial broadcasters avoid the free rider problem by not charging audiences, but offering the signal freely, with the broadcaster receiving benefits by creating the largest possible audience and selling access to that audience to advertisers.³³ This dual product, or two-sided market, becomes more complex in the pay television market, where broadcasters must jointly maximize access and advertising prices.³⁴
140. When excludability exists—as is typically the case with paid broadcasters (whether terrestrial or satellite) and cablecasters—unauthorized use of signals is clearly free riding. If there is a significant amount of free riding, broadcasters and cablecasters may not generate sufficient revenue to sustain themselves and market failure may result. This challenge creates a significant impetus in seeking signal protection.
141. Broadcasting is not an essential good, such as food, clothing, and shelter. Essential goods tend to engender relative price inelasticity. However, neither is broadcasting a luxury good for which consumers are likely to respond significantly to price changes. Broadcasting demand tends to behave more like demand for fundamental services such as electrical and telephone services. In the pay television sector, demand for basic services tends to be relatively inelastic to nominal price changes, particularly when there are no competing pay platforms, but elasticity tends to be present when premium services and prices are involved.³⁵

The Challenge of Prices

142. As noted earlier, broadcasters make investments in the production of programming and the acquisition of program rights from other producers and must recover costs and achieve profits from revenue generated through the collective prices paid by advertisers or paying customers. When cable and satellite services are involved, broadcasters face significant issues regarding price because cable and satellite system operators normally act as retailers and are the go-betweens that provide channels to the paying customers.

[Footnote continued from previous page]

Public Goods," *Journal of Public Economics*, 60(1): 111-30 (1996). The choice, however, may be voluntary or involuntary as in the case of low income individuals.

³¹ Terje Gaustad. The problem of excludability for media and entertainment products in new electronic market channels. *Electronic Markets*, 12(4): 248-251 (2002).

³² The term originated in analysis of the unpaid use of public transportation services, but is now applied in analysis of many analogous circumstances.

³³ Robert G. Picard. *Media Economics: Concepts and Issues*. Thousand Oaks, Calif.: Sage Publications, 1989; Robert G. Picard, *The Economics and Financing of Media Companies*. New York: Fordham University Press, 2002.

³⁴ Germa Bel, Joan Calzada, and Raquel Insa, "Access Pricing to a Digital Television Platform," *Journal of Media Economics*, 20(1): 29-53 (2007).

³⁵ Thomas F. Baldwin, Connie L. Ono, and Seema Shirkhande, "Program Exclusivity and Competition in the Cable Television Industry," *Journal of Media Economics*, 4(3): 29-45 (1991).

This leads to substantial struggles between channel owners and cable and satellite system operators over compensation received from systems for carrying the channel(s).

143. The pricing of commercial broadcasting is complicated because of the two-sided and multi-sided platform nature of its markets. In traditional product markets, prices are closely aligned with the value of the product or service, but in two-sided or multi-sided markets the alignment is not as clear-cut because of the effect of other factors on prices and consumption. Consumers may or may not pay for receipt of the broadcast/cablecast/satellite content. Whether or not prices are charged for access, broadcasters and cablecasters have incentives to attract an audience that is as large as possible in order to increase their attractiveness to advertisers who also provide revenue. When services and revenue are also obtained from distribution systems provided by digital terrestrial television, cable, and satellite operators, price issues become even more complex because those operators may have their own incentives to carry a channel or alternative channels. Broadcasters and cablecasters must optimize access and returns by controlling prices and price relationships between fees to carry their channel, advertising rates and any audience payments.³⁶
144. In some states, prices for cable and satellite services are regulated as a public utility, increasing the pressure on system operators when negotiating channel compensation. When broadcasters or service providers are unable to recover their costs from advertisers or paying customers, their businesses will fail unless they subsidize operations with profits from other activities or reduce the level of services provided. System operators try to overcome this problem by providing a variety of basic and premium channel packages that allow consumers to choose among different channel bundles and price options. These decisions are both a matter of business logic and, in some cases, regulatory requirements. Individual broadcast and cablecast channels, however, do not have this option on their own.
145. Prices for basic pay television and radio services vary widely worldwide and nominal prices are related to general income levels. However, prices to receive services typically require a larger percentage of per capita GDP in countries with lower and middle incomes. This variance is reduced when premium services are involved, however.³⁷
146. It was noted in earlier discussions that unauthorized uses, particularly of paid encrypted broadcasts/cablecasts, force firms in the industry to recover costs across fewer paying customers and this raises the average price per paying customer. Doing so, however, can affect demand and consequently reduces the overall number of viewers and total revenue obtained.
147. Because of the price conundrum, some types of unauthorized uses can result in fewer channels and services being offered and consumers facing diminished choice and quality.

Implications of Cost Structures of Different Types of Broadcasting

148. Because it does not involve physical production and distribution, the cost structure of broadcasting is based on high fixed costs and low marginal costs, a condition that tends

³⁶ Tom Eisenmann, Geoffrey Parker, and Marshall van Alstyne, "Strategies for Two-Sided Markets: Harvard Business Review, October (2006); Simon P. Anderson and Jean J. Gabszewicz, The Media and Advertising: A Tale of Two-Sided Markets, pp. 567-613 in Victor Ginsburgh and David Throsby, eds. *Handbook of Economics of Arts and Culture*, Amsterdam: North Holland (2006); Germa Bel, Joan Calzada, and Raquel Insa, "Access Pricing to a Digital Television Platform," *Journal of Media Economics*, 20(1): 29-53 (2007).

³⁷ Screen Digest, *Unauthorized Access to Broadcast Content—Cause and Effects: A Global Overview*. Study for the WIPO Standing Committee on Copyright and Related Rights, Nov. 2009.

to promote monopolies in broadcasting.³⁸ This tendency toward ‘natural monopoly’ combined with constraints on spectrum and licenses was a rationale for creating broadcasting monopolies or near monopolies supported by public funds during the development of free-to-air broadcasting systems.³⁹

149. When commercial free-to-air broadcasting is involved, a somewhat larger range of opportunities exists for providing various types and quality of service, but there is nevertheless a tendency toward what one economist has called ‘natural oligopoly’.⁴⁰
150. Cablecasting/satellitecasting utilizes an infrastructure system with high fixed and rapidly declining marginal costs, which creates tendencies toward system monopoly. By offering space on the system for a larger number of cablecasters whose fixed costs are relatively low, a high degree of competition among content providers is promoted.⁴¹
151. As cable channels increase in number, they move from serving mass to niche audiences. This reduces economies of scale, lowers the efficiency frontier, and forces channels to seek efficiencies through technological and process innovations and consolidation.
152. Today there is increasing competition among cable, satellite, digital terrestrial TV, and broadband platforms to serve consumers and to provide desirable channels.⁴² This competition tends to lower the prices that consumers pay for services and channels⁴³ because they are reasonably substitutable products and demand tends to become elastic.⁴⁴
153. In the free-to-air environment—whether commercial or non-commercial—there is no consumer monetary price so issues of elasticity of demand do not apply.⁴⁵ When pay television or radio services are involved, consumer price elasticity becomes an issue and broadcasters cannot raise prices with impunity. Nevertheless, many factors other than price (including availability of free-to-air signals, desire for programming for children in the household, age, and education) affect demand for basic and premium cable services.⁴⁶

³⁸ Roger G. Noll, Merton Peck, and John J. McGowan. *Economic Aspects of Television Regulation*. Washington, D.C.: Brookings Institution, 1973; Bruce M. Owen, Jack H. Beebe, and Willard G. Manning, Jr.. *Television Economics*. Lexington, Mass.: D.C. Heath, 1974.

³⁹ Bruce M. Owen and Steven S. Wildman, *Video Economics*. Boston: Harvard University Press, 1992.

⁴⁰ A. Mangani. “Profit and audience maximization in broadcasting markets,” *Information Economics and Policy*, 15(3): 305-315 (2003).

⁴¹ G. Kent Webb, *The Economics of Cable Television*. Lexington, Mass.: Lexington Books, 1983.

⁴² Eli M. Noam, ed. *Video Media Competition: Regulation, Economics, and Technology*. New York: Columbia University Press, 1985; L. L. Johnson, *Toward Competition in Cable Television*. Cambridge, Mass.: MIT Press, 1994.

⁴³ Scott Savage and Michael Wirth, “Price, Programming and Potential Competition in U. S. Cable Television Markets,” *Journal of Regulatory Economics*, 27(1): 25-46 (2005); Marianne Barrett, “Strategic Behavior and Competition in Cable Television: Evidence from Two Overbuilt Markets,” *Journal of Media Economics*, 9(2): 43-63 (1996).

⁴⁴ Melisande Cardona, Anton Schwarz, B. Burcin Yurtoglu and Christine Zulehner, “Demand Estimation and Market Definition in Broadband Internet Services,” *Journal of Regulatory Economics*, 35(1): 70-95 (2009); Thomas F. Baldwin, Connie L. Ono, and Seema Shirkhande, “Program Exclusivity and Competition in the Cable Television Industry,” *Journal of Media Economics*, 4(3): 29-45 (1991).

⁴⁵ Theoretically, price elasticity of demand might apply to required payments of license fees for television, but these are essentially a form of taxation and there has been no significant elasticity observed during their nine decade history. See Robert G. Picard, “Financing Public Media: The Future of Collective Funding,” pp. 183-196 in Christian S. Nissen, ed. *Making a Difference: Public Service Broadcasting in the European Landscape*. European Broadcasting Union/John Libbey Publishing, 2006.

⁴⁶ Michael O. Wirth and Harry Bloch, “Household-Level Demand for Cable Television: A Probit Analysis,” *Journal of Media Economics*, 2(2): 21-34 (1989).

154. In order to operate, broadcasters and cablecasters must make basic investments in facilities, equipment, and programming and these are relatively fixed. These are compounded by high 'first copy costs' for programming.
155. These factors lead broadcasters and cablecasters to maximize their average income and average return per consumer and per program. This is complicated because the average revenue per viewer is relatively stable regardless of audience size, but program cost per viewer tends to rise with audience size because investments in higher quality offerings are required.
156. Premium programs—especially sports—are hotly contested among broadcasters/cablecasters and the market for rights is increasing dramatically. The high demand leads to auction-like behaviour in the acquisition of rights.⁴⁷ Prices paid are especially high because sporting events and championships can be seen as natural monopolies; thus broadcasters/cablecasters gaining rights become monopoly suppliers. In cases of pay television, the broadcaster/cablecaster passes the costs to consumers.⁴⁸
157. The fundamental economics of broadcasting create the conditions under which broadcasting and cablecasting organizations are affected by unauthorized uses. It is argued that unauthorized uses produce economic effects on current business operations, investment decisions, and profitability. However, unauthorized reception, decryption, fixation, and simultaneous or delayed retransmission do not in and of themselves create economic harm to broadcasters or rights holders; their effects are dependent upon the business model of the broadcasters, how signals are accessed, and whether they must bear additional costs to protect broadcasts and cablecasts through technology or private enforcement efforts.
158. The next three sections will explicate how and why unauthorized uses affect current operations, investment decisions, and profitability of broadcasters.

VI. ECONOMIC LOSSES IN UNAUTHORIZED USES OF SIGNALS

159. Broadcasters differ in terms of their revenue models. Some receive income from public sources, some from advertisers, some from consumer payments, and some from a mix of sources. Consequently, the economic effects of unauthorized uses differ among broadcasters and cablecasters.
160. In terms of current business operations, the effects on broadcasters and cablecasters depend upon whether unauthorized uses involve personal purposes of consumption, consumption based on skirting pay systems, or commercial exploitation of signals by other parties. The exact economic impact of unauthorized uses of protected works depends upon the nature and costs of production and distribution on the supply side and the extent of rivalry among consumers and ability and willingness to pay on the demand side.⁴⁹
161. Unauthorized uses of copyrightable products affect recovery of marginal costs,⁵⁰ average costs of authorized products available for sale,⁵¹ consumer demand, and company revenue.

⁴⁷ Campbell Cowie and Mark Williams, "The Economics of Sports Rights," *Telecommunications Policy*, 21(7): 619-34 (1997).

⁴⁸ Bill New and Julian Le Grand, "Monopoly in Sports Broadcasting," *Policy Studies*, 20(1): 23-36 (1999).

⁴⁹ Robert G. Picard, "A Note on Economic Losses Due to Theft, Infringement, and Piracy of Protected Works," *Journal of Media Economics*, 17(3): 207-217, 2004.

⁵⁰ Marginal cost is the added cost for producing additional output. In situations of excess production capacity, marginal costs are additional cost for each additional unit produced. When additional capacity investments are required, the marginal costs must take those into account as well.

162. Marginal costs and average costs are particularly relevant to the theft or piracy of physical products. Because broadcasting and cablecasting does not involve the production and distribution of a good for physical distribution, there is no physical inventory of the product and there are only marginal costs of production and distribution, except those relative to amplification and signal encryption. Consequently, the average cost per unit of products available for sale is not relevant, and the unauthorized uses do not create uncompensated production and distribution costs that become economic losses for broadcasters. If the scale of uses is large, cablecasters may have to bear added costs for additional bandwidth that is not being recouped.
163. Because broadcast media do not require physical manufacturing and production for distributive purposes, they are spared manufacturing and transportation costs incurred by producers of physical products such as DVDs, books, and newspapers.⁵² This is particularly important in terms of costs, because no uncompensated manufacturing and distribution costs are caused by unauthorized uses when broadcasting is involved.
164. Protections against harmful effects on marginal and average costs are important to the rationale for the related rights protection provided for phonograms, but they are not relevant to the protection of broadcast signals and only partly relevant to cablecasting. The issues of demand and revenue remain salient, however. Consequently, the argument that signal protection is parallel to phonogram protection is imperfect.

Broadcasting and Issues of Demand

165. An important element in effects of unauthorized uses relates to elasticity of demand for reception of broadcast channels. The fundamental law of demand indicates that as price increases, the quantity of consumption by consumers decreases and *vice versa*. Elasticity of demand is a measure of the amount of change that occurs.⁵³ Clearly, this has implications for paid broadcasting and the ability and willingness of consumers to pay for services or to substitute similar services (satellite for cable, for example) that are available at a different price. The concept does not apply to audiences of free-to-air broadcasting where there is no direct monetary price for consumption.
166. Audiences are not the only consumers in the broadcasting environment, however. Advertisers are also consumers and the concept applies to them in both pay and free-to-air settings. Their demand involves decisions as to whether to pay prices offered, what amount of advertising to purchase, and their willingness to substitute one broadcaster over another. Demand also applies when broadcasters sell rights to carry their signals to cable and satellite operators and to the sales of rights to broadcasters. The effects of these demand and elasticity issues are integrated in the analysis in Table 1.
167. If unauthorized use is made, it may or may not affect company revenue depending on consumer demand issues. If unauthorized use of free-to-air signals is made, or if unauthorized use of pay signals is made by persons or entities unable or unwilling to

[Footnote continued from previous page]

⁵¹ Average cost is based on dividing production costs by units produced and sold. If more goods are sold, the average cost declines; if few goods are sold, the average cost rises. This, of course, affects revenue and return.

⁵² Robert G. Picard, *The Economics and Financing of Media Companies*. New York: Fordham University Press, 2002.

⁵³ Andreu Mas-Colell, Michael D. Whinston, and Jerry R. Green. *Microeconomic Theory*. Oxford University Press, 1995.

pay the price for authorized services, no actual loss occurs to company revenue, but it may affect the broadcaster's ability to sell its broadcast signals to other parties willing to pay.⁵⁴

168. However, if unauthorized use is made by consumers and retransmitting organizations who would otherwise be able and willing to pay for authorized use, the broadcaster is denied revenue that it would otherwise receive from these consumers and organizations. These unauthorized uses may also interfere with the broadcaster's ability to sell its broadcast signals to other parties that are willing to pay. The same applies to cablecasters.
169. Four fundamental conditions must then be considered in determining the economic effects of unauthorized use: is the use *within* or *external* to the intended market of the signal, and does the use involve *free-to-air* or *paid* broadcast signals? Table 1 shows the economic effects of unauthorized uses under these four conditions. These provide the fundamental elements that help focus attention to harm done shown in the analysis tree in Figure 3.
170. These economic effects are similar whether the unauthorized use is made in pre- or post-signal environments.

