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Services Trade Restrictiveness Index (STRI): Audio-visual Services

Hildegunn Kyvik Nordås, Iza Lejárraga, Sébastien Miroudot, Frederic Gonzales, Massimo Geloso Grosso, Dorothée Rouzet, Asako Ueno

JEL Classification: F13, F14, K33, L82



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Abstract

SERVICES TRADE RESTRICTIVENESS INDEX (STRI): AUDIO-VISUAL SERVICES

by

Hildegunn Kyvik Nordås, Iza Lejarraga, Sébastien Miroudot, Frederic Gonzales, Massimo Geloso Grosso, Dorothée Rouzet and Asako Ueno

This paper presents the services trade restrictiveness indices (STRIs) for motion pictures, television and broadcasting and sound recording. The STRIs are composite indices taking values between zero and one, zero representing an open market and one a market completely closed to foreign services providers. The indices are calculated for 40 countries, the 34 OECD members and Brazil, China, India, Indonesia, Russia and South Africa. The STRIs capture de jure restrictions. This report presents the first vintage of indicators for audio-visual services and captures regulations in force in 2013. The scores range between 0.06 and 0.72 for motion pictures, 0.07 to 0.78 for television and broadcasting, and between 0.05 and 0.37 for sound recording. The sample averages are 0.18 for motion pictures, 0.28 for television and broadcasting and 0.16 for sound recording. Limitations on foreign entry, including foreign equity limits contribute to about two thirds of the index values in television and broadcasting. In motion pictures screen quotas contribute to the indices in many of the countries with scores above average. Sound recording, i.e. music, is the most open of the three audio-visual services sectors where limitations on movement of people account for more than 40% of the index value. The paper presents the list of measures included in the indices, the scoring and weighting system for calculating the indices and an analysis of the results.

Keywords: Services trade, services trade restrictions, motion pictures, television, broadcasting, sound recording, regulation, copyrights.

JEL classification: F13, F14, K33, L82

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The STRI project for audio-visual services started with an expert meeting where the list of measures was discussed. The STRI team is grateful for the insights and advice that the participants brought to the meeting. The STRI database has been put together by going through laws and regulation in each of the 40 countries included. Each entry is documented by the source and a web link to the law or regulation and each government has factchecked the database. Needless to say this has been an enormous task and the OECD Secretariat would like to thank Member governments for reviewing and peer reviewing the databases. We will also like to thank Mariam Abdova, Beatriz Cano Buchholz, Ekaterina Burdina, Stellina Galitopoulou, Ahmet Gulsen, Dora Hajdu, Anthony Halley, Anna Jankowska, Gimin Kang, Fatma Kayhan, Yunhee Kim, Maria Kopyta, Hendric Richter, Humberto Lopez Rizzo, Baron Sacharidis, Katharina Sass, Jonathan Senft, Marie Sudreau, Lucie Vondrackova, Jozefien Willemen and Aviad Ben Yehuda who provided excellent research assistance in creating the database. Also thanks to the University of Adelaide and project managers Christopher Findlay and Uwe Kaufman for creating the database for Key Partners. Special thanks to Rainer Lanz and Alexander Ragoussis for their contribution to the design of the STRI methodology, and to Carol Balassa, Gillian Doyle and Peter Jenner for helpful comments and advice. The weighting scheme for the STRI indices is derived from an online survey. Thanks to everybody that took time to do the survey. Finally, the authors would like to thank Dale Andrew, Crawford Falconer and Raed Safadi for useful comments and inputs. The paper benefitted from discussions in the OECD Working Party of the Trade Committee, which has agreed to make the study more widely available through declassification on its responsibility.

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Executive summary

This paper presents the results for the Services Trade Restrictiveness Index (STRI) for motion pictures, broadcasting and sound recording. Audio-visual services account for a relatively small share of GDP, between 0.5 and 1% in the countries for which information is available. Nevertheless audio-visual services are among the most globalised of all services industries and a sector where cross-border trade is vital. The proliferation of broadband internet services has brought new opportunities and challenges to the industry as well as to policy makers and regulators.

Audio-visual services are carriers of cultural expression and subject to a number of policy measures that aim at fostering cultural diversity. In addition audio-visual services are non-rival and partly non-excludable. The latter characteristics imply that markets must be created through the establishment and enforcement of intellectual property rights. Crossborder trade in audio-visual services is essentially transactions related to the right to distribute, view or listen to audio-visual content.

The STRI indices take values between zero and one, one representing a totally closed and zero a fully open sector. The results show that the overall index level is low to moderate with an average of 0.16 for sound recording, 0.18 for motion pictures and 0.28 for broadcasting. Limitations on movement of people account for a large share of the index value for most countries in sound recording. Motion pictures are relatively liberal on average, but there is substantial variation among countries. The highest scores are found in countries where there are foreign equity limits for movie theatres, producers or distributors; where there are quotas for local films in theatres or on television, or where national treatment is not granted for foreign suppliers.

Limitations on trade and investment are more widespread in broadcasting. Eighteen out of 40 countries have limitations on foreign equity in this sector. Quotas for local content are common as well, and lack of national treatment for foreign-owned channels is quite common in the sector. In all three sectors there are more limitations on establishing in the market than on ongoing operations, although the countries with a high overall index value also have limitations on operations, notably discriminatory taxes and subsidies.

Intellectual property rights are captured through information on whether or not countries are signatories to international treaties and to what extent these treaties have been embedded in national legislation. It turns out that there is little variation among the 40 countries included in the index in this regard. Nevertheless, implementation and enforcement appear to differ across countries and further work is needed to better capture the variation in the flow of royalties and license fees due to variation in implementation of intellectual property rights.

1. Introduction

The OECD Services Trade Restrictiveness Index (STRI) project was launched by the Trade Committee in June 2007 as a tool for quantifying barriers to trade in services at the sector level (OECD, 2007). This paper presents the indices for audio-visual services with separate indices for motion pictures, broadcasting, and sound recording.

The Australian Productivity Commission pioneered services trade indices in the late 1990s. A number of institutions, including the OECD (Dihel and Shepherd, 2007) and the World Bank (Borchert et al., 2012) have developed services trade restrictiveness indices since then. However, so far such indices have been published only for one year and for a limited number of countries and sectors, and to our knowledge, no service trade restrictiveness index has been developed for audio-visual services.

The major outputs from the STRI project are:

- A regulatory database, providing detailed information on current laws and regulations affecting international trade in services. The database is available on-line and is frequently updated.
- Trade restrictiveness indices which provide a snapshot of the trade policy stance at a particular point in time. The indices will be calculated at regular intervals and will reflect policy reforms over time.

The STRI database contains information on market access, national treatment, relevant domestic regulation and administrative procedures in all 34 OECD Member countries, Russia, Brazil, China, India, Indonesia and South Africa. The database records policy measures applied on an MFN basis and does not consider preferential treatment entailed in regional trade agreements. The sources of information for the database are laws and regulation in each country. Each entry is documented by reference to the source. The countries included have verified their data and subsequently the database has been subject to peer review assessing their factual accuracy. The qualitative information contained in the database is transformed to numerical values in the STRI indices.