⁵⁴ We include activities of individuals here because they are important in a general discussion of economic effects of unauthorized uses, but recognize that they are not specifically relevant to the provisions in the proposed treaty where they entail purely personal use.

Table 1: Summary of Economic Losses in Different Situations

Effect on Marginal Costs		Effect on Average Costs	Effect on Demand	Effect on Revenue
Within the Intended Market of the Signal				
Unauthorized signal reception	<p>Free-to-Air: None</p> <p>Paid: None</p>	<p>Free-to-Air: None</p> <p>Paid: May increase average cost if receivers are able and willing to pay</p>	<p>Free-to-Air: None on consumer demand</p> <p>May increase or decrease demand for advertising depending on whether ad service fees change based on increased or decreased viewership and whether ads are removed or replaced</p> <p>Paid: Possible loss</p> <ul style="list-style-type: none"> • to the extent that receivers are able and willing to pay • if users stop subscribing and shift to viewing broadcasts that are received without authorization 	<p>Free-to-Air: May increase or decrease advertising income depending on whether ad service fees change based on increased or decreased viewership and whether ads are removed or replaced</p> <p>Paid: Possible loss</p> <ul style="list-style-type: none"> • to the extent that receivers are able and willing to pay • if another operator who is able and willing to pay decides not to buy or pay as much for the rights because of unauthorized reception in the intended market • if users stop subscribing and shift to unauthorized signals
Unauthorized decryption	<p>Free-to-Air: None</p> <p>Paid: None</p>	<p>Free-to-Air: None</p> <p>Paid: May increase average cost if receivers are able and willing to pay; will increase average costs if new decryption technologies must be deployed</p>	<p>Free-to-Air: May increase or decrease demand for advertising</p> <p>Paid: Possible loss</p> <ul style="list-style-type: none"> • to the extent that decrypters are able and willing to pay • if users stop subscribing and shift to viewing unauthorized decrypted signals 	<p>Free-to-Air: May increase or decrease advertising income</p> <p>Paid: Possible loss</p> <ul style="list-style-type: none"> • to the extent that decrypters are able and willing to pay • if another operator who is able and willing to pay decides not to buy or pay as much for the rights because of unauthorized decryption in the intended market • if users stop subscribing and shift to unauthorized decryption

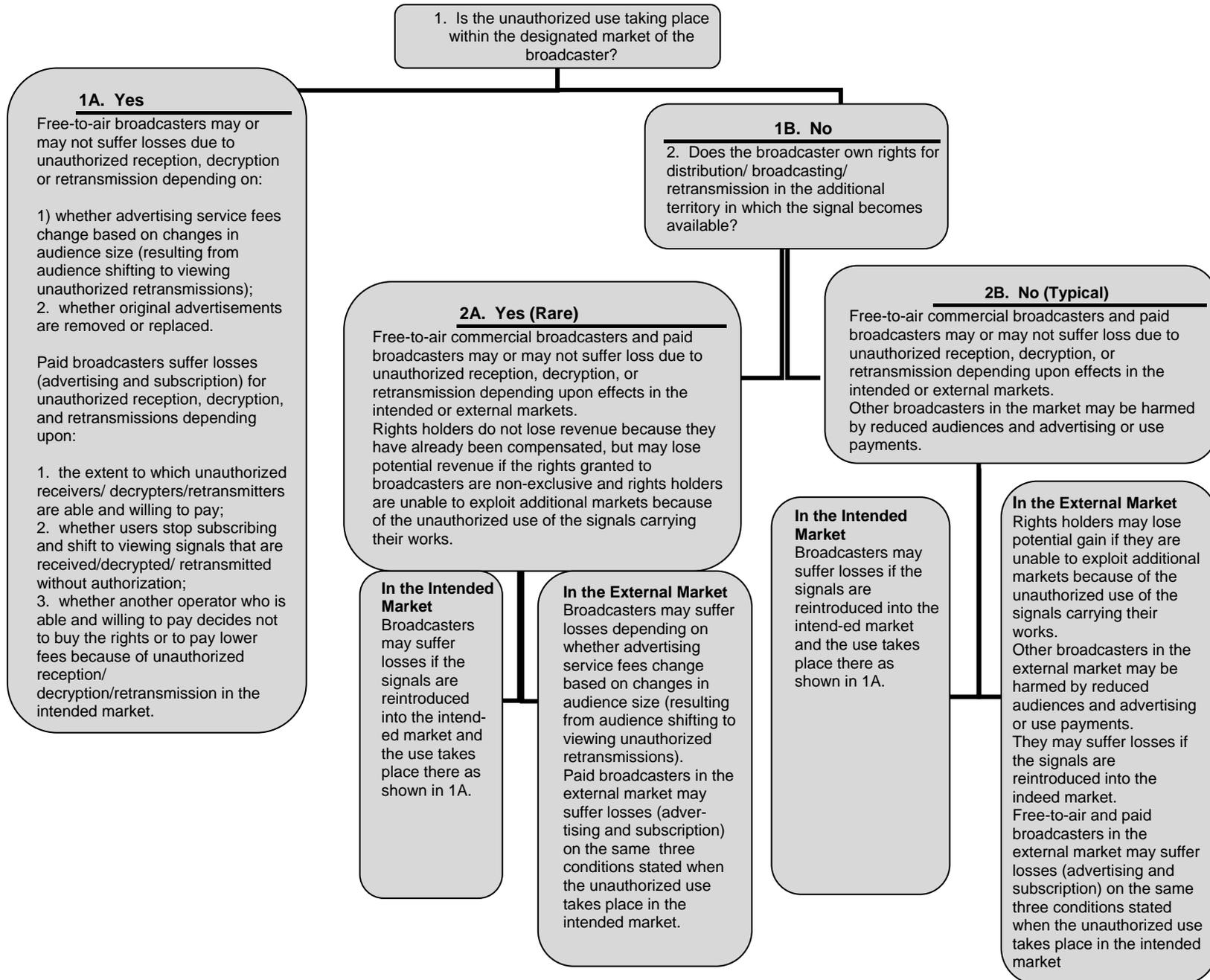
	Effect on Marginal Costs	Effect on Average Costs	Effect on Demand	Effect on Revenue
Within the Intended Market of the Signal (Continued)				
Unauthorized retransmission	<p>Free-to-Air: None</p> <p>Paid: None</p>	<p>Free-to-Air: None</p> <p>Paid: May increase average cost if receivers are able and willing to pay</p>	<p>Free-to-Air: None on consumer demand</p> <p>May increase or decrease demand for advertising</p> <p>Paid: Possible loss</p> <ul style="list-style-type: none"> • if receivers substitute the original signal • if users stop subscribing and shift to viewing unauthorized retransmissions 	<p>Free-to-Air: May increase or decrease advertising income depending on whether advertising fees change based on increased or decreased viewership and whether ads are removed or replaced</p> <p>Paid: Possible loss</p> <ul style="list-style-type: none"> • if retransmitters substitute parts of the original signal or retransmitters would pay • if another operator who is able and willing to pay decides not to buy or pay as much for the rights because of unauthorized retransmission in the intended market • if users stop subscribing and shift to unauthorized retransmissions
External to the Intended Market of the Signal*				
Unauthorized signal reception	<p>Free-to-Air: None</p> <p>Paid: None</p>	<p>Free-to-Air: None</p> <p>Paid: None</p>	<p>Free-to-Air: None on consumer demand</p> <p>May increase or decrease demand for advertising</p> <p>Paid: Affects consumer demand and demand for advertising for paid broadcasters in the external market</p> <p>None in the intended market, unless signals are reintroduced into the intended market</p> <p>May affect demand for other broadcasts intended for that market</p>	<p>Free-to-Air: May increase or decrease advertising income in the intended market if the broadcasts that are received without authorization are reintroduced into the intended market and audience size/ratings decreases as viewers shift to viewing unauthorized broadcasts</p> <p>May increase or decrease advertising income of broadcasters in the external market</p> <p>(Change in advertising income also depends on whether ad service fees change based on increased viewership and whether ads are removed or replaced)</p> <p>Paid: Possible loss (advertising and subscription) for paid broadcasters in the external market</p> <p>None in the intended market, unless signals are reintroduced</p> <p>May affect revenue for other free and pay broadcasts/cablecasts intended for that market and for rights sales</p>

	Effect on Marginal Costs	Effect on Average Costs	Effect on Demand	Effect on Revenue
External to the Intended Market of the Signal* (Continued)				
Unauthorized decryption	<p>Free-to-Air: None</p> <p>Paid: None</p>	<p>Free-to-Air: None</p> <p>Paid: Will increase average costs if new decryption technologies must be deployed to protect signal</p>	<p>Free-to-Air: None on consumer demand</p> <p>May increase or decrease demand for advertising for broadcasters in the internal and external markets</p> <p>Paid: May affect consumer demand and demand for advertising for paid broadcasters in the external market</p> <p>None in the intended market, unless decrypted signals are reintroduced into the intended market</p> <p>May affect demand for other broadcasts intended for that market</p>	<p>Free-to-Air:</p> <p>May increase or decrease advertising income in the intended market if decrypted signals are reintroduced into the intended market and audience size/ratings decreases as viewers shift to viewing unauthorized broadcasts</p> <p>May increase or decrease advertising income of broadcasters in the external market</p> <p>(Change in advertising income also depends on whether ad service fees change based on increased viewership and whether ads are removed or replaced)</p> <p>Paid: Possible loss (advertising and subscription) for paid broadcasters in the external market</p> <p>None in the intended market, unless decrypted signals are reintroduced into the intended market</p> <p>May affect revenue of other free and pay broadcasts/cablecasts intended for that market and for rights sale</p>

	Effect on Marginal	Effect on Average Costs	Effect on Demand	Effect on Revenue
External to the Intended Market of the Signal* (Continued)				
Unauthorized retransmission	Free-to-Air: None Paid: None	Free-to-Air: None Paid: None	<p>Free-to-Air: None on consumer demand</p> <p>May increase or decrease demand for advertising</p> <p>Paid: May affect consumer demand and demand for advertising for paid broadcasters in the external market</p> <p>None in the intended market, unless the signals are reintroduced into the intended market</p> <p>May affect demand for other broadcasts intended for that market</p>	<p>Free-to-Air: ; May increase or decrease advertising income in the intended market if the unauthorized retransmissions are reintroduced into the intended market and audience size/ratings decreases as viewers shift to viewing unauthorized broadcasts</p> <p>May increase or decrease advertising income in the external market</p> <p>May increase or decrease demand for advertising depending on whether advertising fees change based on increased viewership and whether ads are removed or replaced</p> <p>Paid: May affect revenue (advertising and subscription) of paid broadcasters in the external market</p> <p>None in the intended market, unless unauthorized retransmissions are reintroduced into the intended market</p> <p>May affect revenue for other free and pay broadcasts intended for that market and for rights sales</p>

*based on signal use in external market; if signal is reintroduced into the originating market, then intended market consequences apply

Figure 3: Harm as Seen in an Analysis Tree



VII. EFFECTS OF UNAUTHORIZED USES ON INVESTMENT

171. The previous section detailed the immediate (short-term) business economic effects of unauthorized uses on broadcasters' and cablecasters' costs, demand, and revenues. This section considers its effects on investment decisions, which tend to involve longer-term considerations.
172. Commercial investments in broadcasting (terrestrial and satellite) and cable, and satellite and cable infrastructures and programming are made based on analyses of the current and future market and the prospects for recovering investments costs and achieving an adequate level of return. Firms require a reasonable return on invested capital and adequate funds for reinvestment in the enterprise or they will choose to use their capital otherwise.⁵⁵ Investments made by state, public service, and community broadcasters are also made with the expectation that the benefits they seek to provide will be achieved and that cost recovery for their investments will be possible.
173. These basic business analyses are made in both free-to-air and pay television settings because investments in programming that exceed the average programming cost for a particular daypart—that is, premium cost programming—are discretionary and not required for maintaining a basic level of service. The challenges of unauthorized uses are particularly salient to cable system operators, satellite system operators, and pay television operators (on whatever platform) in making future investments in infrastructures and systems.
174. Higher levels of unauthorized uses among the potential customers are likely to lead broadcasters to decline or constrain initial investments; lower levels are likely to lead them to make initial investments.
175. Once the investment is made, unauthorized use can no longer affect the initial decision to invest. If the levels of unauthorized use are stable, they do not alter revenue or cost recovery projections made at the time of the investment. However, if unauthorized uses rise in ways that reduce the number of paying customers,⁵⁶ it will harm revenue and cost recovery for investments made. If the unauthorized uses decline and increase the number of paying customers, revenues will rise and cost recovery for investments will benefit.
176. Unauthorized uses, however, affect willingness to make additional investments in existing enterprises, including investments in technologies and premium programming. Consequently, if there are high levels of unauthorized use or levels are rising among customers or potential customers, broadcasters and cablecasters alike are likely to constrain or decline to make additional investments; if there are low or tolerable levels of unauthorized use, they are likely to make additional investments.
177. The effects of unauthorized uses on investment are particularly germane to the provision of additional broadcasting, cablecasting, satellitcasting, and broadband services in regions and states where investments in such services have not already been made or are in early stages of industry development and growth.

VIII. EFFECTS OF UNAUTHORIZED USES ON PROFITS

178. It is often asserted that unauthorized uses affect company profits and thus reduce the willingness to offer commercial broadcasting services.

⁵⁵ In principle, reasonable returns are above returns from investments in bonds and other capital preservation investments because of the risks of operating an enterprise.

⁵⁶ Mere increases in unauthorized use will not affect revenue and cost recovery unless it is among customers willing and able to pay.

179. Profit, return in the financial sense, is the result of a firm's operations after one subtracts costs from revenue before accounting for interest payments, taxes, and the growth or decline of value of assets. In economic terms it involves surplus generated after all costs are included.
180. Some proponents of signal protection make arguments that seem to assert that lower revenue equates with lower profits. However, one cannot draw the conclusion that unauthorized uses are a necessary and sufficient cause for lower profitability in either the financial or economic sense because many other factors and strategic decisions by firms greatly affect company profits. These include factors such as levels of competition, productivity, pricing choices, programming choices, marketing efforts, and organizational structure and size.
181. Nevertheless, because unauthorized uses among customers or potential customers who are willing and able to pay lower actual revenue generated, and because some advertisers may lower expenditures if unauthorized uses reduce audience sizes, one can say that the potential for achieving profitability is reduced if significant levels of unauthorized uses are present.

IX. ECONOMIC ISSUES OF SOCIAL WELFARE

182. In economic terms, social welfare is pursued by creating optimal choices and tradeoffs among competing demands and desires in society.⁵⁷ These include both private and public interests.
183. In basic neo-classical economics, social welfare is said to be the results of the sum of consumer and producer surplus.⁵⁸ This simplified view of social welfare in the market place is sometimes used by those with economic interests to justify arguments for limitations on state intervention in the broadcast sector. Indeed, the simplified approach to social welfare ignores the extensive contributions of neo-classical, Keynesian and Post-Keynesian economics, and other economic theory to understanding of public goods, imperfect markets, and the role of states in pursuing social welfare.⁵⁹ All of these are important economic theory factors in broadcasting policy.
184. The limited and *laissez-faire* view of social welfare is also somewhat problematically applied to broadcasting and cablecasting because these does not rely fully on private resources and uses public resources and spaces (radio spectrum and right of ways for cable infrastructure) and often involves imperfect markets. Most nations have rejected a purely market-based approach in order to pursue cultural, political, industrial development and other social objectives through broadcast and cablecast policy.
185. Terrestrial broadcasting does not operate in ordinary competitive markets because of its public good characteristics and tendencies toward monopoly.⁶⁰ Commercial terrestrial

⁵⁷ The use of the term social welfare should not be confused with social concerns that are one of the set of competing demands and desires in society.

⁵⁸ James C. Moore, *General Equilibrium and Welfare Economics: An Introduction*. New York: Springer, 2006; Allan Feldman and Roberto Serrano, *Welfare Economics and Social Choice Theory*. New York: Springer, 2009.

⁵⁹ Jerome L. Stein, *Monetarist, Keynesian & New classical economics*. Oxford: Blackwell, 1982; Robert W. Dimand, *The Origins of the Keynesian Revolution*, Stanford: Stanford University Press, 1988; Harcourt, Geoff Harcourt, *The Structure of Post-Keynesian Economics*. Columbia University Press, 2006; Giorgio Calcagnini and Enrico Saltari, eds. *The Economics of Imperfect Markets: The Effects of Market Imperfections on Economic Decision-Making*. Physica-Verlag HD, 2009.

⁶⁰ Benjamin J. Bates, "The Role of Theory in Broadcast Economics: A Review and Development," pp. 146-171 in M.L. McLaughlin (Ed.), *Communication Yearbook 10*. Newbury Park, Calif.: Sage, 1987; Richard Collins, Richard, Richard Garnham, and Gareth Locksley.(1988). *The*

broadcasting is also different because it involves the dual product/two-sided market (audience and advertising), and choices made involving advertising market can reduce social surplus.⁶¹

186. Historically, a number of social observers, citizens, and policy-makers have argued that broadcasting is not merely a matter of private consumption because it serves both private and public needs. They reject a completely market-based approach to broadcasting policy, asserting that social welfare is not merely produced by optimizing economic outcomes, but also by creating social benefits related to issues of identity, culture, education, development, and political participation. According to their view, the market-only approach produces failures in serving these social, cultural, and political needs. They argue that these market failures are particularly evident in programming involving news and public affairs, children's programming, programming for minorities and the disabled, and individuals with lower incomes.
187. Because of these reasons, state policies have traditionally treated broadcasting differently from other industries whose products and services primarily involve serving private interests, and broadcasting has tended to engender more government intervention than most industries.⁶² States have gone beyond mere technical regulation of broadcasting to create state-owned or state-supported public service broadcasting organizations or government broadcasters. They have also sought to regulate broadcast market structures and prescribe and proscribe behaviour of commercial firms.⁶³ This is less the case with cablecasting, but some countries do maintain social obligations (e.g., public access channels) on these operations.
188. Issues of social welfare involving broadcasting are complex because multiple and sometimes conflicting objectives are pursued. Social objectives of connectedness to the community, state, and world and reductions in disparities of access to news, information, and entertainment are pursued; cultural objectives promoting domestic culture and identity and reducing reliance of foreign content providers are promoted; political objectives of creating an informed and consenting population are supported; media development objectives—a form of industrial development policy—designed to encourage private investments that create and strengthen domestic media and systems are often put into place; national economic policy that encourage wealth creation and economic growth are desired; and consumer welfare objectives include ensuring that monopolistic tendencies in related industries do not unduly harm consumers.
189. This array of policies means that pursuing the optimal social welfare outcome requires a careful balancing of the multiple objectives in order to ensure equitable distribution of benefits and costs. It is far more difficult than just weighing choices on a balance scale or lever and pendulum but more akin to balancing a board to obtain simultaneous but different outcomes on a ball (See Figure 4).
190. Achieving the optimal balance requires some tradeoffs. Pursing universal access to broadcasting may involve providing as full access to public service or state broadcasting

[Footnote continued from previous page]

Economics of Television: The UK Case. London: Sage, 1988; Bruce M. Owen and Steven S. Wildman, *Video Economics*. Cambridge, Mass.

Harvard University Press, 1992; see also the discussion and citations for the public good nature of broadcasting and market imperfections in section 5 of this report.

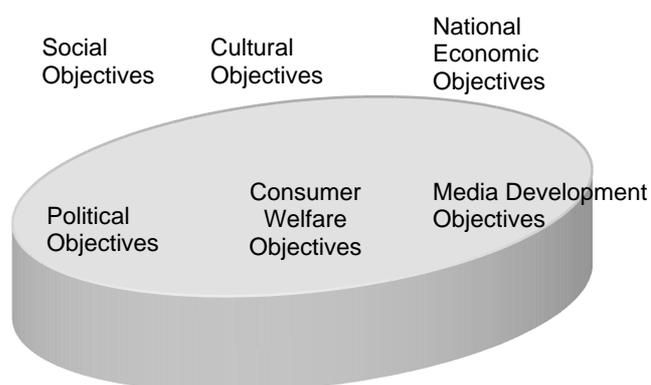
⁶¹ Simon P. Anderson and Stephen Coate, "Market Provision of Broadcasting: A Welfare Analysis," *Review of Economic Studies*, 72(4): 947-72 (2005).

⁶² With exceptions of financial institutions and pharmaceuticals.

⁶³ See, for example, Hiram L. Jome, "Public Policy Toward Radio Broadcasting," *The Journal of Land and Public Utility Economics*, Vol. 1, No. 2, April 1925, pp. 198-214; R. H. Coase, "The Origin of the Monopoly of Broadcasting in Great Britain," *Economica*, v. 14, No. 55, August 1947, pp. 189-210.

as possible, but allowing commercial providers to serve only areas that are commercially viable. Promoting development of strong commercial players may be traded off for anti-siphoning rules for sports and other major national events to ensure their universal availability or availability on free-to-air television. Promoting consumer welfare may involve controlling regulating prices and services of cable television.

Figure 4: Broadcast and Cablecast Policy Typically Balances Social Welfare Objectives



191. There is, however, a contemporary trend of states liberalizing policy and regulation, particularly with regards to cablecasting and satellitecasting, and especially involving pay services.⁶⁴ The technical rationale is that they are not subjected to claims on limited radio frequency in the same way that *terrestrial* broadcasting (and especially analogue television) are. The economic rationale is based on the argument that these broadcasting services tend to be niche services more related to private consumption than more general free-to-air broadcasting. They are also seen as primarily supported by infrastructures created by private rather than public investments and employing more limited public resources. Thus, social welfare production in their case is seen as being more closely aligned with the market-based view of welfare economics.
192. The historical involvement of state power in the broadcast industry and the use of state apparatuses to achieve social welfare outcomes that may not be achievable through market mechanisms alone illustrate the social importance given to broadcasting. With regard to signal protection, similar involvement would be in line with those precedents—both in terms of enforcement of protection and in promoting authorized exceptions and limitations thereof.
193. Central issues and potential effects of the proposed treaty for analyzing social welfare are shown in Table 2. The weights given to the effects and the desirability of tradeoffs by member states will be individual dependent upon domestic factors.

⁶⁴ Peter Dunnett, *The World Television Industry: An Economic Analysis*. New York: Routledge, 1990; Alessandro Silj, *The New Television in Europe*. London: John Libbey & Co., 1992; Council of Europe, *Radio and Television Systems in the EU Member States and Switzerland*. Strasbourg: Council of Europe Publishing, 1998; William Davis, *The European TV Industry in the 21st Century*. London: Informa Publishing Group, 1999.

Table 2: Central Issues and Potential Effects of the Proposed Treaty Relevant to Social Welfare Analysis

	Potential Results	Effects to Observe
Effect on Intellectual Property Protection and those Enjoying Protection	Does it increase or reduce existing IP protection?	How and to what extent?
	Does it create a favored position for content creators, production firms, rights holders, or broadcasts <i>vis-à-vis</i> each other?	How and to what extent?
	Does it increase or reduce effort or costs required for private enforcement of rights?	How and to what extent?
	Do such protections increase or decrease private and/or public enforcement activities?	How and to what extent?
Effects on Development of Domestic Media	Will it increase or decrease investment in programming provided?	How, where, and to what extent?
	Will it increase or decrease investments in domestic and global broadcast/cable/satellite infrastructures?	How, where, and to what extent?
Effects on Consumers	Will it increase or reduce costs for consumers?	Where and to what extent?
	Will it increase or reduce choice among broadcast channels and services?	Where and to what extent?
Effects on Society	Will it increase or reduce access to news, information, and entertainment?	How, where, to whom, and to what extent?
	Will it alter existing limitations and exclusions to copyright?	How and to what extent?
	Will it increase or decrease investment in domestic programming?	How, where, and to what extent?
	Will it increase or increase provision of international programming?	How, where, and to what extent?
Effects on States	Will it require increased administrative or enforcement activity?	How, how much, and at what cost?
Effects on National Economies	Will it increase or reduce overall wealth?	How, where, and to what extent?
	Will an increase in broadcasting activity produce an increase tax receipts?	Where and to what extent? What potential uses might be made of these receipts. ⁶⁵

⁶⁵ The issue of tax receipts is raised in this study because some proponents of the proposed treaty have argued the treaty will benefit developing states by improving their economies and resources available to governments. It should be noted that any increase in tax receipts could be used to improve or provide new services, pay national debt, or contribute to lowering tax rates. Thus the overall economic effects would depend upon the choices made in individual states.

194. Direct measurement of the effects cannot be made prior to implementation of the proposed treaty because the nature of measurements would require before and after observation. It might be possible to extrapolate some potential results from previous experiences with the extension of protections for similar activities or from states that have already provided protections covered by the treaty. In order to show effects, certain types of measurement and data would be necessary (Table 3). Data necessary for doing so are not readily available at this point.

Table 3: Method and Data Types for Measuring Quantifiable Results

	Potential Results	Measurement Methods
Effects on Development of Domestic Media	Will it increase or decrease investment in programming provided?	Growth or decrease in program investments following implementation of protections, controlling for growth or decrease due to other factors.
	Will it increase or decrease investments in domestic and global broadcast/cable/satellite infrastructures?	Growth or decrease in infrastructure investments following implementation of protections, controlling for growth or decrease due to other factors.
Effects on Consumers	Will it increase or reduce costs for consumers?	Growth or decrease in costs, controlling for other factors
	Will it increase or reduce choice among broadcast channels and services?	Growth or decrease in number of channels or services, controlling for other factors
Effects on Society	Will it increase or reduce access to news, information, and entertainment?	Increase or decrease average access to channels, controlling for other factors.
	Will it increase or decrease investment in domestic programming?	Growth or decrease in investment in domestic programming, controlling for other factors (number of broadcasters, broadcast hours, etc.).
	Will it increase or increase provision of international programming?	Growth or decrease in investment in domestic programming, controlling for other factors (number of broadcasters, broadcast hours, etc.).
Effects on States	Will it require increased administrative or enforcement activity?	Additional expenditures for personnel and governmental enforcement activities.
Effects on National Economies	Will it increase or reduce overall wealth?	Increase in value added and employment in the broadcasting sector, and multiplier effects, controlling for other factors.
	Will an increase in broadcasting and cablecasting activity produce an increase tax receipts?	Additional taxes received as a result of the additional economic activity created, controlling for other factors.

X. EFFECTS OF RIGHTS AND LICENSES ON ABILITIES OF BROADCASTERS AND CABLECASTERS TO EXPLOIT THEIR SIGNALS

195. As previously noted, broadcasters and cablecasters typically do not own or control all rights to content embedded in their signals. This has implications for the impact of the proposed treaty. This section focuses on the rights within the signal and on the effects they have on the abilities of broadcasters to seek benefits from subsequent uses of their signals.

Rights and Licenses in a Broadcast Stream

196. Copyright on content is separate from neighboring rights over the broadcast or cablecast signal that carries the content. There is differential treatment of content and signal just as there are different justifications that exist for rights in broadcast signals, independent of the copyright in the underlying content.
197. As shown previously, the business model of broadcasting and cablecasting involves a variety of partners cooperating to jointly create value. This value creation constellation involves a complex set of relations among broadcasters or cablecasters, suppliers, sources of revenue, and customers.⁶⁶ Two of the most critical partners in intellectual property terms are the external suppliers of programming and the rights to that programming.
198. The purpose of the proposed treaty is to legally recognize comprehensive neighboring rights in broadcast and cablecast transmissions. It does not grant broadcasting or cablecasting organizations copyright or related rights protection over the content their signals transmit, but rather related rights protection to use and disseminate their broadcasts to the public.
199. The purpose of elaborating signal-related rights is to protect against unauthorized exploitation of the technical, financial, and organizational investment (i.e., time, effort, energy, and resources), which broadcasters and cablecasters devote to planning, producing, scheduling, and disseminating their signals. Broadcasting and cablecasting organizations enjoy protection in recognition of the technical and organizational achievement and the economic investments that they expend.
200. The object of the protection in the proposed treaty is the broadcast or cablecast transmission,⁶⁷ not the content it transmits. Many countries around the world recognize that broadcasters and cablecasters hold a property right in their content-carrying broadcast signals, independent of the copyright in the underlying content. Such proprietary rights aim to equip broadcasters with mechanisms to prevent others from free-riding on their investment of time, skill, and effort in working on the infrastructure of the television and radio industries.
201. Proposals for the proposed treaty seek to build on the existing rights of broadcasters and cablecasters in order to extend protection to simultaneous and deferred transmission by any type of retransmission and post-fixation rights. The bundle of rights includes the rights to authorize (a) retransmission 'by any means', including cable retransmission; (b) fixation of broadcasts; and (c) post-fixation rights. Post-fixation rights include: 'communication to the public'; distribution of fixations of broadcasts; reproduction of fixations of broadcasts; and 'making available' to the public the fixations for interactive transmission on the Internet (except in the case of webcasting, which may or may not be included in the proposed treaty).
202. Lastly, the right to program-carrying signals prior to broadcasting or cablecasting (e.g., signals sent via a telecommunications link feed to broadcasters or cablecasters for use in their broadcasts) is part of the bundle of rights being considered.

⁶⁶ Richard Normann and Rafael Ramirez. *Designing Interactive Strategy: From Value Chain to Value Constellation*. New York: Wiley, 1998; Harold Vogel, *Entertainment Industry Economics: A Guide to Financial Analysis*. 7th ed. Cambridge University Press, 2007.

⁶⁷ "The WIPO Treaty on the Protection of Broadcasting Organizations," Informal Paper Prepared by the Chairman of the Standing Committee on Copyright and Related Rights (SCCR) Seventeenth Session, Geneva, Nov. 3-7, 2008.

Right of Retransmission

203. The Rome Convention and the TRIPS Agreement provide the right of retransmission or rebroadcasting as a right to authorize or prohibit only with respect to wireless transmissions. Excluded from their scope is the transmission over wires—i.e., cable retransmissions. This is explained by the fact that cable television was still in its infancy at the time of the adoption of the Rome Convention and by the unwillingness to extend protection during the TRIPS negotiations. In practical terms, a free-to-air broadcasting organization does not have legal protection (under current international law) when its broadcast signals are transmitted via cable without authorization. A similar point would appear to apply to unauthorized retransmission via computer networks.
204. The proposed treaty seeks to remedy this by defining the right of retransmission as a right to authorize or prohibit retransmission of a signal “by any means,” including via cable or computer networks. This in itself will not give broadcasting and cablecasting organizations an unfair advantage over content copyright owners and other neighboring rights holders, whose rights are protected under the WIPO Internet treaties (i.e., WCT and WPPT).
205. The characterization of the right of retransmission as a right to authorize or prohibit “by any means” becomes meaningful in the context of unauthorized streaming of broadcasts. As an example, during the 2008 Olympic Games, unauthorized streaming of sporting events was rampant, resulting in 453 online infringement cases.⁶⁸ The Caribbean Broadcasting Union/Caribbean Media Corporation earlier faced challenges enforcing its exclusive rights and sublicenses to the Games in 1996 and dropped an effort to obtain an injunction against a broadcaster in Trinidad because it was impossible to be adjudicated before the Games were over.⁶⁹
206. A total of 364 unauthorized streaming sites across four major European football leagues were also reported during the 2007-2008 season, with a majority of the sites connected to unauthorized P2P-based streaming.⁷⁰ The ability to distribute, on the Internet, streams of sports events allows a quick and easy access to exclusive sports broadcasts, posing a significant adverse threat to both the sports organizations and the broadcasters.⁷¹
207. Unlike the TRIPS Agreement and the Rome Convention, the proposed treaty seeks to extend ‘broadcasting’ to include transmission of encrypted signals where the means for decrypting are provided to the public by the broadcasting organization or with its consent. This formulation is patterned after the WPPT, which protects neighboring rights of performers and phonogram producers. Hence, encrypted signals also fall within the scope of protection of the proposed treaty. The proposed treaty defines ‘broadcasting’ as transmission by wireless means for reception by the public of sounds or of images and sounds or of the representations thereof. The term ‘representations thereof’ would cover the possibility of protecting signals in either analogue or digital form and whether encrypted or not. The same would apply to ‘cablecasting’.