2. Definition and characteristics of the audio-visual sector

Audio-visual services account for about 0.6% of GDP in the European Economic Area and about the same in the United States.³ The industry consists of large multinational media companies such as Walt Disney, Bertelsmann, News Corporation and Vivendi. These have activities in all three audio-visual sectors covered here in a large number of countries. In addition there are national broadcasters and a multitude of smaller and more specialised companies.

^{1.} The World Bank has developed services trade restrictiveness indices for 103 countries. See http://iresearch.worldbank.org/servicetrade/

^{2.} The Key Partners have had the opportunity to review their databases.

^{3.} Source: Bureau of Economic Analysis and Eurostat. In the US motion picture and sound recording account for 0.4% of GDP and broadcasting and telecommunications for 2.4%. A break-down on telecommunications and broadcasting is not available. For other countries contribution to GDP by sector is more aggregated.

Definition

The STRI uses the International Standard Industry Classification (ISIC, 4) as the basis for defining and measuring the sector as depicted in Table 1.

Table 1. Audio-visual services in ISIC 44

ISIC 4 code	Sector
5911	Motion picture, video and television programme production activities
5912	Motion picture, video and television programme post-production activities
5913	Motion picture, video and television programme distribution activities
5914	Motion picture projection activities
6020	Television programming and broadcasting activities
5920	Sound recording and music publishing activities

ISIC 4 code 591 (i.e. 5911-5914) includes "production of theatrical and non-theatrical motion pictures whether on film, videotape, DVD or other media, including digital distribution, for direct projection in theatres or for broadcasting on television; supporting activities such as film editing, cutting, dubbing etc.; distribution of motion pictures or other film productions (video tapes, DVDs, etc) to other industries; as well as their projection. Buying and selling of motion picture or any other film production distribution rights is also included."

Television programming and broadcasting activities (ISIC 6020) contain "creation of a complete television channel program, from purchased program components (e.g. movies, documentaries etc.), self-produced program components (e.g. local news, live reports) or a combination thereof. This complete television program can be either broadcast by the producing unit or produced for transmission by third party distributors, such as cable companies or satellite television providers. The programming may be of a general or specialized nature (e.g. limited formats such as news, sports, education or youth oriented programming), may be made freely available to users or may be available only on a subscription basis. This class also includes: programming of video-on-demand channels; data broadcasting integrated with television broadcasting."

Sound recording includes "production of original (sound) master recordings, such as tapes, CDs; sound recording service activities in a studio or elsewhere, including the production of taped (i.e. non-live) radio programming, audio for film, television etc., while music publishing contains acquiring and registering copyrights for musical compositions; promoting, authorizing and using these compositions in recordings, radio, television, motion pictures, live performances, print and other media; and distributing sound recordings to wholesalers, retailers or directly to the public. Units engaged in these activities may own the copyright or act as administrator of the music copyrights on behalf of the copyright owners."

Characteristics

Audio-visual services are carriers of cultural expression. Markets alone may not always create space for the desired variety of cultural expression, and a number of policy measures therefore aim at correcting possible market failure by promoting cultural diversity. The United Nations Educational, Scientific and Cultural Organization (UNESCO) Convention on the Protection and Promotion of the Diversity of Cultural Expressions entails articles on the right

^{4.} The definitions are taken from UN statistics: http://unstats.un.org/unsd/cr/registry/isic-4.asp

to adopt measures of cultural policy.⁵ The relationship between open markets and cultural diversity has been subject to intense debate among stakeholders, policy makers and in the academic literature. There is no consensus on this issue, but Graber (2008) and Burri-Nenova (2009) argue that policies that promote the diversity of cultural expressions need not be at variance with the principles that govern international trade. Furthermore, access to cultural expressions from own territory as well as other countries is explicitly mentioned in the UNESCO convention.

The STRI project does not aim at solving this issue or to pass judgment on the legitimacy of the policy measures recorded in the regulatory database. It does, however aim at providing accurate, objective and comparable information on which trade-relevant policies are in place in OECD Member countries and beyond. Such information contributes to transparency.

From a purely economic point of view there are several market imperfections related to audio-visual services. The main issues are that audio-visual content is non-rival in consumption, it is an experience product and, depending on the way it is distributed, it can also be fully or partly non-excludable. For example, one consumer's viewing of a TV program does not limit its availability to other consumers. When released into terrestrial broadcasting or the internet it is also non-excludable – or exclusion can be achieved only at a cost using encryption or other technologies. Finally, consumers do not know whether or not they like the program before they have seen it, a feature that makes it an experience product in economic terminology.

Market transactions, whether within or across borders, are essentially the transfer of property rights from a seller to a buyer at the going price, or the right to use somebody's property for a rental or fee. A precondition for commercial transactions to take place is thus clearly defined property rights. For audio-visual services characterised by various degrees of non-rivalry and non-excludability in consumption, establishing and enforcing property rights is crucial. Even the definition of the sector in UN statistics mentions property rights several times.

Copyright and related rights to payments for the use of protected material is the most common way of establishing and enforcing property rights and creating a market in the audio-visual sector. The first copyright act was introduced in the United Kingdom in 1709. It awarded the right of authors to control copies of their work for 14 years, with a possible renewal for another 14 years. A number of countries followed suit over the next decades. Some, mainly European countries provided copyright protection for both local and foreign authors. Acknowledging the mutual benefit of such arrangements the Berne Convention of 9 September 1896 on Protection of Literary and Artistic Work was signed. It aimed at helping nationals of its signatory countries to obtain international protection of their right to control and receive payment for the use of their work. Thus, copyright includes economic rights to the revenue generated from the use of the copyrighted work and moral rights that protect its integrity.

The International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations was adopted in Rome in 1961. It protects performers, producers and broadcasters from the communication of their work to the public without their consent. Protected work includes performances, fixating of performances and reproducing or rebroadcasting such fixations. Both the Berne and the Rome conventions are entailed in the WTO agreement on Trade-Related Intellectual Property Rights (TRIPS), which establishes the basic principles of national treatment and most-favoured-nation treatment in the area of

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^{5.} Currently there are 117 parties to the UNESCO Convention, including 29 OECD Members and five Key Partners.

protection of intellectual property rights. Given the central role of copyright for creating markets in the audio-visual sector, the STRI database includes information on the enforcement of copyright and related rights to royalties.

Intellectual property protection has three dimensions: height, width and length (Varian, 2005). Height has to do with the standard of novelty of the protected work. On this dimension copyright scores low, as any creation within the definition of the law is automatically protected. The width refers to the coverage of property rights. Copyrights are quite narrowly defined covering the expression of the creation, but not the ideas behind it. There are also exemptions for "fair use", which is defined differently across jurisdictions, but generally covers various non-commercial uses such as for education, copies for personal use and similar. Initially copyright covered mainly literary creations, but has been extended to a broad range of works of authorship. Copyright law has also been amended to deal with new technologies. Finally, the length refers to the terms of property right. The maximum length in the first copyright laws was 28 years. Currently, copyright typically lasts for close to a

The debate on the role and design of copyrights and their enforcement in a digital market place has been intense in recent years. It revolves around to what extent the copyright as we know it works in the digital age, how it could be improved upon and what are the alternatives. Box 1 explains trade-offs and solutions from the point of view of economic theory.

Box 1. The economics of copyright

Economic efficiency dictates that the price of a product equals its marginal cost. Therefore, the first best way of providing and paying for non-rival products whose marginal cost is by definition zero, is to determine the level of output by assessing the total willingness to pay for it, and finance production and distribution by a fee while setting the price equal to zero. Assessing willingness to pay may be impractical, however, and markets for audio-visual services have been established based on property rights. Copyright is thus a second best way of providing a non-rival and partly non-excludable product for which there is a positive demand and willingness to pay.

Copyright allots monopoly to control the use of the product in question and related rights to royalties from its use. Its purpose is to pay for production and provide incentives for future creation. Copyright per se does not solve the problem of non-excludability, but constitutes a legal basis for introducing for example encryption technology and/or digital rights management software, which makes it more difficult and more expensive to make and share illegal copies.

The possibility of illegal sharing constrains the owner of copyrighted material from charging a monopoly price, as consumers will refrain from file sharing only if the price is no higher than their valuation of the product plus the cost of file sharing. It can be shown that the maximum price that discourages sharing is equal to t*k/(k-1), where t is the cost of sharing and k is the number of people sharing. The monopolist will make more profit the larger the cost of file sharing and the smaller the group of people engaging in file-sharing (Varian, 2005).

The monopoly bestowed on copyright holders is, however, weak. There are many close substitutes to most songs, TV programs or movies. The net profit margin of each copyright holder declines with the number of close substitutes and approaches zero when the number of competitors become large.

There are several market models in the audio-visual sector that set the price to zero. One example is subscription to streaming of audio-visual content where consumers pay a monthly fee for unlimited access to the vendor's repertoire. This is common in sound recording and is emerging in the film industry as well. Broadcasting also follows a model where the price of a program is zero for the consumer. The production and distribution of programs is funded through a fee, subsidies, or advertising.

⁶ See Towse et al. (2008) for a review of the literature.

There are several ways of enforcing intellectual property rights across international borders. TV and mobile signals obviously can be diffused recognising no borders unless encryption is added to prevent reception outside the targeted national market. Since enforcement of copyright is under the auspices of national authorities and rights holders typically have different agreements in different markets, they often require such encryption. In cases where there are few agents involved, for instance film studios and movie theatres, direct negotiations between rights holders and distributors or users are feasible. Rights trading companies are also common as far as motion pictures and TV programs are concerned.

In cases where the number of rights holders as well as the number of users is large, individual agreements on conditions of use and license fees can be impractical. The establishment of collective management organisations solves this problem. They typically have three functions: documentation, licensing and distribution. Their members bring documentation of copyrighted work to the organisation which establishes a repertoire of the works of its members. The organisation negotiates rates and terms of licensing with users, for instance broadcasters, restaurants and retailers, and monitors the use of its repertoire. On the basis of the agreed terms and information on use, the collective management organisation collects royalties and distributes it among its members based on established rules.

Royalties on the use of the work of foreign rights holders are commonly collected by a national collection society and distributed to the rights holder through bilateral agreements among national rights management organisations or collection societies. Rights holders could in principle become a member of and bring their work to the repertoire of a foreign rights management organisation. The STRI collects information on to what extent foreign rights holders receive national treatment as far as distribution of royalties is concerned, including access to copyright management organisations and royalties collection societies to the extent that rights management is regulated by government.

Enforcement of copyright raises the cost of illegal copying of protected material, but has not prevented widespread file-sharing. To reduce this problem it is necessary to raise the absolute as well as relative cost of illegal consumption. One option that has gained traction recently is Digital Rights Management (DRM) software. It helps detect, monitor and block unauthorised use of copyrighted material. In combination with penalties for copyright infringement this raises the absolute cost of file-sharing and other illicit copying. The introduction of attractive platforms for legal downloads or streaming of audio-visual content has raised the relative cost of illicit copying. Popular legal ways of accessing audio-visual material are subscription to streaming services, electronic stores for downloads and video on demand among others.8 Where the right balance between carrot and sticks lie is subject to debate and the STRI indices only record to what extent the international agreements on copyright are incorporated into domestic laws and enforced.

Market structure

The movie industry consists of four stages: concept development, film production, distribution and screening. The process starts with the development of the concept from a film script. The producer next decides on a budget, a director and a cast. The film is typically shot over the course of a few months. After editing, the film is marketed and distributed. This stage is subject to significant economies of scale and there is a relatively high rate of market concentration. Among the countries included in the STRI for which UNESCO data are

^{7.} See Kemp et al. (2011) for an interesting study of performance rights management in India and the US, and WIPO for further details www.wipo.int/copyright/en/management/

See Varian (2005) and Doyle (2013) for an extensive discussion. 8.

available, the market share of the three largest distributors ranged between 32% in France and 94% in Estonia and South Africa.⁹

The revenue a film will generate is uncertain at the time when it is produced. Investors in film projects therefore bear considerable risk. A film can for instance be financed by a studio in which case the studio typically pays all the production and marketing costs and has rights to all the revenue after paying theatre owners. Independent producers have several options. They may work with a studio which pays for marketing costs and retains a specified share of the rental revenue, while residual rights and control rest with the producer. Alternatively producers may seek funding directly from a variety of investors (such as TV channels, foreign co-producers, distributors, sales agents, video distributors or financial services providers). A number of financial schemes and investment instruments are available, including a guaranteed minimum income based on expected future revenues, or debt or equity instruments to which returns are linked to the revenue from the specific film.

Co-production agreements between countries are a commonly used instrument for cultural exchange and for sharing the cost and risks of production. Many OECD countries as well as Key Partners are parties to a number of agreements involving two or more countries (KPMG, 2012). The European Convention on Cinematic Co-production under the auspices of the Council of Europe is an example of a multilateral co-production agreement. Movies and television programs produced under formal co-production agreements benefit from government financial assistance, tax credits and inclusion in domestic television and movie theatre quotas, if any that are available to national films and TV programs.

Film festivals are important market places for independent films to secure contracts with distributors, also outside their country of origin. However, even at the most prestigious festivals only a fraction of the films shown obtains a distribution contract. ¹⁰ Movie theatres are still the drivers of revenue and the earnings the first week of screening are crucial for the commercial success of the film. ¹¹ Because of the key role theatres play in the industry, competition authorities often restrict vertical integration of studios and movie theatres. The STRI database records information on to what extent vertical integration is monitored and regulated by the competition authorities.

Although important as a shop window, the direct income from screening in theatres is a declining share of total revenue from a film. In the United States, for instance, motion pictures and video exhibition accounted for about 17% of total revenue for the motion picture and video industry in 2009. The other most important sources of revenue are DVD sales and rentals, licensing to TV networks and TV broadcast, video on demand, streaming over the internet and through auxiliary products.

Production of broadcasting content follows much the same steps as production of movies, starting with an idea generation stage, planning and development (pre-production), recording or production, editing (post production) and finally distribution. Programs can be made in-house by broadcasters or by independent producers. In either case so-called stock

^{9.} See UNECSO www.uis.unesco.org/. Data is missing for China, Iceland, India, Indonesia, Israel, Greece, Luxembourg and New Zealand.