Right of Fixation

208. Broadcasting organizations have the exclusive right to authorize or prohibit the fixation of their broadcasts under the Rome Convention. The TRIPS Agreement grants broadcasting organizations an optional right to prohibit the fixation of their broadcasts undertaken without their authorization.

⁶⁸ 2009 Special 301 Report, <http://www.ustr.gov/sites/default/files/Priority%20Watch%20List.pdf>

⁶⁹ Sally Bynoe, “CBU/CMC Experiences,” Letter to the authors, Feb. 12, 2010.

⁷⁰ Piracy of Digital Content Organization for Economic Co-operation and Development (OECD), July 2009, <http://browse.oecdbookshop.org/oecd/pdfs/browseit/9309061E.PDF>.

⁷¹ Background Report on Digital Piracy of Sports Events, Envisional Ltd and NetResult Ltd, 2008.

209. The rapid development of broadcasting media technology, with its succession of new systems of fixation, has been seen by some to justify the need for a fixation right to close loopholes in the protection provided, as for example in the case of reproduction and distribution of copies of fixations of broadcasts.⁷² Conceptually, the right of fixation is seen as the basis for the exploitation of post-fixation rights, including reproduction, distribution and rental of fixations (with their various limitations and exemptions). Proponents believe that if broadcasting and cablecasting organizations are not provided with fixation rights, the justification for post-fixation rights becomes questionable for lack of basis.

Post-Fixation Rights

210. Despite the inseparability of the signal from its underlying content, a broadcaster's exclusive right to authorize the reproduction and distribution of fixations does not extend to the right to authorize the reproduction and distribution of the content of the broadcast—a right that is vested in the content owner. In other words, a potential user of copyrighted content may either (1) obtain a copy of the content (that he or she viewed on television) directly from the content owner or (2) use a copy of the recorded broadcasts/cablecasts. In the latter case, the user would need to secure the rights not only from the broadcasters/cablecasters for the use of the transmitted signal, but also from the content owner for the use of the content carried by the signals. The user is generally allowed fixation for personal use, such as in recording a television show for later viewing under alternative provisions in Article 17 of the proposed treaty.
211. The TRIPS Agreement provides broadcasting organizations the option of an unqualified intellectual property-type right to prohibit reproduction of fixations of their broadcasts, but this right is not mandatory in the TRIPS Agreement. The right of reproduction of broadcasts is also protected under the Rome Convention. The right applies to reproduction of fixations made without the consent of the broadcasting organizations that do not fall into the recognized exceptions and limitations allowed under the Convention. Again, reproductions (of signal and content) are generally seen as authorized if the purpose is purely for personal, scientific, or educational use.⁷³
212. However, no protection is granted against the distribution of unauthorized reproductions or copies of such fixations. Neither the Rome Convention nor the TRIPS Agreement includes a distribution right for broadcasting organizations. Reserving the rights of fixation and reproduction can be powerfully complemented by a reservation of the right to distribute, argue proponents of that right. They argue that the rights of fixation and reproduction will not halt unauthorized distribution of broadcasts because the unauthorized distributors can always claim that someone else made the unauthorized copies.
213. The WIPO Internet treaties (WCT and WPPT) introduced the making-available right. The making-available right in the proposed treaty is provided as an exclusive right of authorizing the making-available to the public of broadcasts/cablecasts from fixations, by wire or wireless means, in such a way that members of the public may access them from a place and a time individually chosen by them. The right could include on-demand transmission of the fixations of broadcasts.
214. On-demand delivery 'is a medium that spreads the broadcasters' or cablecasters' footprints wider. It is a more recent kind of exploitation that enables the public to choose

⁷² <http://unesdoc.unesco.org/images/0005/000540/054049eb.pdf>.

⁷³ Article 17 of the proposed treaty expressly mentions the use of "short excerpts," "use for teaching or scientific research," "private purposes," "use of fragments for providing information on current events," "any use...where the program which is the subject of the broadcast is not protected by copyright," and the same kinds of exceptions that contracting parties provide for in their national legislation "in connection with the protection of copyright in literary and artistic works".

individually the time and the place from which they access the protected materials. For the same reason that corresponding rights have been granted to authors, performers, and phonogram producers under international law, broadcasting and cablecasting organizations should also be able to exercise the making-available right, its proponents argue.

Protection in Relation to Signals Prior to Broadcast or Cablecast

215. Effective protection from unauthorized use of broadcasts requires the extension of protection over the entire chain of delivery of broadcasts. It is considered that pre-broadcast signals should come within the scope of the treaty because there is a risk that such signals may be accessed without authorization before they reach the stage of broadcast.
216. The Brussels Convention is the only international treaty that covers pre-broadcast signals. However, the type of protection is not a proprietary right, but rather an obligation for contracting states to take adequate measures to prevent the unauthorized distribution of the pre-broadcast signal by any distributor for whom the signal emitted to or passing through the satellite is not intended.
217. Proponents of the proposed treaty further believe that broadcasting organizations should be equipped with tools to prevent others from distributing program-carrying signals transmitted by satellite which were not intended for reception by the public. These are signals that are sent via a telecommunications link, either to the broadcasters for use in their own broadcasts or by the broadcasters to one or more other broadcasting organizations for use in those organizations' broadcasts.
218. The process of getting the signal from the studio to the transmitter is not a service provided to the public, but is a process that facilitates the carriage of the signal to a transmitter to enable it to be broadcast to the public. On its own, it therefore, arguably, might not come within the definition of broadcasting or cablecasting service, but it is an essential component of that service. The appropriation of a pre-broadcast or cablecast signal may present an attractive proposition to third parties who could bundle the signal (with its content) into their own services without permission from the originating organization.

Cases Illustrating the Impact of Unauthorized Use or Retransmission

219. Increasingly, television is a global industry with programming that moves across national borders. Television profits are a function of the total revenues of the whole industry—advertising sales, annual volume of advertising, network and station television billing, subscriber numbers and rates, market ratings, syndication fees, and other indicators.⁷⁴
220. In the meantime, the convergence of information and communication technologies has widened opportunities and possibilities for unauthorized use of broadcasts. Neighboring rights holders invest in extensive technical, organizational, and financial undertakings for their broadcast/cablecast activities. The operation of broadcasting/cablecasting organizations is a costly organizational, logistical, and technical undertaking as daily program output needs to be planned, acquired, and produced. Some of these operate markets with limited geographic boundaries and others operate internationally and globally.
221. As shown previously, some unauthorized use of signals can limit broadcasters' and cablecasters' abilities to negotiate and receive economic compensation for the use of

⁷⁴ Everette E. Dennis and Melvin L. DeFleur. *Understanding Media in the Digital Age*. Boston: Allyn & Bacon, 2010.

their signals. This results in the loss of their ability to protect the quality of their products and the devaluation of their investment. For example, unauthorized use of a broadcast for which the broadcaster may have paid a large sum to ensure exclusivity or priority of content (e.g., a sports event) means that the investment will be largely devalued if the broadcaster has no means to prevent its misappropriation within the market for which it has acquired rights.

222. The pay-TV industry is experiencing significant challenges of unauthorized reception and retransmission. Although there is mounting pressure from the industry in Asia and elsewhere to respect intellectual property rights, the scale of these unauthorized uses remains large. Many national governments, regional regulatory offices, indigenous industry, and international content providers agree that the problem is large and growing and that there is a need to address the problem urgently as seen in recent Asian-Pacific Economic Cooperation (APEC) discussions and agreements.
223. Particularly troubling to the industry are commercial retransmission operators that obtain free and consumer paid satellite transmissions without payment and (simultaneously) retransmit them for a fee, often to commercial enterprises such as bars, pubs, or similar venues that display the retransmitted signal for their own commercial purposes.⁷⁵ These uses undermine the operations of legitimate pay television broadcasters that purchase licenses and spend sizeable investments in the production and marketing of licensed content in the licensed territory.

How Signal Reception and Retransmission Outside an Intended Market or Audience Affects Rights and Licenses and Other Potential Uses

224. Unlike newspapers, magazines, and radio programming (all of which generally tend to produce local content for local audiences, with very limited global reach), broadcasting organizations have a wide distribution window and reach in the international market. Satellite broadcasting technologies can transmit broadcast signals across borders, paving the way for new distribution markets for rights holders. This is particularly important in the context of the increasingly global liberalization of the broadcasting sector that is opening up new markets in developing countries for foreign broadcasts.
225. There are actual cases of spillover of signals outside an intended market. For example, spillover incidents in the Asia Pacific region were reported to the International Olympic Committee during the 2008 Olympic Games. A free-to-air broadcasting organization that had acquired exclusive cable, over-the-air, and satellite rights for the Beijing Olympic Games reported that a local pay-TV satellite broadcaster transmitted the live coverage of the Games, using the spillover coverage of a third party broadcaster in a neighboring country. Efforts to halt the use were stymied by time constraints and because the rights to the coverage belonged to the International Olympic Committee rather than to the free-to-air broadcasting organization.
226. The largest value of sports broadcast rights lies in the exclusive first transmission. When broadcasters acquire exclusive over-the-air and cable rights to sports broadcasting, they expect to be able to sublicense the rights, in whole or in part to other parties within the intended market. However, if the coverage of another broadcasting organization in a neighboring country spills over the intended market of the exclusive rights holder, income from sublicensing will no longer be a feasible prospect.

⁷⁵ These cases of retransmission of the signal should be distinguished from authorized reception of a transmission by enterprises such as bars, pubs, and other public places where rights payments are made to collecting societies or the originating broadcaster in countries which such arrangements exist. In these cases, the rights payment typically includes the right to the content as encapsulated in a given signal.

227. Reception outside the intended market has limited effect on the broadcasters whose signals reach the new territory. Such reception will have more effect on broadcasters in the new territory whose domestic broadcasts face competition from the broadcasts that are retransmitted from the original territory. Such reception can also affect the value of rights and licenses for rights holders—including the broadcasters of the signal—if they are marketing the rights in the external market as well.
228. Reception and unauthorized retransmission by external broadcasters is especially harmful if the broadcasts are reintroduced into the original market or preclude abilities to exploit the new market if the originating broadcaster has acquired rights and licenses to do so. Reintroduction of pay signals without requirements for payment, e.g., via free Internet stream, may reduce subscription to the paid services; even reintroduction of free-to-air signals may lead to substitution that reduces audience size and advertising income for the originating broadcaster if its ads are replaced or removed from the additional stream. If the retransmission does not interfere with the primary market or plans or efforts to exploit additional markets, it does not harm the originating broadcasters, but may harm broadcasters in the external markets and will lower the value of rights and licenses held by rights holders if they are trying to exploit those additional markets.
229. Internet streaming of signals is a cross-border and growing phenomenon. Unauthorized Internet transmission of a broadcaster's or cablecasters' signal can sabotage the ability of the broadcaster/cablecaster and the content copyright owners to sell their programming in foreign markets. This is most problematic for internationalized commercial broadcasters and rights holders and less problematic for national broadcasting companies who have no or limited foreign operations.
230. Rights holders of valuable television signals and programming can find unauthorized third parties exploiting the programming ahead of the rights holders by appropriating the entire signal stream and delivering it instantaneously throughout the world.
231. Unauthorized Internet transmissions of broadcasts can significantly harm the development of domestic, free, over-the-air television when shared or well-understood languages are involved or when content does not require linguistic abilities. It can be particularly damaging when exclusive content is involved. Exclusivity loses its advantages if others are able to access the programming without the authorization of the broadcasting/cablecasting organization and/or the content owner.
232. When a broadcaster itself offers a streamed online service, possibly a simultaneous retransmission of its broadcast, this may also 'compete' with its other delivery systems, and it can only be done if the broadcaster has the rights to use the content in this additional way.
233. If paid signals are involved, the incentive to subscribe is significantly diminished if the same signal is streamed free on the Internet. If consumers do not subscribe or drop subscriptions in favor of free Internet streaming, content owners, pay broadcasters, and cable system operators suffer diminished revenue.
234. When domestic broadcasters'/cablecasters' signals are misappropriated abroad and reintroduced in the market as a competing supplier, their ability to invest in a wide variety of quality programming, including popular domestic content or sports rights, is diminished because the value of the acquired content, as well as its advertising revenue, will be reduced. This has the effect of making them less willing to pay higher prices for the rights and diminishing the prices they are willing to pay rights holders.
235. Unauthorized use of sports broadcasts is unique because the immediacy of access to sporting broadcasts overrides the need for high quality. The public wants the ability to watch the event as it happens, so the fundamental value for broadcasters and cablecasters lies in exclusive first transmission and is every broadcaster's and

cablecasters' main and immediate interest. A competing unauthorized retransmission can negate the rights of broadcasters and cablecasters.

236. Other activities that have an adverse impact on the rights and interests of content owners and broadcasting and cable organizations are: retransmission of live or recorded signals by another station operating in a neighboring country; commercial sale to the public of unauthorized videocassette or DVD copies of a sports program in the broadcaster's country and abroad; distribution of copies of broadcast programs via Internet auction sites; cable distribution of broadcast programs in the broadcaster's neighboring country or countries within a satellite footprint; manufacture, importation, and distribution of decoders and/or smart cards specifically designed to permit unauthorized access to encrypted television services; showing of unauthorized copies of television programs to customers in various types of shops, or to the public at fairs or exhibitions; broadcasting or cable distribution of pre-broadcast satellite signals, which carry sports and other types of programs; and retransmission of live broadcasts of entertainment or sports programs via the Internet or cable network.

Benefits to Rights Holders if Broadcasters/Cablecasters are Able to Control Signal, Retransmission, and Post-Fixation Rights

237. If broadcasters and cablecasters are able to control harmful use of their signals, and effective enforcement mechanisms are in place, their existing operations can develop effectively. Additional investments may then be forthcoming, contributing to the increased flow of information and entertainment and the economic development of the localities in which they operate. This should also produce benefits for many other stakeholders.
238. Rights holders to content in the signals will benefit from the reinforced position against unauthorized users of broadcasts and cablecasts and, owing to the independently existing rights in the program content, will also continue to be able to exercise their own respective rights against infringers.
239. Additional leverage against unauthorized uses will be gained from allowing a broadcaster/cablecaster to invoke protection on the basis of neighboring rights, rather than on contract or copyright theory.
240. Protection of broadcasters/cablecasters against signal misappropriation also has the effect of protecting legitimate national broadcasters against local competitors trying to secure a competitive advantage by exploiting foreign broadcasts without authorization.

XI. CONTRIBUTIONS OF UNLICENSED USE OF SIGNALS TO SOCIAL WELFARE

241. The fundamental principles of copyright recognize the importance of protected works to social welfare and the need to weigh the interests of rights holders with the interest of public access. It is well recognized that access to signals produces social benefits. The principles of copyright have a bearing on the issue of signal protection rights, not least because broadcast signals always have content embedded within them and the signal rights can be conceptualized as a neighboring set of rights that encompass the fundamental principles.
242. This section considers the social welfare benefits of unauthorized uses based on views expressed by some stakeholders and why the proposed treaty raises their concern. It does so to clarify concerns so that the effects of the treaty on those areas of concern can be assessed in the subsequent analysis.