^{10.} Kuppuswamy and Baldwin (2012) reports that about 25% of the films screened at the Sundance Film Festivals obtain a distribution agreement.

^{11.} See for instance www.creativeskillset.org/film/knowledge/article_5103_1.asp

^{12.} See US Census Bureau

www.census.gov/compendia/statab/cats/information communications/motion picture and soun
d_recording_industries.html

programs become part of demand libraries for licensing to for instance video on demand suppliers. 13 In some cases the program concept rather than the program itself become the subject of licensing both within and across borders. A good example is reality TV. Broadcasters (and other platforms) also play an important role as aggregator of programs, creating a mix of programs for the targeted audience, branding of the channel, pricing of the channel packages and customer support services. Vertical integration between TV program content creation, TV channels and broadcasters are commonly found (Attentional et al., 2011). In cases of high market concentration this may raise entry barriers both to local and foreign content suppliers as well as TV channels and the STRI database records to what extent vertical integration is monitored and regulated also in this sector.

The market structure of broadcasting has changed substantially over the past couple of decades. First, all OECD countries have introduced digital television and all but Chile, Mexico and Turkey have switched off analogue television (OECD, 2013). Digital television makes it possible to fit a large number of channels into the platform over which it is provided. The penetration of digital television by platform is depicted in Figure 1. Since households may have access to more than one platform, the penetration rate may add up to more than 100%.

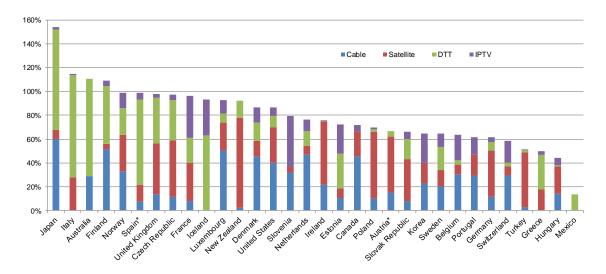


Figure 1. Penetration of digital television by country as a percentage of television households, 2011

* Cable includes IPTV Source: OECD Communications Outlook 2013;

> Television services are increasingly bundled with telecommunications services in the marketplace. Telecoms operators offer Internet Protocol Television (IPTV) as part of socalled triple play packages (broadband, television and telephone), and in some cases broadcasters have become telecoms operators (OECD, 2013).

> In addition to linear broadcasting, video on demand has become an increasingly important distributor of audio-visual content. IPTV, cable and satellite providers often offer video on demand to their subscribers. In addition there is a host of suppliers offering streaming or downloads on the internet. In China video on demand is one of the most dynamic

^{13.} Stock programs are made with considerable resources creating value beyond immediate current interest (e.g. dramas, documentaries), as opposed to flow programs (e.g. chat shows, quizzes).

media sectors and the main channel through which foreign content reaches the market.¹⁴ Both IPTV and video on demand requires access to high-speed broadband and it hardly needs to be added that the supply of these services depends on the performance and regulation in the telecoms sector as well as in the broadcasting sector.

The Audio-visual Media Services Directive in the European Union requires that European works constitute a majority of broadcasters' linear qualifying transmission time (article 16) and at least 10% to European independent works (article 17). The directive also requires similar European shares of non-linear services where practical. A commissioned study on the implementation of this directive shows that the actual share of domestic and European works is above the required levels. Between 50 and 90% (average of 66%) of the qualifying time for linear broadcasting content was European works in 2009; and between 15 and 40% (average 29%) was independent European works (Attentional *et al.*, 2011).

In spite of almost unlimited choice of what to watch, where and when to watch it, linear television still occupies the lion's share of time spent of consuming audio-visual services. However, other media play an important part in creating audiences for linear television. Before being broadcast, an audience is created through social media. Furthermore, becoming the subject of online chatter on social media is an important success factor for linear TV programs as well as movies and music (Doyle, 2013).

Sound recording have much of the same characteristics as films, entailing creation of the music, production, distribution and promotion. As in the movie industry there are independent producers and producers paid by the distributors, which in this case are the major record labels. Broadcasting used to be as important for the commercial success of a recording as movie theatres were and still are for films. However, alternative channels, notably distribution over the internet appeared earlier and has gained more importance in sound recording.

Digital music has increased its share of total industry revenue substantially over the past few years and now accounts for about 34% of global revenue. Digital sales take the form of downloads, subscription services, music video streaming, digital radio and synchronisation revenues. Between 2011 and 2013 the number of countries in which the major international digital music providers are present increased from 23 to 100 and there are currently more than 500 licensed digital music services operating worldwide (IFPI, 2013). The long slump in sales that followed the digital revolution and extensive file-sharing is bottoming out. For the first time since 1998 global music sales increased slightly in 2012, but fell by 4% again in 2014. The setback in 2014 is mainly explained by a sharp decline in sales in Japan (IFPI, 2014).

Sound recordings and films also have some important differences. The independent agents in the music industry tend to be record labels, not producers as in the film industry. At the consumer end of the supply chain each individual watches a movie only once or a few times, but likes to listen to the same song over and over again. This feature may explain why films tend to be worse affected by unauthorised copies than broadcasting and sound recording. ¹⁷ It may also be part of the explanation why DVDs can be rented legally, but music CDs cannot, at least in the United States (Varian, 2005).

^{14.} See The Economist 7.11.2013 and iResearch (2013).

^{15.} The experience good feature of audio-visual content makes free samples such as trailers and other tit-bits important marketing tools.

^{16.} Synchronisation revenues are royalties from the use of music in films.

^{17.} Empirical studies have found that one unpaid movie displaces between 0.1 and one paid movie, while the figure for music is between zero and 0.25. For broadcasting the displacement rate is lower still (Bai and Waldfogel, 2012).

Trade and investment patterns

A much publicised case that illustrates the difficulties in reconciling intellectual property rights with open markets is a European Court case which ruled that a British pub proprietor did not infringe on intellectual property rights when using an imported satellite card from a Greek broadcaster to watch English Premier League football matches. The case was brought to a UK court by the channel who had bought exclusive rights to broadcast the football matches in the United Kingdom. The British court found in favour of the channel, but the proprietor appealed to the European Court of Justice which ruled in her favour, stating the principle of a single market for broadcasting in the European Union (ECJ, 2011).

Revenue flows from trade in audio-visual services are recorded as royalties and license fees in international trade statistics, where it is lumped together with royalties paid for licensing technology in all industries. Data on trade patterns in this sector is therefore not readily available. 18 However, the European Audiovisual Observatory collects data on production volumes and exhibition of feature films as depicted in Figure 2. It shows the market share of national films screened in cinemas together with information on the number of feature films produced in each country.

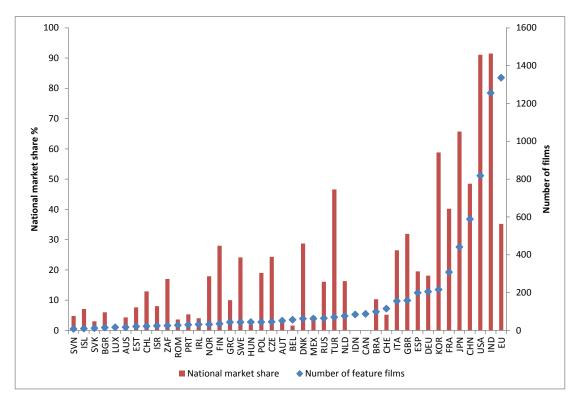


Figure 2. Total number of feature films produced and market share of national films, 2011/12

Source: European Audiovisual Observatory. National market shares are mainly from 2012, while number of feature films is from 2011. The source did not provide information on national market share for Canada and Indonesia.

^{18.} The United States publishes trade data on royalties and license fees by type. In 2012 receipts for film and television tape distribution and broadcasting and recording of live events amounted to about USD 16 billion or 14% of total royalties and license fees, and payment amounted to USD 4 billion, or 10.5% of total.

The largest film producer in our sample is India with more than 1 200 movies produced in 2011, the latest year for which data are available for the entire sample. The United States is the second largest producer followed by China, Japan and France. The European Union members combined produced 1 336 feature films in 2011. The national market share is relatively small in most countries for which data are available, with the smallest share in Belgium and Hungary. Only four countries (India, United States, Japan and Korea) have a national market share above 50%. A glance at the chart suggests that local production and national market share is positively related, as one would expect. ¹⁹

UNESCO information on the top 10 feature films by admissions or box office revenue reveals that non-English speaking countries rarely make it into the top 10 list of other countries. Locally produced films in non-English speaking countries are mainly screened in their home country, and in some cases in neighbouring countries and/or countries with which they share a language. It is also striking how little variation there is between countries as far as which films make it to the top 10 and how few countries of origin are represented in the top 10. Harry Potter (a UK/US co-production) was on the top 10 list in all but two of the countries depicted in Figure 2. In South Africa all of the top 10 movies were from the United States and the country with the most diversified list was France with films from 5 different origins (including co-productions) in its top 10 list, closely followed by ten countries with four origin countries, including co-production, in their top 10 movies.²¹

Trade in broadcasting services takes several forms. Channels buying access to distribution platforms in each country is one model of cross-border supply. To facilitate such trade and in addition easing entry for new domestic channels, some countries impose access regulation on dominant platforms. Servicing foreign market through the establishment of a channel in the targeted market, or buying an existing channel or broadcaster is another possibility. There is also extensive cross-border trade in rights to show programs, films and to develop local varieties of existing formats. Finally overspill services from free channels (i.e. funded by advertising or subsidies) in neighbouring countries is common and may significantly affect the market conditions in small countries sharing a common language with a large neighbour. Examples are Austria, Belgium and Ireland (Attentional *et al.*, 2011). The STRI database records a number of limitations on both cross border trade and foreign investment in broadcasting.

3. Identifying measures to be included in the STRI

Audio-visual services are subject to a wide range of sector-specific regulatory measures. As with the other sectors, the index should include information that is sufficiently specific and detailed that it can inform policy making. But the index should not be so detailed that the primary barriers are overshadowed by lesser restrictions that add little to the essence of trade restrictiveness. Annex B presents the list of measures included in the distribution services STRI.

Governments apply a range of limitations to audio-visual services. These can be sectorspecific or can apply to all sectors in the economy. Regulations can explicitly discriminate against foreign providers or, although non-discriminatory, can still affect trade by favouring

^{19.} Correlation analysis confirms this as the correlation coefficient is about 0.85, significant at a 1% level.

^{20.} The top 10 list is reported by admission for some countries and by box office revenue for others.

^{21.} Markets with four origin countries are: Belgium, the Czech Republic, Denmark, Estonia, Finland, Norway, the Slovak Republic, Spain, Switzerland and USA

the local incumbents. Limitations are also often designed to meet social objectives, such as ensuring quality, cultural diversity and protecting consumers.

The measures included in the STRI for audio-visual services have been divided into the same five categories as all other sectors. This typology of measures forms the basis for the creation of the STRI.

Limitations on foreign market entry

This category contains barriers to foreign ownership and other impediments to market entry for audio-visual services suppliers. Prominent examples of these measures include limitations on foreign direct equity stakes, requirements for foreign investment only through joint ventures or co-production, limitations on mergers and acquisitions for foreign firms, and controlling the number of firms that may operate by economic needs tests or quotas. The imposition of residency requirements for board members represents another important regulation that limits market entry for foreign firms, and thus impedes trade. Statutory monopolies prevent market entry of any suppliers other than the monopolist. In some countries royalty collection societies are statutory monopolies. Finally, audio-visual services can easily be digitised and traded across borders over the internet. Limitations on downloading and streaming other than for protection of minors and similar nondiscriminatory limitations are sector-specific measures recorded under this heading.

Limitations on the movement of people

Limitations on the temporary movement of people can hinder trade. For instance, restricting the number of foreign cast and crew, intra-corporate transferees or professionals permitted to practice by labour market needs test or quotas may delay establishment of commercial presence, impose costs on both local and foreign services providers and discourage them from shooting movies and recording music in the country in question. A sector-specific measure recording whether or not there are measures facilitating the temporary entry of cast and crew is added to this category for audio-visual services. Some countries do have special visas for this category to facilitate e.g. the shooting of movies or sound recording, which usually takes between a couple of weeks and 3-4 months. Lack of such facilitating measures is not considered a restriction if there are no quotas or economic needs test for any relevant category of temporary services providers.

Other discriminatory measures

Discriminatory taxes and other forms of subsidies apply as important measures to include in the STRI. In addition, discrimination in government procurement is included for all sectors. Sector-specific measures under this heading are regulations related to dubbing and compulsory local processing of dubbing or sub-titling and the adoption of the Berne and Rome conventions on protection of artistic work. Finally, discrimination in the distribution of royalties collected from users of copyrighted content is included. Such discrimination deprives foreign artists and other rights holders from the revenue stream that they are entitled to according to international conventions.

Barriers to competition²²

Barriers to competition lead to the distortion of the level playing field and thus discourage foreign participation in the market. This category also includes public ownership. In the audio-visual sector government ownership is most common in broadcasting where an incumbent public broadcaster is owned by government directly or indirectly through a foundation in some countries. Measures capture both public ownership and to what extent the publicly owned broadcaster enjoys privileges, for instance through funding. If funding covers

^{22.} Public ownership may have the effect of market access restriction.

the cost of obligations that private broadcasters do not have to shoulder, it is not considered a limitation on competition. Further, the policy area captures to what extent foreign firms have access to dispute settlement mechanism and to subsequent appeal procedures. For audio-visual services dispute settlement in the area of royalty distribution is explicitly recorded.

Regulatory transparency

Measures concerning regulatory transparency and administrative procedures are also included in the STRI. These regulations involve publication and communication of the regulatory and licensing regimes as well as the administrative procedures of allocation and renewal of licences, particularly in the broadcasting sector, where licenses are common. Finally, excessive visa processing time represents an additional cost of doing business and time for visa processing is included under this heading.