Exceptions in the Public Interest

243. Legal traditions have long authorized instances of fixation, reproduction and dissemination of protected materials through exceptions and exemptions deemed in the public interest, such as the 'fair use' doctrine in the U.S., 'fair dealing' in the U.K. and other countries, and special rights for developing countries.
244. Established examples under various national legislations are the right to make private copies and to use portions or all of some protected works for the purposes of teaching, research, quotations, commentary, parody, public speeches, and news reporting. Limitations to copyright are also in place to benefit educational institutions, libraries, and protected groups, such as disabled persons.
245. The fundamental protections for works and the exceptions in the public interest are not the subject of the proposed treaty. Instead, the treaty focuses on the development of a 'neighboring right' that extends protection of the broadcast/cablecast signal, as distinct from the content of the signal. The complication, however, is that the signal embeds content and therefore has implications regarding public interest limitations and exceptions as regards fixation and post-fixation uses.

Broadcasting and the Public Interest

246. The case of broadcasting is complex because of a number of factors unique to the involvement of this industry in intellectual property issues. This report uses the narrow definition of broadcasting in the proposed treaty as "the transmission by wireless means for the reception by the public of sounds or of images or of images and sounds or of the representations thereof".⁷⁶ This definition applies irrespective of whether transmissions are by terrestrial or satellite means or whether or not they are encrypted. The proposed treaty distinguishes 'broadcasting' from 'cablecasting' with the sole difference being transmission by wire in the latter case. However, although the proposed treaty seeks to protect the signals disseminated by both broadcasters and cablecasters, it currently excludes original transmissions over computer networks (as distinct from retransmissions of broadcast/cable signals)—an exclusion under contention by some stakeholders.
247. Four characteristics are relevant to a discussion of public interests in access to the transmissions emitted by broadcasters and cablecasters: use of radio spectrum; business model; form of content provision; and content production.
248. The distinction made between transmission by wireless and by wires (both excluding computer networks in current treaty discussion) derives from the public character of the airwaves. Even with digital broadcasting, radio spectrum is nevertheless finite in character (and contested for use for many purposes other than broadcasting). This character has long been used as the rationale for public claims on the use of frequencies and has, accordingly, formed the basis of the imposition of licensing conditions in most countries. In contrast, cablecasting does not depend on a limited public resource, in the sense that wired infrastructure is not intrinsically limited (as is radio spectrum) and it is typically privately created. Consequently, it generally has fewer conditions placed upon its use than broadcasting via the airwaves.
249. The difference between free-to-air broadcasting and paid subscription broadcasting is an important element in considerations of public interest. Both business models can operate in the over-the-air broadcast environment, although the paid model is predominant within the cablecasting and satellitecasting arenas. The differential access to the public that is

⁷⁶ Article 5 (a), "Revised Draft Proposal for the WIPO Treaty on the Protection of Broadcasting Organizations," Prepared by the Chair of the Standing Committee on Copyright and Related Rights (SCCR) in cooperation with the Secretariat, Standing Committee on Copyright and Related Rights Fifteenth Session, Geneva, Sept. 11-13, 2006.

implicit in a free versus paid model has been another factor that historically shapes traditions that can impact on broadcasting. An example here has been that free-to-air broadcasters have often been required to observe “watershed” periods for distribution of particular content to which they have rights and their rights are therefore circumscribed. Another example is that countries with state-owned or public service broadcasters have generally adopted a universal service model designed to provide free-to-air transmission of a full range of content that is accessible by all citizens in the particular country. Citizens’ rights to access subscription broadcasting or cablecasting are generally subservient to their ability to pay. Public obligations imposed on subscription service providers to provide universal access to their signals are normally far lower than for public broadcasters and limited primarily to providing the potential for paid access as widely as possible.

250. The third distinction is whether a signal is streamed continuously or accessed on-demand. This dimension is often bundled with business model distinctions, in that on-demand is typically related to subscription services. The dimension also often correlates with point-to-multipoint transmission versus one-to-one transmission. One-to-one transmission constitutes a form of narrow-casting that is often bundled with on-demand and subscription services. While these coincidences are not intrinsic and exclusive, they have a bearing on the extent to which broadcasting and cablecasting signals are seen to attract policy intervention. On-demand narrow-casting is generally less subject to policy control than continuously streamed signals available to a mass audience (even a paying one). At their root, the issues relate to whether signals are pushed to or pulled by the audience.
251. Typically, there are distinctions between broadcasting and cablecasting as being distribution activities on the one hand and content production activities on the other. Although some organizations may well be engaged in both activities, the operations remain distinct—not only conceptually, but also often in actual practice. As noted earlier, many distributors purchase rights (in various forms) from external and separate content producers or other rights holders. In these cases, the sellers, for example, may conditionally cede or lease their rights for a single transmission in a single territory. If the producer’s work is commissioned by the distributor, however, it may impact the degree to which the producer may assert subsequent authorship rights.
252. The implications of all this have been recognized in the discussions around the proposed treaty, which acknowledge that distributors do not possess exclusive rights to everything they transmit.
253. In summing up the significance of these four points, the following can be stated:
 - Broadcasters transmitting on the public airwaves have long had to balance their business with public obligations and conditions, especially for educational and other public purposes.
 - Freely accessible transmissions (whether by broadcasters or by cablecasters) that are characterised primarily by ‘push’ signals to multipoint destinations have attracted greater public interest obligations, than have subscription, narrow-cast and on-demand services (in which the public has to proactively ‘pull’ the content down to them—and usually at a price).
 - Distribution rights are distinct from authorship rights. The distribution rights pertaining to the signal do not necessarily give rights to all ‘downstream’ activities relating to subsequent use of the signal.
254. Thus, there are reasonable bases for asserting some public interest and non-broadcaster interests as a balance to the protections of the signal in the proposed treaty.

**Cases in which Public Interest Arguments are Seen by Some to Rise
above the Proposed Treaty's Signal Protections**

255. Since the beginning of copyright protections it has been understood that a variety of interests need to be served and balanced, and that public interests may at times warrant authorization of classes of exceptions and thus limitations to protections.
256. WIPO's purpose is set down in its 1974 Agreement with the United Nations as promoting "creative intellectual activity and for facilitating the transfer of technology related to intellectual property to the developing countries in order to accelerate economic, social and cultural development" (Article 1).⁷⁷ This sentiment is echoed in the World Summit on the Information Society (WSIS) Declaration of Principles, which gives priority to promoting the development goals of the Millennium Declaration. The WSIS Plan of Action calls for the development of "policy guidelines for the development and promotion of public domain information as an important international instrument promoting public access to information". It is against this background that proponents for qualification of the right of protection of broadcast signals argue for similar exceptions and limitations as those afforded in the case of copyright protection.
257. As a starting point, proponents of limitations to the treaty recommend that the general rights of the broadcaster/cablecaster for transmission via 'old media' platforms need to be limited in relation to the particular content at hand. This occurs because the rights of authors or other rights holders beyond the immediate transmission have a bearing, and these groups have a stake in ensuring that (where applicable) broadcasters do not, through signal protection, become the primary owner or controller of the intellectual property concerned. In addition, certain content may be explicitly produced without copyright, such as that which is user-generated, related to public institutions (e.g., a parliamentary video feed) or based upon Creative Commons' usage permissions. Proponents of public interest limitations on signal rights argue that blanket or overriding protection of signals of broadcasters and cablecasters should not be permitted in the face of these two considerations.
258. It was noted earlier that copyright traditions recognize fair use of intellectual property—irrespective of the rights of broadcasters, cablecasters, authors, and other rights holders. What now needs to be assessed is how this applies to the protection of signals of broadcasters and cablecasters, whether in the wireless or cable environment, or whether retransmitted or redistributed in the computer network environment. In all realms, various issues have to be kept in mind: simultaneous or delayed transmission (which may affect the gravitas of an infringement of protection); whether the original signal was paid or free-to-air; whether or not it was encrypted; and whether retransmission was of the whole or parts. These impact upon the existence, or extent, of competition with the business dimension of the broadcaster or cablecaster.
259. As stated earlier, where the signal is made freely available on the airwaves, there is greater public interest entailed than in cases of cable or other signals that can only be accessed through payment. Generally speaking, the rationale for unauthorized use of the content transmitted by signals emanating on this basis is unlikely to be theft in the sense of stealing in self-interest, given that the service is already free. The claimed justification of such unauthorized use lies in extending the distribution beyond its existing boundaries, which can count as a public service insofar that it does not compete with the interests of the transmitting agencies concerned. In the case of South Africa's eTV, the company found that it was being viewed in neighboring Botswana by viewers who had obtained grey-product decoders which could pick up and decrypt satellite signals from

⁷⁷ Agreement between the United Nations and the World Intellectual Property Organization, available at: <http://www.wipo.int/treaties/en/agreement/index.html>

the South African Vivid service. (The specific broadcaster concerned, however, did not have programming rights that extended to Botswana and so it took action to prevent such 'spillage' through arranging for Vivid to institute tighter encryption.)

260. Even if such retransmission generates revenues for unauthorized users, it would also not necessarily harm the interests of broadcasters or cablecasters (unless these organizations intended to expand into that space). A contrary example, however, was the experience of TV Africa. This now-defunct company provided broadcasting with embedded advertising to affiliates around Africa, but found these partners sometimes discarded the continental advertisements and replaced them with national advertisements for their own benefit in onward transmission. Where there is thus competition with the business model of the broadcaster or cablecaster, this would undermine the public benefit claim against protection.
261. The reasoning here is akin to the WIPO Copyright Treaty (Article 10) which specifies that exceptions to copyright protection need to be "special cases that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author". In the case of signal transmission, the broadcaster is entitled to protection and integrity of the signal package being distributed in the face of extraordinary exploitation that prejudices their legitimate interests (even where they are not the author or rights holder as such).
262. As also noted earlier, there are fewer rationales that can be made for public interest overrides of protection concerning cable and other subscription service signals. However, there are instances where proponents of limitations to the treaty make a strong case for public benefit. The situation of individuals arranging their own access when no other access is possible can certainly be seen as not unduly harming private interests. For example, in rural areas, communities often erect their own transmission towers in order to boost signals that otherwise do not reach them. The same argument may apply to retransmission (simultaneous) or redistribution (delayed) over the Internet, which can take signals to far-flung corners of the world, thereby greatly enhancing consumer choice and spreading international understandings. There are also many cases where broadcasters with an interest in the widest possible dissemination deliberately seek out rebroadcast opportunities (the BBC World Service and Voice of America being two examples), even if these institutions would want to authorize such reuse.
263. In general, the point can be made that the media world in general appears to be moving from a model of holding one's content close to one's chest, to trying to ensure that it appears in as many places as possible. The issue in this perspective is not so much unauthorized use, but whether the distributors and/or content creators are credited—or whether the situation is one of plagiarism or piracy. The seriousness of the latter also relates to whether the signals are transmitted simultaneously or delayed. Clearly, simultaneous transmission is more a threat to the interests of broadcasters or cablecasters than delayed retransmission. At any rate, the 'freemium' model of giving away at least a portion of the product—such as 'open time' windows on pay TV services—is frequently found in mainstream broadcasting.
264. The issue of encryption is tied up with paid-for content. Again, exceptions can be argued in similar terms about the case of subscription broadcasts. These would relate to the character and source of the content, its purpose, and whether retransmission and redistribution competes with the broadcaster or cablecaster. Whether encrypted and/or paid-for is not *per se* a reason for protection to prevail in all cases according to public interest proponents.
265. What all this suggests is a liberal understanding of the principle that exceptions to protection of content confined to special cases that do not conflict with a normal exploitation of the work and unreasonably prejudice the legitimate interests of the rights holder should apply to broadcaster protection. In the cases of signals, a parallel case can be made for a liberal understanding of exceptions to protection of broadcast or cablecast signals as regards transmission and even redistribution.

266. Another area of access that can have public benefit is localization of content. Where a third party that retransmits or redistributes signals also adds, for example, translation into local languages, or locates foreign content in understandable local context, this kind of derivative use could sometimes ameliorate sanctions for unauthorized usage.⁷⁸
267. This qualification of the right to protection of broadcast signals would also link up with the notion that there should be exceptions for 'creative, transformative, or derivative works', as noted in 2006 in the British Gowers Review. The rationale for this is that creators have a right to fixate and rework material for a new purpose or with a new meaning, which purpose would be unauthorized but selective use of content received (and fixated) from broadcast or cablecast signal.
268. An argument has sometimes been made that protection, whether for intellectual property or signal rights rationales, is necessary not so much for the authors and distributors, but to prevent swamping of audiences with externally generated content. The so-called 'media imperialism' argument would hold that unrestricted access to foreign content is a deterrent to local content production. This is not entirely without merit. However, it applies to imported content in general, whether cheaply-priced and 'dumped' on developing country markets, or whether disseminated without authorization. Further, a public-interest perspective could make the case that exposure to foreign content can sometimes reinforce national identities and stimulate local content reaction, or that it can help to promote new hybrids where exposure to 'difference' as such is a source of creativity and innovation. The idea of passive audiences being brainwashed by foreign content is no longer credible. Instead, ethnographic audience studies show consumers to be active in negotiating the meanings and often raising their self-directed learning in the process.⁷⁹
269. Another case where protections would have lesser claim is when the embedded content deals with what are called 'Traditional Cultural Expressions'—indigenous art, music, dance, instruments, and even names. In some cases, such content is appropriated from its traditional 'owners' (a term that goes beyond the sense of individuals or legal entities) without their knowledge or authorization concerning its subsequent exploitation. In these cases, it would seem especially incorrect for a broadcaster or cablecaster to acquire rights over this simply by fiat of transmission—and particularly in cases where the audience is also the community from whence the cultural expressions originate. Unauthorized signal reception, fixation, and post-fixation uses by such communities would be hard to condemn outright.
270. Another consideration of public interest, especially from a developing country point of view, is the length of time to be allocated to protecting the broadcast or cablecast of

⁷⁸ This would resonate in part with Appendix to the Berne Convention – Special Provisions Regarding Developing Countries, available at http://www.wipo.int/treaties/en/ip/berne/trtdocs_wo001.html.

⁷⁹ See I. Ang, (1982) *Watching Dallas: Soap Opera and the Melodramatic Imagination*. London: Routledge; I. Ang (1996). *Living Room Wars: Rethinking Media Audiences for a Postmodern World*. London: Routledge; W. Brooker and D. Jermyn, eds. (2003). *The Audience Studies Reader*. London: Routledge; J. Fiske (1987). *Television Culture*. London: Methuen; M. M. Kraidy (1999). "The Global, the Local, and the Hybrid: A Native Ethnography of Globalisation," *Critical Studies in Mass Communication*, 16: 456-476; S. Moores (1993). *Interpreting Audiences: The Ethnography of Media Consumption*. London: Sage; S. Schou (1992) "Postwar Americanization and the Revitalization of European Culture," in M. Skovmand and K.C. Schroder, eds. *Media Cultures: Reappraising Transnational Media*. London: Routledge; L. Strelitz (2005) *Mixed Reception: South African Youth and their Experience of Global Media*. University of South Africa Press; L. Strelitz and P. Boschoff (2008). "The African Reception of Global Media," in S. Livingstone and K. Drotner, eds. *The International Handbook of Children, Media and Culture*. London: Routledge Press; L. Strelitz (2002). "Global Media/Local Meanings," in R.-A. Linde, ed. *Race/Gender/Media: Considering Diversity Across Audiences, Content, Producers*. Chicago: University of Chicago Press.

particular content signals. The original proposals at WIPO to extend protection from 20 to 50 years would certainly operate to protect incumbents, which would be those larger players based in developed countries.