4. Methodology for developing the STRI

The STRI is derived by aggregating regulations that are potentially trade restricting into a composite measure of restrictiveness. The construction of the index involves decisions concerning three main issues: scoring, weighting and aggregation. Scoring relates to how regulatory measures are transformed from qualitative to quantitative information. Weighting captures the relative importance of impediments in terms of trade restrictiveness (the higher the weight the more restrictive a category of measures is considered relative to other categories). The aggregation method determines how weights are applied to scores for calculating the index number. OECD (2014a) explains the methodology in detail, while a technical paper explaining the alternative methodologies, their advantages and disadvantages and the robustness of the chosen methodology is available for interested readers (OECD, 2014b). Here a brief non-technical summary is presented.

The approach taken to scoring in the STRI is to transform qualitative information on regulation into binary variables. A majority of the questions included in the regulatory database are Yes/No questions. Regulatory information of a more complex nature (e.g. foreign equity limits) can easily be transformed to binary variables by introducing multiple thresholds. Therefore, for each type of impediment in a given country a score is assigned either 0 or 1, with the former representing the absence and 1 the presence of the limitation. This method ensures that all variables are measured on the same scale such that comparison across different countries and over time is possible.

It is important that the STRI captures as much of the variance in the underlying data as possible. The scoring of foreign equity limits, for instance, should reflect that an equity limit of, say 49% is more restrictive than a limit of 66%. This is obtained by introducing multiple thresholds. For foreign equity the thresholds are less than 33%, less than 50%, and less than 100%. A country with a limit of 49% will receive a score of one on the less than 50% threshold as well as less than 100% (i.e. two scores of one), while the country with a limit of 66% will receive one score of one (on the less than 100% threshold). The same approach is used for other variables for which more detailed information is available (e.g. duration of stay of intra-corporate transferees).

The scoring also includes hierarchies and bundles of measures. The two most significant sector-specific issues are quotas and copyright. Quotas aim at reserving a certain share of what is broadcasted, shown in movie theatres or streamed or downloaded from the internet for

When compiling a composite indicator, it is not advisable to include both binary and continuous variables in the same dataset as the resulting indicator would not have a clear interpretation (see OECD, 2014b).

local works. It is therefore not merely a measure raising the cost or otherwise affecting the competitiveness of foreign providers. The scoring and weighting system therefore need to reflect that for instance a screen quota of 50% for local work limits foreign supply more than for instance requiring that the manager of a company must be resident. Avoiding that a large number of general measures waters down the importance of key sector-specific measures can be reconciled with the STRI methodology of assigning expert weights to policy areas and equal weights within policy areas by grouping measures as follows:

- If the number of foreign TV channels is restricted by quotas, foreign firms are subject to economic needs test will automatically be scored one. If the quota for foreign TV channels is zero, all measures related to foreign TV channels are automatically scored
- Foreign equity limits will be scored the same way as for other sectors, with the same implications for other measures linked to ownership and control of a firm. For broadcasting there are two questions on foreign equity. The basis for scoring will be the average of those entered for broadcast and media outlet and terrestrial broadcasters.
- Measures facilitating the temporary entry of artists, cast and crew are scored 1 only if such measures are not in place and there are quotas or economic needs tests for temporary movement of services providers in general.
- Copyright: The adoption of international standards on protection of artistic work is scored 0 only if its enforcement is also in place.

Aggregating individual restrictions into the STRI consists of two steps. The first step involves assigning weights to the policy measures. The second step involves aggregation into the overall STRI. A number of weighting schemes have been explored to develop the STRI. These are equal weights, expert judgement and random weights. Equal weights are the most common weighting scheme applied for constructing composite indicators. It is a transparent way of creating an index in the absence of any clear alternative. Lack of clear alternatives could be due to insufficient knowledge of causal relationships, absence of an empirical basis for deciding which is more important, or lack of clarity of what the index is supposed to measure. Equal weights are, however, not as free of judgement as is often claimed. With equal weights, the relative importance of each measure depends on how many measures are included and how individual restrictions are organised into sub-indicators, leaving rather a lot to subjective judgement or arbitrariness.

As noted, equal weights are used when there is a lack of clear alternatives. For trade restrictiveness indices, however, it is clear that the measures should be weighted according to their contribution to trade costs, which in turn consist of entry costs and operational costs.² Unfortunately services trade data are not sufficiently detailed for estimating the trade cost equivalent of trade barriers and behind the border regulation that affects services trade. Nevertheless, there is a growing literature on measuring trade costs on the basis of observed trade patterns in services, but usually at a higher level of aggregation than what is required for the STRI (Miroudot et al., 2012). Furthermore, the different approaches to measuring trade costs on the basis of observed trade flows have strengths and weaknesses (Nordås, 2011) and as of yet a widely accepted methodology is not available.

Being constrained by lack of data, alternative ways of weighting the measures in a way that reflects contribution to trade costs have to be sought. Asking those directly and indirectly

For trade in goods estimating the contribution of tariffs and non-tariff barriers is straight forward. 24. The International Monetary Fund's Overall Trade Restrictiveness Index (OTRI), for instances makes such estimates by the tariff line (IMF, 2005).

involved in services trade is one option. Such expert judgement has the advantage that relative importance can be captured in a realistic and meaningful way. One objection to using expert judgement is subjectivity. As argued above this objection also applies to other methodologies and the problem can be reduced, for instance, by asking a large group of experts.

A third methodology for weighting measures is principal component analysis (PCA). This is a statistical methodology that assigns the highest weight to the variables that contribute the most to the variation in the dataset. The disadvantage of PCA is that the assigned weights do not reflect the relative trade restrictiveness of a measure, and the weights are based on the sample of countries for which they are estimated. Thus, when the index is extended to new countries, the scores of countries already included may change. We have therefore chosen not to use PCA.

The weighting scheme used for the calculation of the STRI relies on expert judgment. A large number of experts were asked to allocate 100 points among the five policy areas presented above. These are translated into weights by assigning the weight experts allocated to the policy area to each measure that falls under it and correct for differences in the number of measures under the policy areas. The sensitivity of the indices to the weighting scheme has been tested by experimenting with alternatives and by picking 3000 weighting schemes at random (i.e. Monte Carlo simulations).

Figure 3 illustrates the difference the weighting scheme makes respectively in motion picture, broadcasting and sound recording. They depict the STRI for a hypothetical country which scores one on all the regulatory measures included in the index, thus having the most restrictive trade regime possible. It is noted that the three sectors are quite different in terms of which policy areas are considered the most important. Broadcasting is quite similar to other capital-intensive network industries, in sound recording all policy areas are considered about equally important while in motion pictures limitations on foreign ownership and other market entry conditions and the movement of people are considered the most important.

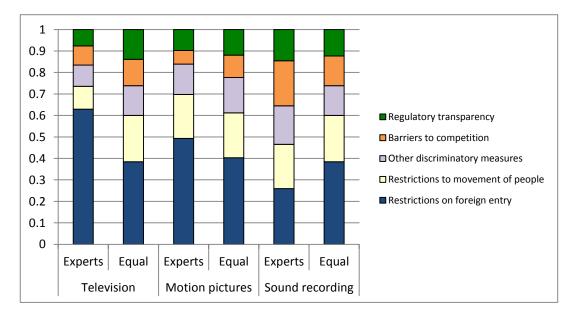


Figure 3. The Composition of the STRI for audio-visual services in a totally restrictive country

^{25.} The formula for measure j under category i is the following: $w_{ji} = score_j w_i / \sum_i n_i w_i$ where n_i is the number of measures under category i and w_i is the share of the total number of points allocated to policy area i by the experts.

The method for aggregating the categories into one single index chosen is linear, taking the weighted average (using the expert judgement weights) of the scores. An advantage of assigning a unique weight to each measure is that measures can be aggregated in different ways into different classifications in a consistent manner. The disadvantage is a high degree of compensation such that a high score in one category can be compensated by a low score on another category, with the result that there is less variation among countries in the aggregate index than in the sub-indicators. It may, however, well be the case that restrictions are complementary rather than additive. This problem has been dealt with through the scoring system creating hierarchies and bundles of complementary measures when they are logically linked as explained in the methodology paper (OECD, 2014a).

Results²⁶ 5.

Figures 4-6 show the STRI indices for motion pictures, television and broadcasting and sound recording respectively by policy area and the sample average. The indices are calculated using weights based on expert judgement (see Figure 3). Broadcasting has the highest restrictiveness index ranging between 0.07 and 0.78, with a sample average of 0.28. Motion pictures follow with a sample average of 0.18, ranging between 0.06 and 0.72. Finally sound recording is the most liberal with a sample average score of 0.16 with the lowest score at 0.05 and the highest at 0.37.

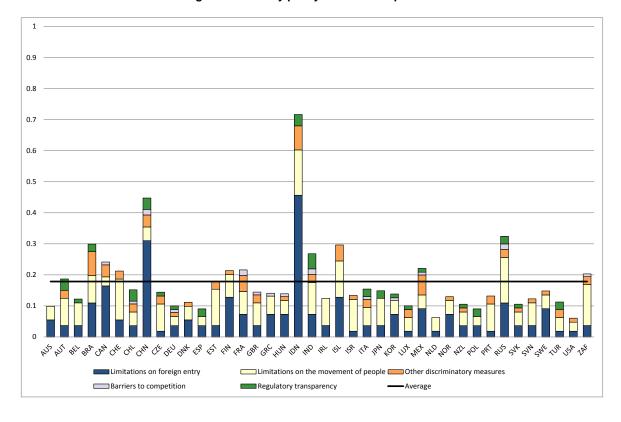


Figure 4. STRI by policy area: Motion pictures

^{26.} The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

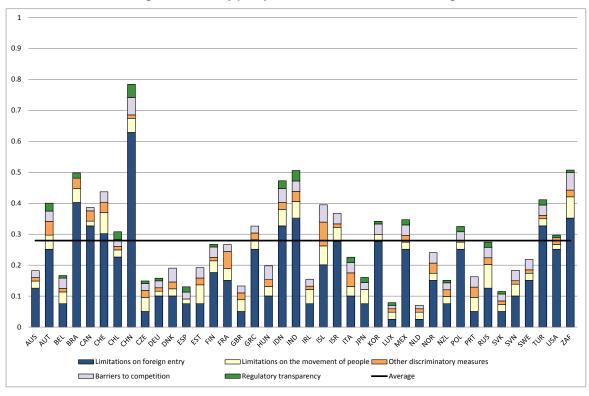
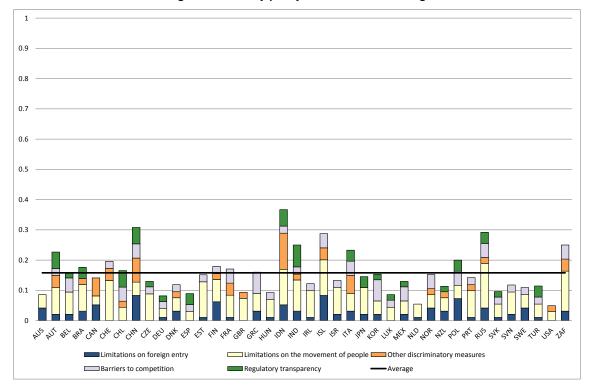


Figure 5. STRI by policy area: Television and broadcasting





The general regulatory framework facing foreign enterprises in all sectors contributes significantly to the indices. Under Limitations on foreign market entry there is a general requirement that a given proportion of board members in a company must be residents or citizens in some countries. Under the same policy area some countries reserve the right to block or impose conditions on foreign investment if the investment is not considered to be in the national interest. A few countries also have capital controls and some have limitations on mergers and acquisitions that apply equally to foreign suppliers in all sectors.

Under Limitations on movement of people, labour market tests or quotas are not uncommon for natural persons providing services on a temporary basis. These apply to all sectors and account for more than half of the STRI index value in eleven countries in motion pictures and 13 countries in sound recording. The contribution from this policy area is particularly large in Russia and South Africa.

Turning to the sector-specific measures, Limitations on foreign market entry figure prominently in broadcasting, Foreign equity limitations are found in several countries, China does not permit foreign investment in broadcasting at all, Korea does not allow foreign equity in terrestrial broadcasting, but a minority share in other broadcasting and media outlets is permitted. Indonesia allows minority foreign investment in terrestrial broadcasting only, and the maximum share foreign investors may hold is 20%. In addition Austria, Brazil, Canada, Switzerland, Spain, France, Greece, India, Israel, Japan (terrestrial only), Mexico, Turkey, the United States and South Africa have foreign equity limitations in broadcasting, all of them requiring that broadcasters are controlled by local legal or natural persons, at least for terrestrial broadcasters.

Screen quotas account for a significant part of the index both in broadcasting, motion pictures and to a lesser extent sound recording. The EU Audio-visual Media Services directive requires that broadcasters reserve at least half of transmission time excluding news, sports events, advertising, games and teleshopping for European works. This is recorded in the STRI database as a screen quota in all EU and EEA Members that have implemented the directive in their laws and regulations. The countries in the STRI database that do not have screen quotas for broadcasting are India, Indonesia, Iceland, Japan, Korea, Mexico, New Zealand, Russia, Turkey and the United States.

In addition to broadcasting quotas for local content in general, some countries also have specific broadcasting quotas for local films and/or music. Belgium, Canada, France and Hungary have specific broadcasting quotas for both film and music while Australia, Israel, Portugal, Slovenia, and South Africa²⁷ have quotas for music and Brazil, Italy and Korea have specific broadcasting quotas for local films. Brazil, China, Spain, Indonesia, Korea and Mexico also have quotas for local films in movie theatres.

Finally a number of countries have limitations on streaming (Austria, China, Germany, Denmark, Spain, Estonia, Finland, France, Hungary, Italy, Norway, Poland and Slovenia). Notice that all the EEA countries that have limitations on streaming have implemented the European Audio-visual Media Services directive in a technology-neutral way such that it applies equally to linear and on-demand services. China is the only non-EEA member with such limitations.

In sound recording most countries have few sector-specific limitations. The indices in this sector are thus driven by horizontal regulations that affect all sectors in the economy, mainly in the area of movement of people. The prominence of limitations on movement of people in this sector and motion pictures is explained both by few limitations in other areas and by the relatively high weight experts assigned to this mode.