271. Perhaps the biggest argument in favor of certain cases of unhindered signal reception and transmission in developing countries is educational and aligned to the Millennium Development Goals.⁸⁰ This designates both formal and informal education in regard to the MDG goals that aim to: (1) eradicate extreme poverty and hunger; (2) achieve universal primary education; (3) promote gender equality and empower women; (4) reduce child mortality; (5) improve maternal health; (6) combat HIV/AIDS, malaria, and other diseases; (7) ensure environmental sustainability; and (8) develop a global partnership for development. Taking goal 3 as one example, one of the public benefits from broadcasting that has been well documented is the liberating effect of access to satellite TV for cloistered women in certain developing countries.⁸¹ In this way, too, freedom of information and expression, and international understanding, has been fostered through an expanded information domain.
272. Social benefits can be further identified as the dissemination of digital technology that enables private individuals to share and annotate content received via broadcast or cablecast signals, and to create and indeed to disseminate their own content which draws, at least in part, upon fixations of such content as carried in these signals. The personal realm in these cases blurs into the public realm, but the purpose of use remains predominately personal rather than profit-oriented. Social benefits may also be derived from political use, in the sense of commentary and cross-referencing in the interests of democratic debate and discussion.
273. To sum up the points made in this section, public interests in intellectual property are argued to have a bearing on the case for protection of broadcaster and cablecaster signals. A more limited signal protection regime may be appropriate through incorporating class authorization in the following instances:
- When the content rights are not exclusive to the broadcasters and cablecasters and signal encryption may limit access to the content carried by that signal that would otherwise be available;
 - When unauthorized reception or retransmission does not damage the business case of the broadcasters and cablecasters, a more limited signal protection may be appropriate;
 - When retransmission extends the reach of signals to audiences not served by the original broadcasters or cablecasters;
 - When broadcasters and cablecasters themselves subscribe to a business model based on their signals being received as widely as possible;
 - Where unauthorized signal retransmission adds localized and linguistic value to the service (as akin to the provision for copyright exceptions for content in the

⁸⁰ <http://www.un.org/millenniumgoals/>

⁸¹ Sreberny, Annabelle (2005) 'Globalization, Communication, Democratization: Toward Gender Equality.' In: Hackett, Robert and Zhao, Yuezhi, (eds.), *Democratizing Global Media*. Lanham, Md.: Rowman and Littlefield, pp. 245-268.
Sreberny, Annabelle (2001) 'Mediated Culture in the Middle East: Diffusion, Democracy, Difficulties.' *International Communication Gazette*, 63 (2-3). pp. 101-19; Kenny, Charles (2009) Revolution in a Box. *Foreign Policy*, November/December. Available at: http://www.foreignpolicy.com/articles/2009/10/19/revolution_in_a_box; Harlow, John (2009) How TV is making the world a better place. *The Sunday Times*, 1 November. Available at: http://entertainment.timesonline.co.uk/tol/arts_and_entertainment/tv_and_radio/article6898122.ece.

dispensation provided for developing countries in the Appendix to the Berne Convention – Special Provisions Regarding Developing Countries;

- Where exposure to signals incorporating foreign content can stimulate local content production, although demonstrating this would be difficult;
- Where developing countries have an interest in dealing with one set of rights holders, and not have an extra layer of negotiations about signal that encapsulates a given content added on in the form of broadcasters and cablecasters (where these agencies are not the primary rights holders as such);
- Where there are clear educational benefits such as in closed societies and with special regard to suppressed groups such as women or minorities;
- Where individual personal use, rather than profit orientation, is the dominant motive.

XII. ASSESSING OVERALL EFFECTS OF THE PROPOSED TREATY

274. It is not feasible to clearly predict the actual net social welfare impact of the proposed treaty on any nation or globally at this time. The extent to which it may affect incentives for investments in channels, systems and programming, alter prices and access to content, or increase general wealth will vary widely depending upon existing conditions and a wide variety of unknown factors in states.
275. As noted in Section 9, the array of data and analysis needed to directly measure or forecast the effects with accuracy are not available at this time.
276. A good part of the difficulty in establishing the economic effects of the proposed treaty results from the uncertainty about the overall scope and scale of losses due to unauthorized uses covered by the treaty. Although broadcasting organizations have produced extensively documented cases of such uses, they do not have comprehensive global or regional estimates of the total number of unauthorized uses or the financial value of those uses necessary for making a comprehensive analysis. Nor are they able to provide viable estimates of the extent to which the treaty will result in transformation of those unauthorized uses into authorized and revenue-generating uses in different parts of the world.
277. Evidence from a Screen Digest study gathering information from a variety of sources suggests that losses are at least \$2 billion annually.⁸² However, a study estimating the costs in the Asia Pacific Pay-TV industry by the Cable & Satellite Broadcasting Association of Asia (CASBAA) and Standard Chartered Bank estimated US\$1.94 billion in annual revenue losses to the industry alone due to pay-TV piracy in 2009.⁸³ Combined, these represent less than one percent of global television receipts.⁸⁴ Even if one increases the estimate of financial value of unauthorized losses globally to \$10 billion, it represents only 2% of total value of the industry. This figure, however, is

⁸² The totality of the data, however, is not definitive, is based on different methods and indicators, and is incomplete in global terms. Screen Digest, *Unauthorized Access to Broadcast Content—Cause and Effects: A Global Overview*. Study for the WIPO Standing Committee on Copyright and Related Rights, Nov. 2009

⁸³ Tax specialists at PricewaterhouseCoopers participated in the survey and analysis, and came to the conclusion that the revenue leakage from the legitimate pay-TV industry cost regional governments at least US\$247 million in uncollected taxes.

⁸⁴ Television broadcasting and distribution accounts for about 500 billion globally annually. See PricewaterhouseCoopers, *Global Entertainment and Media Outlook, 2009-2013*. New York: PricewaterhouseCoopers, 2009.

not out of line with recent OECD estimates that counterfeiting and piracy represent about 2% of global trade.⁸⁵

278. If one accepts the view that 20% of unauthorized use worldwide could potentially become authorized paid use,⁸⁶ it would represent a \$2 billion gain. This is not unsubstantial, and would be welcomed by stakeholders with private and public economic interests, but it represents less than one half of one percent of current global television receipts. Thus, the protections provided by the proposed treaty will improve revenues, but cannot realistically be expected to produce large scale gains compared to the overall receipts of the industry.
279. It is noteworthy, however, that the regions where unauthorized uses of broadcast/cablecast signals are reported to be highest create only one-third of the total global value because of service availability and income differences. Nevertheless, they represent regions in which broadcast revenues are growing most rapidly.⁸⁷ Over time, as that growth continues, protections from the proposed treaty's provisions would be expected to account for some additional increase in revenue and its impact on domestic industries might be larger than impact globally.
280. Theory and experience with protections extended to other types of copyright and related rights would indicate that an increase in broadcast signal protection and revenue will create incentives for some new investments channels, systems and programming and that this would produce some increase in value added and general wealth. Because the bulk of the complaints about unauthorized uses covered by the proposed treaty appear to be in less developed regions of the world, one would expect the effects would be most prominent there.
281. It is impossible to realistically project the potential new authorized uses into revenues and tax receipts globally because the effects of conflicting national policies and regulations, unknown price levels, lack of payment systems, and degree of enforcement make such estimation impossible.
282. Because of these difficulties in addressing the overall social welfare effects in a quantitative way at this point, this analysis will focus on the effects on the individual stakeholder interests and consider social welfare in terms of effects on general communication and media policy concerns raised by stakeholders.

XIII. HOW STAKEHOLDERS ARE AFFECTED BY THE PROPOSED TREATY

283. This section considers how the various stakeholder groups will be affected by the treaty and the benefits and disadvantages it poses to their various interests.
284. Because there is not yet definitive agreement on the elements of the proposed treaty, the researchers have based their work on the current iteration of the proposed treaty (and its alternative clauses) and the discussions surrounding it. This introduces some uncertainty into the effects and how stakeholders' interests will be involved.

⁸⁵ See Organization for Economic Cooperation and Development, *The Economic Impact of Counterfeiting and Piracy*. Paris: OECD, 2008 and *Magnitude of Piracy of Tangible Products: An Update*. Paris, OECD, 2009.

⁸⁶ As suggested by the Oxford Economics Report, *Economic Impact of Legislative Reform to Reduce Audio-Visual Piracy*, March 2009. It should be noted, however, that unauthorized uses of broadcasting are not directly comparable to demand issues in all other types of unauthorized uses of audio-visual content.

⁸⁷ See P`WC, *Global Entertainment and Media Outlook*.

285. In carrying out the analysis, the researchers examined each article of the current draft of the treaty and considered how it might affect the variety of stakeholders. Table 4 shows how various stakeholders are directly affected by the articles. These informed the following descriptions of the benefits and disadvantages of the treaty to the stakeholders.

Authors and Performers, Production Firms, and Rights Holders/Licensers

286. These three groups are affected similarly by the proposed treaty so they will not be addressed separately here.
287. The proposed treaty's primary benefit for authors and performers, production firms, and rights holders/licensers results from the reinforcement of their existing rights through additional protection of the broadcast stream signal. It does not interfere with existing rights and limitations/exclusions benefiting these stakeholders and does not interfere with competition law enforcement against acts that can harm them. It provides some protection against potential abuse of intellectual property rights that can hinder creativity. The treaty is also likely to reduce private enforcement costs by somewhat simplifying and clarifying issues in legal proceedings.
288. Its disadvantages come from permitting broadcasters/cablecasters to determine fixation and post-fixation uses of their program-carrying signals in the few states where these stakeholders do not have fixation and post-fixation rights in their works and performances due to inadequate copyright legislation. In these states, the grant of new rights to broadcasters may upset any existing balance of rights between broadcasters/cablecasters and these stakeholders.

Broadcasters (Terrestrial and Satellite) and Cablecasters and Cable/Satellite Operators

289. The primary benefit for broadcasters and cablecasters is that they gain explicit and additional protection for their signals that is not included in existing treaties.⁸⁸ The proposed treaty does not interfere with existing protections, but it does enable national treatment among contracting parties. It protects use of technological measures and permits an increased term of protection.
290. Its disadvantages for this stakeholder group are that it provides for the ability of states to place public interest requirements on broadcasters/cablecasters and it also excludes activities, such as webcasting, that are increasingly becoming parts of broadcaster operations worldwide.

Audiences/Consumers/Users

291. The treaty provides no direct benefits for audiences/consumers/users and it does not create costs by negatively affecting availability of materials under policies such as fair use, must carry, and other typical limitations and exclusions to IPR. It permits opportunities to protect knowledge and information flow, and education and scientific development. These, however, are not obligations under the proposed treaty and may or may not be provided in laws and policies of contracting parties. Some indirect benefits are also received from the protections for cultural diversity, competition law measures, and against abuse of IPR.
292. It disadvantages audiences/consumers/users by reducing some content currently available through limitations on retransmission of signals, reproduction and distribution, fixation and post-fixation uses; by protecting technical measures regardless of the nature of the content it shields; and by increasing costs for acquisition of material.

⁸⁸ Notably the Rome and Brussels conventions.

Inasmuch as the proposed treaty will protect signals from decryption, this would also prejudice those who seek to utilise the content in the signal for legitimate purposes (such as fair use or personal reproduction) unless national legislation permits decryption for that purpose.

293. The proposed treaty includes options giving broadcasters/cablecasters the right to prohibit, right to authorize, or exclusive rights to post-fixation signal uses. All three choices boost the market power of broadcasters, increasing their monopoly over content provision and the potential for price effects harmful to consumers.

States/Governments

294. The proposed treaty provides benefits to states through clear narrow definitions of what is protected and it does not interfere with existing treaty obligations or enforcement actions, including those that provide exceptions for developing countries. It provides opportunities for states to enact measures beneficial for protecting knowledge and information flow, education and scientific development, cultural diversity, and acting against competition law violations and abuse of IPR.
295. The proposed treaty will benefit the economies and increase tax receipts of home nations of broadcaster/cable/satellite operators who obtain additional revenue through exploitation of the rights provided, although the amount of this gain cannot be clearly established at this time. This can be expected to marginally increase broadcaster/cable revenues and tax receipts in a limited number of well-developed nations in the short- to mid-term.⁸⁹ It has the potential for helping generate greater revenues and tax receipts in the long-term in other countries.
296. The primary disadvantages of the proposed treaty for states/governments are that it obligates implementing tasks and use of relevant governmental personnel and mechanisms for enforcement. Contracting states will be required to expend some effort and costs to comply with the proposed treaty, including creating and placing into national law provisions for protections and enforcement. In its current form the proposed treaty does not specify that enforcement should be private or public, but it requires contracting parties to adopt measures necessary to ensure the application of the treaty. Because many jurisdictions currently employ criminal as well as civil law to protect against circumvention of technology and other violations of copyright and related rights, complying with the proposed treaty will require prosecutorial expenditures if criminal enforcement is pursued.⁹⁰

Society

297. The benefits for society emanate primarily from opportunities that the proposed treaty would permit to protect knowledge and information flow and uses of protected works for education, scientific development, and services for disabled persons. It further permits socially beneficial policies such as fair use, must carry, and other typical limitations and exclusions to IPR. These, however, are not obligations under the proposed treaty and may or may not be provided in legislation of contracting parties. Benefits to society

⁸⁹ As shown in estimates in Section 12, unauthorized uses represent only a small portion of global revenues so economic gains from the treaty in any one country are unlikely to be large scale. The biggest gains will ultimately accrue to nations that receive additional rights and license payments from the transformation of unauthorized into authorized uses. The bulk of rights and licenses which generate revenue globally are in held in developed nations. Broadcasters/cablecasters in middle income states are increasingly offering desirable rights and licenses, but are primarily doing so to regional markets. They will gain some increased revenues and economic gains, but data on unauthorized use does not indicate this will be dramatic.

⁹⁰ Sections 9-12 and 19 of the proposed treaty include protections that will need to be implemented in national law and Section 24 lays out enforcement obligations.

from signal protection rights are also received from the indirect safeguards it provides to protections of cultural diversity, existing competition law measures, and against possible abuse of IPR.

298. The proposed treaty will provide protection to international and domestic broadcasters/cablecasters and cable and satellite operators that may develop and grow to provide more services in the long run.
299. Because the treaty is likely to end some unauthorized retransmissions and uses that will not be replaced with authorized uses, it will, to some unknown extent, disadvantage social interests by reducing currently available content through limitations on retransmission of signals, reproduction and distribution, and fixation and post-fixation uses and by protecting technical measures regardless of the nature of the content they shield. This loss can be expected to be offset over time in lower middle and lower income states as their broadcasting/cablecasting infrastructures and systems continue to expand, but the time frame for those developments is uncertain.

Table 4: Effects of the Treaty Articles on Stakeholders

ARTICLE	STAKEHOLDERS AFFECTED						
	Authors & Performers	Production Firms	Rights Holders/ Licensers	Broadcasters/ Cablecasters & Cable/Satellite Operators	Audiences/ Consumers/ Users	States/ Governments	Society
1 - Relation to Other Conventions and Treaties	Ensures that performers' rights (WPPT) and authors' rights (WCT and Berne) are not prejudiced	Ensures that producers' rights in phonograms (WPPT) and audiovisual fixations (under bilateral and regional treaties) are not prejudiced	Ensures that the existing rights under WCT, WPPT, and Berne of content owners remain in protected	Ensures that the rights of broadcasters/cablecasters (Rome and Brussels Conventions, and any bilateral/regional treaties) are not prejudiced	Audience rights to fair use, etc. in prior treaties are not restricted	Ensures that existing obligations of contracting parties under any related treaty remain in place	
2 - General Principles						Provides right to enact measures to promote access to knowledge and information, educational and scientific objectives, public interests in socioeconomic, scientific and technological development, and regulate anticompetitive practices	Provides opportunities to promote access to knowledge and information and to curb anticompetitive practices for public interest objectives
3 - Protection and Promotion of Cultural Diversity	Domestic authors and performers may benefit if beneficial subsidies, quotas, etc. are put into place.			Could be used to require broadcasters/cablecasters to undertake the "public service" role of promoting cultural diversity in order to receive or renew their license to operate.		Provides right to promote cultural diversity consistent with the UNESCO Convention on cultural diversity	Provides abilities to create domestic cultural protection

ARTICLE	STAKEHOLDERS AFFECTED						
	Authors & Performers	Production Firms	Rights Holders/ Licensers	Broadcasters/ Cablecasters & Cable/Satellite Operators	Audiences/ Consumers/ Users	States/ Governments	Society
4 - Defense of Competition	Provides means for protection against anticompetitive acts and possible abuse of IPR	Provides means for protection against anticompetitive acts and possible abuse of IPR	Provides means for protection against anticompetitive acts and possible abuse of IPR	Provides means for protection against anticompetitive acts or possible abuse of IPR		Requires adequate legal measures against anticompetitive acts or possible IPR abuse	Provides means for protection against anticompetitive acts or possible abuse of IPR
5 - Definitions				Specifies broadcasting and cablecasting organizations covered		Clarifies definitions of retransmission and communication to the public	Clarifies definitions retransmission and communication to the public
6 - Scope of Application	Does not alter existing protection of works or protected subject matter	Does not alter existing protection of works or protected subject matter	Does not alter existing protection of works or protected subject matter	Covers broadcasts and cablecasts; does not cover webcasting, both on-demand or simultaneous streaming	Does not cover "mere" retransmission because a rebroadcaster does not have the initiative and the responsibility for the transmission to the public, nor the assembly and the scheduling of the content of the transmission	Clarifies scope and inclusiveness of provisions	Does not cover "mere" retransmission because a rebroadcaster does not have the initiative and the responsibility for the transmission to the public, nor the assembly and the scheduling of the content of the transmission

ARTICLE	STAKEHOLDERS AFFECTED						
	Authors & Performers	Production Firms	Rights Holders/ Licensers	Broadcasters/ Cablecasters & Cable/Satellite Operators	Audiences/ Consumers/ Users	States/ Governments	Society
7 - Beneficiaries of Protection			Specifies inclusiveness	Specifies inclusiveness; clarifies how a broadcaster/ cablecaster is considered a "national of a Contracting Party"		Covers only contracting parties; obligation to provide protection to "nationals" (i. e. broadcasters/ cablecasters) of contracting parties	
8 - National Treatment				Protects firms in other countries in the same way as broadcasters are protected domestically	Domestic fair use, must carry, and other limitations and exclusions remain in place	Positive obligation for 'national treatment'	Domestic fair use, must carry, and other limitations and exclusions remain in place
9 - Right of Retransmission	Broadcasters and cablecasters need authors' and performers' approval for the use of their content but do not need their approval for the use of signals; Reinforces authors' and performers' rights and does not preclude efforts to enforce rights over content independently of broadcaster/ cablecaster	Broadcasters and cablecasters need producers' approval for the use of their content but do not need their approval for the use of signals; Reinforces producers' rights and does not preclude efforts to enforce rights over content independently of broadcaster/ cablecaster	Broadcasters and cablecasters need rights holders'/ licensers' approval for the use of their content but do not need their approval for the use of signals; Reinforces holders'/licensers' rights and does not preclude efforts to enforce rights over content independently of broadcaster/ cablecaster	Provides exclusive right of retransmission of their broadcasts "by any means" covered by definitions in Articles 5 and 6		Obligates enforcement	

ARTICLE		STAKEHOLDERS AFFECTED					
	Authors & Performers	Production Firms	Rights Holders/ Licensers	Broadcasters/ Cablecasters & Cable/Satellite Operators	Audiences/ Consumers/ Users	States/ Governments	Society
10 - Right of Communication to the Public	Broadcasters and cablecasters need authors' and performers' approval for the use of their content but do not need their approval for the use of signals; Reinforces authors' and performers' rights and does not preclude efforts to enforce rights independently of broadcaster/ cablecaster	Broadcasters and cablecasters need producers' approval for the use of their content but do not need their approval for the use of signals; Reinforces producers' rights and does not preclude efforts to enforce rights independently of broadcaster/ cablecaster	Broadcasters and cablecasters need rights holders'/ licensers' approval for the use of their content but do not need their approval for the use of signals; Reinforces holders'/licensers' rights and does not preclude efforts to enforce rights independently of broadcaster/ cablecaster	Expands the Rome Convention's 'right of communication to the public' by extending it to cablecasters		Obligates enforcement; Alternative M provides an option to limit the applicability of this right	
11 - Right of Fixation	Broadcasters and cablecasters need authors' and performers' approval for the use of their content but do not need their approval for the use of signals; Reinforces authors' and performers' rights and does not preclude efforts to enforce rights over content independently	Broadcasters and cablecasters need producers' approval for the use of their content but do not need their approval for the use of signals; Reinforces producers' rights and does not preclude efforts to enforce rights over content independently of broadcaster/ cablecaster	Broadcasters and cablecasters need rights holders'/ licensers' approval for the use of their content but do not need their approval for the use of signals; Reinforces holders'/licensers' rights and does not preclude efforts to enforce rights over content independently of broadcaster/ cablecaster	Provides rights of fixation similar to WPPT	Likely to reduce material available and force increased expenditures	Obligates enforcement	Likely to reduce material available

	of broadcaster/ cablecaster						
12 - Right of Reproduction	Broadcasters and cablecasters need authors' and performers' approval for the use of their content but do not need their approval for the use of signals; Reinforces authors' and performers' rights and does not preclude efforts to enforce rights over content independently of broadcaster/ cablecaster	Broadcasters and cablecasters need producers' approval for the use of their content but do not need their approval for the use of signals; Reinforces producers' rights and does not preclude efforts to enforce rights over content independently of broadcaster/ cablecaster	Broadcasters and cablecasters need rights holders'/ licensors' approval for the use of their content but do not need their approval for the use of signals; Reinforces holders'/licensors' rights and does not preclude efforts to enforce rights over content independently of broadcaster/ cablecaster	Provides right to prohibit reproduction of signal or an exclusive right to authorize reproduction	Likely to reduce material available currently and force increased expenditures	Requires action to document and enforce prohibition or right to authorize	Likely to reduce material available currently

ARTICLE	STAKEHOLDERS AFFECTED						
	Authors & Performers	Production Firms	Rights Holders/ Licensers	Broadcasters/ Cablecasters & Cable/Satellite Operators	Audiences/ Consumers/Users	States/ Governments	Society
17 - Limitations and Exceptions	Permits the same kinds of limitations/ exceptions as countries provide in connection with the rights of content owners/holders, including performers vis-à-vis their performances	Permits the same kinds of limitations/ exceptions as countries provide in connection with the rights of content owners/holders, including performers vis-à-vis their performances	Permits the same kinds of limitations/ exceptions as countries provide in connection with the rights of content owners/holders, including performers vis-à-vis their performances	Limits and restrict rights and protection granted to broadcasters and cablecasters	Authorizes use of broadcasts and cablecasts without the need for licensing depending on the conditions of rights limitations/exceptions		Authorizes use of broadcasts and cablecasts without the need for licensing depending on the conditions of rights limitations/exceptions
18 - Term of Protection	Maintains term of protection in WPPT, Rome, etc.	Maintains term of protection in WPPT, Rome, etc.	Maintains term of protection in WPPT, Rome, etc.	Either retains the Rome Convention 20-year protection or upgrades it to 50 years to balance with the WPPT clauses			
19 - Obligations Concerning Technological Measures				Technical protection measures that are <i>de facto</i> used by broadcasters will be protected	Technological measures shield material that could otherwise be available under exceptions and limitations in domestic law	Obligates protection enforcement	Technological measures shield material that could otherwise be available under exceptions and limitations in domestic law

ARTICLE	STAKEHOLDERS AFFECTED						
	Authors & Performers	Production Firms	Rights Holders/ Licensers	Broadcasters/ Cablecasters & Cable/Satellite Operators	Audiences/ Consumers/Users	States/ Governments	Society
21 - Formalities	Exercise of rights requires no formality		Precludes establishment of formalities				
22 - Reservations						Limits or prohibits reservations by states	
23 - Application in Time				Protection will not apply to broadcasts or cablecasts that have fallen into the public domain or affect pre-existing agreements, licenses, or sales			Protection will not apply to broadcasts or cablecasts that have fallen into the public domain or affect pre-existing agreements, licenses, or sales
24 - 34 - Provisions on Enforcement; Assembly; International Bureau; Eligibility; Rights and Obligations; Signature of the Treaty; Entry into Force; Effective Dates; Denunciation; Languages; Depositary						Refers to general matters of procedure, enforcement, eligibility, etc. applicable to the contracting parties	

XIV. BALANCE OF BENEFITS ANALYSIS

300. The question of balance between the welfare of broadcasters and welfare of society has loomed large in discussions throughout the history of the proposed treaty. In its current form it neither guarantees momentous financial gain for broadcasters nor destroys social interests, as some vocal proponents and opponents have asserted. It does create some protections that are likely to benefit broadcasters/cablecasters that have been previously affected by unauthorized uses, but the extent to which this will change their strategies and behaviour is uncertain. As shown in the analyses in Section 13, its effects on other stakeholders—with the exception of states/governments—are relatively limited and do not substantially alter the existing environment.
301. Nearly all first-order benefits of the treaty will accrue to broadcasters and cable and satellite operators, as is the fundamental purpose and intent of the treaty. It will provide greater protection and control over subsequent uses of their signals and require enforcement of that protection by states/governments. Most of the benefit will accrue to large international broadcasters/cablecasters and other broadcasters/cablecasters disseminating sporting events, movies and musical programs. These conclusions are based on the fact that these types of broadcasters/cablecasters have most been involved in legal actions against unauthorized uses, are the types cited in most evidence of unauthorized uses presented by stakeholders, and are among the strongest proponents for the protection of the proposed treaty.
302. Broadcasters and cablecasters who are significant rights holders will probably derive the greatest benefit as well as licensors or rights holders of live sports and concert events because commercial exploitation of signals in broadcasting and subsequent uses tends to primarily involve such players at this time.
303. Some small second-order benefits will ensue for authors and performers, production firms, and right holders/licensors through enforcement of signal protection that adds additional protection and enforcement to the protections already provided to their rights by other treaties. The benefits provided to authors and performers, production firms, and rights holders/licensors will be indirect and minor compared to the primary protections for them in the existing and established intellectual property protections under the WIPO treaties (i.e., WCT and WPPT).⁹¹
304. In states where content owners (authors, performers, and other rights holders) have rights of fixation and post-fixation, these owners will not be generally disadvantaged when broadcasters and cablecasters grant to licensees the rights of fixation and post-fixation over their transmissions because the license granted by the broadcasters does not extend to the content carried by the signals. The licensee in this case cannot legally exploit the rights holders' content based only on a broadcaster's/cablecaster's license unless the broadcaster or cablecaster also owns such content. The licensee must separately obtain the consent for the fixation and post-fixation of the content. Authors can effectively render a broadcaster's/cablecaster's grant of fixation and post-fixation rights to a licensee meaningless by refusing to grant such rights over their content carried by the signals.
305. However, in the few states where authors do not have fixation and post-fixation rights, the proposed updating of broadcasters' and cablecaster's rights may disadvantage rights owners economically. If broadcasters in these states grant to licensees the

⁹¹ This occurs because the treaty does not extend new rights to them and their economic gains will be limited to their share of the small (in overall financial terms) additional gains resulting from payments for new, authorized broadcast signal use.

rights of fixation and post-fixation over their broadcasts, the content creators will not have control over their content because they do not have rights over it. This may upset the balance of rights.

306. The treaty may provide some second-order benefits to development of domestic broadcasters and systems and tax receipts; however, the extent of those benefits is unclear because the number of contracting parties, the costs and degrees of enforcement in states, and consumer demand are uncertain.
307. Interests of audiences/consumers/users and society as stakeholders receive limited attention in the proposed treaty, and benefits here are constrained by the degree to which contracting parties have or put into place legislation and regulatory measures that protect their interests. The proposed treaty balances consumer rights against technical protection measures to the extent that national policy measures provide rights to use and copy materials and permit ability to bypass technical measures for that purpose. At the current time, those protections and other exceptions and limitations tend to be in place in states with better policy and regulatory mechanisms and more effective governmental administrative agencies.
308. In terms of benefits accruing to low income, lower middle income, upper middle income, and high income states,⁹² it appears likely that the greatest short- and mid-term financial benefits for broadcasters/cablecasters and various rights holders and licensors will occur in upper middle and high income states where the most valuable content is currently generated and controlled. Some benefits are also likely in lower middle income states, where a variety of broadcasters, cablecasters, and right holders are increasingly involved in licensing live events such as sports and content that have significant regional value. The researchers believe that fewer short-term financial benefits will accrue to low income states because relatively fewer rights and licenses are held in those states and because incentives to become contracting parties are more limited. The scale of the additional financial benefits resulting from the proposed treaty on the different categories of states cannot be effectively estimated.
309. The primary disadvantages of the treaty affect states/governments through new obligations for expenditures to administer and enforce its provisions and audiences/consumers/users and society by reducing access to some content within signals and their subsequent uses. These disadvantages would be expected to have the greatest impact on low and lower middle income states, because they tend to have fewer resources.
310. The effects of the proposed treaty are primarily economic, and it is unlikely to have any significant effects on political equity, gender equity, or health and wellbeing. It will possibly produce some cultural effects in that it is likely to create conditions in which more external programming is available. It will possibly also produce some family/community effects in that increased availability of television channels and programs is likely to increase time spent viewing television and it is likely to promote more in-home viewing in locations where community viewing has been a norm.
311. The inventory of effects of the treaty on stakeholders in section 13 and the judgment on which receives greater benefits and disadvantages in this section indicate that the proposed treaty produces more beneficial than negative effects, but the balance of the positive and negative effects will not necessarily be equal among states.

⁹² Definitions used in the World Bank Atlas categories based on GDP per capita. Low income is \$975 or less; lower middle income, \$976 - \$3,855; upper middle income, \$3,856 - \$11,905; and high income, \$11,906 or more. See <http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20420458~menuPK:64133156~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>.

XV. HOW BENEFITS AND DISADVANTAGES MIGHT EVOLVE OVER TIME

312. Essentially two approaches are available when pursuing policy: (1) protecting against harm, and (2) ensuring conditions for benefits are produced. The first seeks to protect against acts that damage desired outcomes and the second seeks to put into place elements required for the desired outcome to occur.
313. In terms of the first-order effects of protecting broadcast/cablecast signals, the proposed treaty provides rights that protect against harm and obligates enforcement so that benefits are produced. Acceptance of the treaty will produce these results among contracting states, although the extent of the effects will depend upon a wide variety of market conditions, and the presence of exceptions, limitations, and other national communications policies and regulations as permitted under the treaty.
314. Achieving the benefits of the treaty is also dependent upon the extent to which enforcement exists. Many proponents of the treaty argue that it is needed to ensure enforcement of uses already covered by other copyright and related rights protections and contracts, specifically retransmission (simultaneous rebroadcasting) and—to some extent—reproduction rights. If the rationale for the treaty is that it will halt those uses, but current enforcement is absent or weak in states where that now occurs, the treaty is unlikely to produce significant new or additional benefit. In cases where broadcasters are granted new rights beyond the limited protection provided by the Rome Convention, benefits will be produced, albeit the issue of weak enforcement will still be a limiting factor.
315. The proposed treaty does not directly create or guarantee conditions for second-order effects that produce benefit for other stakeholders through increased production and distribution of materials, development of broadcast, cable, and satellite systems, exchange of knowledge and information, protection of culture, international transfers of technologies, etc. Its provisions create slightly more favorable conditions in which they may occur by reducing the risk of unauthorized uses and the effects of that risk on broadcaster/cablecaster investment decisions and permit states that decided to contract to the proposed treaty and broadcasters and cablecasters operating in those states improved opportunities to pursue those benefits if they are inclined. Thus there is no certainty that the second-order benefits will be achieved or be universally achieved or the extent to which they will be pursued.
316. In its current iteration, the proposed treaty requires contracting parties to ensure that any new exclusive rights conferred by the treaty are applied in a manner that does not run counter to the promotion and protection of cultural diversity. It also indirectly requires contracting parties to take adequate measures to prevent the abuse of intellectual property rights or provide recourse to practices which unreasonably restrain trade or adversely affect the international transfer and dissemination of technology. The proposed treaty does not limit the freedom of contracting parties to promote access to knowledge and information and national educational and scientific objectives, to curb anti-competitive practices or to take any action it deems necessary to promote the public interest. However, the above provisions are stated as alternative to having no such provisions at all. If WIPO Member States decide to exclude the above provisions, the second-order benefits are not likely to be achieved.
317. Contracting parties without policies promoting second-order benefits to non-broadcaster stakeholders will experience some losses in social welfare through reduced access for their citizens and residents to signals, and therefore to the knowledge and information embedded in them. These can be mitigated through passage of appropriate legislation and regulation providing accepted limitations and exceptions, but doing so may affect domestic and foreign broadcasters in ways that may engender political opposition to the creation of new measures in domestic regulatory and legislative arenas. Nevertheless, it is likely that additional states will put in place exceptions and limitations if they contract to this treaty and do not already provide for them in existing copyright laws.

318. Principles for social impact assessment and implementation urge caution where political impacts, impacts on social and human capital, and cultural impacts are involved.⁹³ In these cases, caution would indicate the need for policy makers to undertake mitigating efforts to protect the underlying social and cultural benefits of access to signals and retransmissions. This is particularly true for cases where access denial is based solely on poverty and income levels rather than willingness to pay.
319. The time frame for achieving the beneficial effects of the proposed treaty is uncertain because it is unclear which states would become contracting parties and when, the extent to which and when financial benefits will accrue to broadcasters and others in the broadcasting value chain, and the extent to which financial gains attributable to the treaty become significant incentive elements in choices involving additional investments in programming and broadcasting and cablecasting infrastructures.
320. The researchers believe it is probable that upper middle and high income states are likely to adopt the treaty sooner than lower income states. Many of these already have some signal protections or related protections in place and the protections provided by the treaty will tend to support rather than conflict with those measures. Additionally, incentives to do so are higher in such states because of the scale and scope of rights and licenses held by individuals and firms in those states. The actual creation of significant short-term benefits from the treaty in these states will be limited, however. Because many of the issues are already addressed by existing law and policy in North America and Europe, the creation of additional benefits will depend to a greater extent on developments in other regions and states.
321. It is likely that some mid-term benefits should result from activity to protect signals to middle income countries, which are experiencing growth of all forms of broadcasting and cablecasting and in pay services. Competitive strategies can be expected to combine with protections from the treaty in contracting states to incentivize some commercial providers of unauthorized broadcasters to become authorized users, thus creating some increase in the market for authorized retransmissions and new rights and licenses acquisitions. In addition, it is probable that broadcasters in these states will gain some benefit themselves from enforcement of the provisions of the treaty in other states—an incentive for governments to contract their states to the proposed treaty. The scale of such gains cannot be estimated, however.
322. The researchers believe it is likely that lower income states will become contracting parties at a slower pace than other states. The primary reasons for this conclusion are that the domestic incentives for embracing the treaty appear lower and the fewer opportunities to exploit its benefits are apparent in these states than in other nations. Although they might potentially benefit from additional investments in broadcasting infrastructures and services over time, the prospect for this benefit from treaty is highly uncertain. If lower income states are slower in contracting to the treaty, it will prolong achievement of the benefits of the treaty overall. This will occur because many of the complaints of broadcasters and cablecasters supporting the proposed treaty involve actions of parties in lower income states.⁹⁴
323. It is also noteworthy that intellectual property issues and protections are typically given a lower priority among the variety of salient contemporary policy challenges facing lower income states. This is not to say lower income states have no incentives to

⁹³ Frank Vanclay, "International Principles for Social Impact Assessment," *Impact Assessment and Project Appraisal*, 21(1): 5-11.

⁹⁴ Unauthorized uses are not confined to lower income states, of course. See "Background Report on Digital Piracy of Sports Events," Envisional Ltd and NetResult Ltd, 2008. http://www.allianceagainstiptheft.co.uk/report_publications.html. But because lower income states are expected to contract to the treaty more slowly than other states, the benefits of the treaty in ending unauthorized uses will be prolonged.

become contracting parties, only that the incentives appear lower, less concrete, and more distant than for other states.

324. As noted earlier, there is an increasing separation of signals from the broadcast platforms. The proposed treaty may indirectly produce the additional benefit of inducing states to give more attention to modern distribution platforms and their effects on intellectual property treatment in national law. The treatment of post-fixation rights in the proposed treaty, for example, is increasingly important globally as more domestic and international broadcasters and cablecasters implement 'catch up' or 'time shifted' services that allow consumers to access transmissions they have missed, but wish to see via on-demand services.
325. The time frame for the disadvantages of the treaty being incurred is directly related to when states become contracting parties. This occurs because they will immediately begin incurring administrative and enforcement costs.

XVI. ALTERNATIVE WAYS OF SEEKING BENEFITS

326. The benefits sought through the treaty can also be pursued through alternative means with varying degrees of effectiveness. Alternative measures for protecting broadcasters include:
327. Promoting digitalization of signals. Digital broadcasting has the advantage of making unauthorized reception and retransmission much more difficult. The shift from analogue to digital broadcasting is well underway in many nations and creates a protective barrier against the acts that the treaty seeks to end.⁹⁵
328. This is not a panacea, however, because technological progress facilitates unauthorized digital use as web-based solutions and applications are employed to distribute both digital broadcast signals and digital content. The rapid development of digital technology gives rise to numerous potential outlets for offering an unauthorized signal to the public or editing program highlights or summaries almost instantaneously.⁹⁶
329. Promoting use of encryption and better encryption and other technological protection measures. This technical means can be employed in both pre-signal and signal phases. It is recognized that some actors can employ other technology to circumvention of these technological protection measures, but that any additional technological protection reduces unauthorized uses. Laws prohibiting circumvention of copy protection technologies in ways that will not adversely impact on copyright exceptions and limitations, such as personal use, education, political demand, and public domain works, can be enacted as an additional layer of protection.
330. Promoting effective rapid enforcement and legal remedies for violations of cross-border contracts and international IPR that already exist.⁹⁷ This is much more easily enforced than action against piracy of goods because the acts addressed in the treaty typically involve highly visible broadcasting institutions, many of which are already subject to significant government regulation. However, it is much more difficult to determine origin and take enforcement action if distribution takes place on the Internet.

⁹⁵ A study on the cost of pay-TV piracy in Asia shows that investments in digitalization will help reduce the effects of piracy and that Asian pay-TV markets with the lowest level of piracy are generally those with the highest percentages of digital deployment. See Digital Deployment: Asia-Pacific Pay-TV Industry Study, CASBAA and Standard Chartered Bank, November 2009. http://www.casbaa.com/anti_piracy.aspx

⁹⁶ Piracy of Digital Content Organization for Economic Co-operation and Development (OECD), July 2009, <http://browse.oecdbookshop.org/oecd/pdfs/browseit/9309061E.PDF>

⁹⁷ However, this would not extend the new rights that the proposed treaty seeks to provide.

331. Promoting national legislation or regulation restricting retransmission, stipulating payment, or requiring payment negotiation. However, this also will entail significant costs for administration, enforcement, and related transactions. In addition, national legislations will not be sufficient to halt unauthorized activities at the international level unless states adhere to a national treatment provision in a treaty.
332. Promoting the possibilities of agreements akin to Collecting Society arrangements, such as the special tax on Internet service providers in Canada. The broadcast and cable industries could be among the beneficiaries here, in acknowledgement of their signals being circulated on the Internet without authorization.
333. Implementing anti-siphoning regulations and protected sports lists that keep major sporting events and other programming on free-to-air television rather than allowing its migration to pay services. This would reduce the scarcity incentive that encourages pirates to steal the signal concerned. However, since anti-siphoning regulations only apply at the national level, the scarcity incentive will still exist in neighboring states where the subject programming may not be available.
334. Involving Internet service providers to strengthen opportunities for identifying possible unauthorized uses of signals. This presupposes that broadcasters have online retransmission rights or rights against unauthorized retransmission over the Internet, the violation of which will be identified by Internet service providers.
335. Broadcasters and cablecasters could partner more with other content rights owners, encouraging them to take action when their content is appropriated in unauthorized actions as part of unauthorized uses signal.
336. Developing more nuanced modes of intellectual property protection, such as along the lines of Creative Commons, which would create alternatives between the poles of 100% ownership of signal and 100% unauthorized use of signal. Broadcasters (especially free-to-air ones) could then insist only on protection of signals with regard to particular kinds of exclusive or real-time content being protected, making for more manageable implementation and for less restriction on the content that is available to audiences/consumers/users and society.
337. Protecting the signal from simultaneous transmission. Such an alternative would recognize broadcaster interests and provide some protection but leave them to live with unauthorized uses involving fixation, retransmission, subsequent redistribution, and post-fixation.
338. We do not take a position regarding these measures, but merely note they would alternatively produce some of the benefits sought by proponents of the treaty.

XVII. CONCLUSIONS

339. There is no way to effectively project the global effects of the treaty on unauthorized uses or what its establishment would produce in financial terms because of the lack of data necessary to do so. In addition, too many variables, including the availability of infrastructures and services, the amount of potential investment by broadcasters, prices for services, local demand, degree and effectiveness of enforcement, etc., are unknown. Nevertheless, it is likely that some positive benefits in terms of revenue for broadcasters and tax receipts for some states would accrue as a result of the treaty by transforming some unauthorized uses into paid authorized uses, although it is not possible to estimate the extent of the increased revenue.⁹⁸ The gains would likely be offset by some undeterminable additional costs of enforcement.

⁹⁸ As shown in Section 12 of this report.

340. The proposed treaty would provide some additional protection for existing investments in programming. Although it is theoretically possible that it could lead to increased investment, it would be highly speculative to conclude the extent to which that might occur. This is the case because investments in program content and licenses continue to rise worldwide absent the treaty and there is no way to effectively project what its additional benefit might be.
341. Much of the inability to make specific conclusions about the proposed treaty's economic effects result from the strong heterogeneity of countries economically, of media policies and structures, and of media use characteristics. These differences create too many variables, requiring huge quantities of unavailable market information, to make any useful projections at this time.
342. The most significant benefit of the treaty is that it seeks to redress the insufficiency and lack of protections in many states. However, part of that insufficiency results from ineffective enforcement mechanisms, both legal and contractual, for existing international and domestic protections. The benefits from this treaty would require that it be enforced more vigorously than existing IP protections that have been under-enforced in some states. That may be possible given that unauthorized users will tend to be publicly visible and identifiable broadcasters, cablecasters, or webcasters and providing evidence of unauthorized signal use is legally simpler than establishing copyright ownership.
343. In promoting the treaty, many broadcasters and rights holders have expressed a great deal of concern about the processes and speed of enforcement in countries with less effective adjudication and enforcement systems and those in which additional requirements or different burdens of proof are placed on foreign broadcasters than domestic broadcasters.
344. To the extent to which nations become parties to the treaty, the national treatment provision for foreign broadcasters can be expected to somewhat reduce the time required before action can be taken, something particularly significant when disputes involving live events are involved.
345. However, enforcement may need mechanisms to resolve issues around the entanglement of different kinds of intellectual property rights within a given signal. For example, a broadcaster may license fixation or post-fixation of a signal that contains content for which the broadcaster does not have full rights; or a user seeks to use content captured from a signal where the broadcaster needs to acknowledge that intellectual property rights have been waived by the original owners and that only the permission to use a fixation of the particular signal is required.
346. It is impossible to conclude the degree to which this treaty will be responsible for increases or decreases in creativity, increases or decreases in the number of and services offered by domestic broadcasters, and increases or decreases in domestic production. Many variables beyond the scope of this treaty would affect those outcomes and make it impossible to make such an assessment.
347. The treaty is primarily designed to provide commercial and non-commercial broadcasters and cablecasters with increased ability to exploit subsequent uses of their signals for economic gain.
348. It will provide economic benefit for some broadcasters and cablecasters and has the potential to provide limited benefits to the development of broadcasting and cablecasting systems in some states. Its link to the development of broadcasting systems in low income states appears tentative and limited, however.
349. The treaty does not involve the same moral imperatives as fundamental copyright because it does not involve individuals and firms engaged in creative work. Consequently, the link to the conceptualization that signal protections will stimulate

additional production is weak. However, the reinforced protection of content resulting from signal protection may potentially encourage some additional production by authors and content creators.

350. The treaty intervention is not disproportionate to its stated objectives and does not appear to create substantial harm that cannot be mitigated through actions of contracting parties. The draft provides, in Section VII. Limitations and Exceptions, provisions whereby “contracting Parties may, in their national legislation, provide for the same kinds of limitation or exception with regard to the protection of broadcasting organizations as that legislation already contains with regard to the protection of the copyright in literary and artistic works”.
351. A high degree of uncertainty exists surrounding the impact of the proposed treaty outside the upper middle and high income states because the degree of enforcement elsewhere is less foreseeable. If enforced vigorously, large sections of the world’s population may be denied access to some signals providing news, information, and science programs that develop understanding of the world and serve educational purposes, unless provisions—such as exceptions and limitations—are made to protect those by individual contracting parties. It will also limit some access to popular entertainments such as national and international sports that facilitate community interaction and cohesion.
352. The treaty also makes no allowances for unequal demand characteristics worldwide related to personal income levels and national development.
353. It should be noted that the treaty tends to assume household reception of signals—which is standard in the developed world and developed urban areas in less developed nations—but that communal reception occurs in many rural and low income areas of the world. The treaty provides no mitigating mechanisms for impoverished communities such as provisions for use in community centres, educational institutions, medical institutions, correctional institutions, etc. In this regard treaty provisions could profitably be more aligned to the Appendix to the Paris Act of the Berne Convention, mentioned earlier, which recognizes causes and procedures for developing countries to be exempted from intellectual property protections.
354. On balance, it appears the proposed treaty as currently constituted will accomplish its stated purposes without creating undue social harm, provided contracting states have in place appropriate policies and legislation to protect public interests as permitted under the treaty and other WIPO treaties.
355. Acceptance will, in great part, depend not on the commitment of states to copyright protections but to the degree to which states are willing to expand neighboring rights to use of signals.

[Annex follows]

ORGANIZATIONS/EXPERTS CONSULTED

In carrying out the research, the study team contacted numerous stakeholders and expert organizations to solicit their views and help document their interests in the proposed treaty. The consultations included reviews of position papers and statements issued by stakeholders, correspondence and discussions with their representatives.* Among the groups contacted were:

African Union of Broadcasting
 Arab States Broadcasting Union
 Asia-Pacific Broadcasting Union, Axel B. Aguirre, Tatsuya Nakamura, and Maloli Espinosa
 Associated Chambers of Commerce and Industry of India
 Association of Commercial Television in Europe
 Association of Media and Entertainment Counsel
 Association of Motion Pictures and T.V. Program Producers, India
 Association for Progressive Communication
 European Broadcasting Union, Heijo Ruijsenaars and Michael Wagner
 Cable and Satellite Broadcasting Association of Asia
 Cable Europe (European Cable Communications Association)
 Caribbean Broadcasting Union/Caribbean Media Corporation, Sally Bynoe and Redler
 Communication for Social Change Consortium
 The Communication Initiative Network
 Digital Future Coalition, Peter Jaszi
 DVB Project, Carter Eltzroth
 International Federation of Journalists, Pamela Morinière
 International Federation of Film Producers Association
 International Federation of the Phonographic Industry, Shira Perlmutter and Gadi Oron
 International Video Federation
 Indian Motion Pictures Producers Association
 Lahorgue Advogados Associados, Brazil, Simone Lahorgue Nunes
 Latin American Broadcasting Union
 Latin Entertainment and Motion Picture Association
 Media for Development
 Motion Picture Association of America, Ted Shapiro
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 North American Broadcasters Association, Erica Redler
 National Association of Broadcasters (USA), Ben Ivans
 Open Society Institute
 Werner Rumphorst, Legal Consultant, Germany
 Screen Digest, Richard Broughton
 Singh and Singh, Advocates, India
 Third World Network, Sangeeta Shashikant
 WACC Global

*Where consultations involved specific individuals, their names are included.