^{27.} In South Africa the legislation opens for quotas in the licensing conditions.

The most important contribution to the index under the heading *Otherdiscriminatory measures* are discriminatory subsidies which are found in 14 of the countries included. Lack of access to government procurement is found in 16 countries and regulations on dubbing in broadcasting and motion pictures are found in 16 countries. Under this policy area we also find measures related to discrimination regarding copyright protection and distribution of license fees. All countries included have incorporated the Berne Convention in their copyright legislation and only Iceland and New Zealand are not parties to the Rome convention. All countries except Indonesia require that royalties are distributed in a non-discriminatory manner.

Enforcement of copyright was flagged as a very important issue at the OECD expert meeting on audio-visual services (OECD, 2011), and it appears that the legal framework alone may not fully capture difficulties with the implementation of copyright and related rights in the digital economy. This would be an era for future work to refine the STRI in this sector.

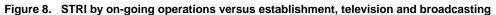
The most prominent contribution to the STRI indices under the heading *Barriers to competition* is public ownership. In the broadcasting sector only Brazil, Luxembourg, Mexico, the Netherlands, the Slovak Republic and the United States do not have any major state-owned broadcaster. Several countries with an ultimately state-owned broadcaster have established independent foundations that own and operate the public broadcaster.

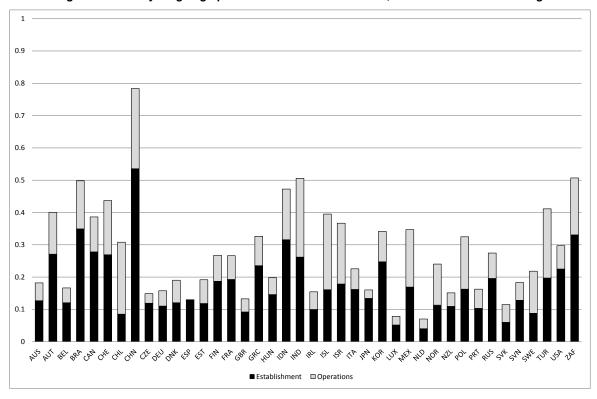
In motion pictures state ownership is more limited and found in nine countries (Canada, China, France, Germany, the United Kingdom, Hungary, India, Italy and Russia). In four of these countries (France, Germany, Italy and the United Kingdom) the public, state owned broadcaster has a major movie production subsidiary. The state-owned public broadcaster also has a sound recording arm in Italy and Poland. Other contributions to the indices under this heading are lack of enforcement of competition policy related to vertical agreements in six countries and lack of arbitration structures in cases of disputes over distribution of license fees and royalties in the sound recording sector. In broadcasting, the public broadcaster is exempted from the competition law in five countries.

Figures 7-9 show the STRI indices broken down on measures that affect ongoing operations versus those that affect establishment. Limitations on establishment dominate, while limitations on ongoing operations are mostly found in the countries with the highest indices. These include discriminatory taxes and subsidies, limitations on board of directors and burdensome administrative requirements.

■ Establishment □ Operations

Figure 7. STRI by on-going operations versus establishment, motion pictures





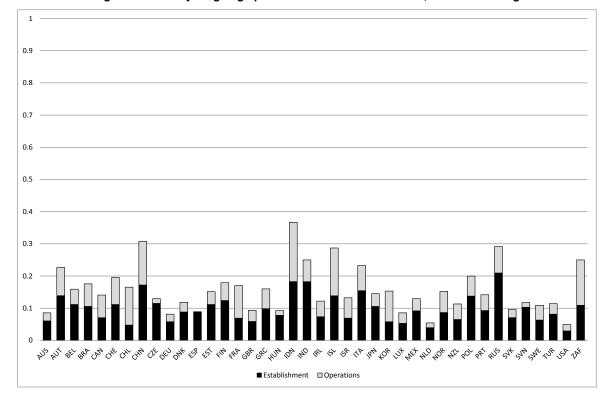


Figure 9. STRI by on-going operations versus establishment, sound recording

6. Sensitivity analysis

The value of the indices is determined by the regulations in place and the scoring and weighting system. The weights assigned to the measures under each policy area reflects experts' view of how much they contribute to the costs of entering and operating in foreign markets. The weighting system therefore does, and should, have a significant impact on the results. It is nevertheless interesting to observe how the index value changes with changing weighting systems. Figures 10-12 present the result of 3000 simulations using random weights. It represents the highest, the lowest and the mean value derived from the simulations. In addition the actual index is included in the charts for comparison.

It is first noted that the distance between the highest and lowest score can be substantial, but varies a lot between countries. The variation is largest when countries have a regulatory profile where limitations are concentrated under a few policy areas. A comparison between Australia, Estonia and Germany in motion pictures illustrates the point. Only two policy areas contribute to Australia's index, which is also quite low. Estonia has limitations contributing to the index in three policy areas, where limitations on movement of people account for more than half of the index value. Germany, however, has a low overall score, but limitations in all five policy areas. Therefore Australia's score can vary from close to zero to 0.17, depending on the weights assigned to the two policy areas in which it has limitations. The variation for Estonia is even higher and ranges from one of the lowest to one of the highest scores in the sample, depending on the weight assigned to movement of people. Germany's score in contrast does not vary much with the weighting system because of its even regulatory profile and low index value.

Figure 10. Random weights, motion pictures

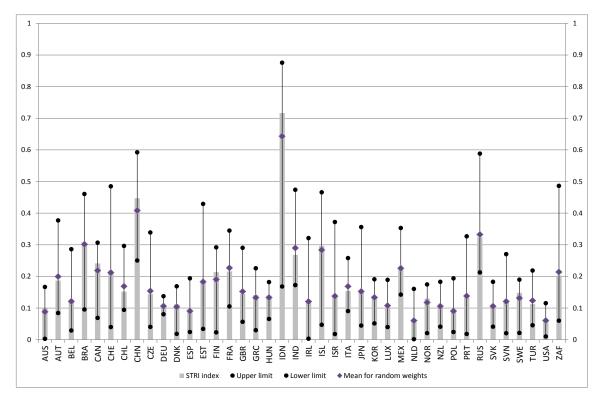
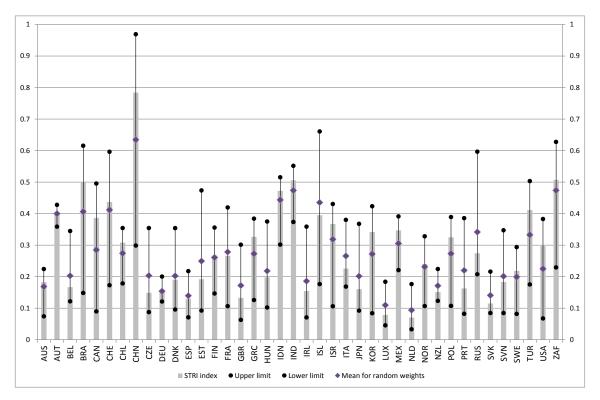


Figure 11. Random weights, broadcasting



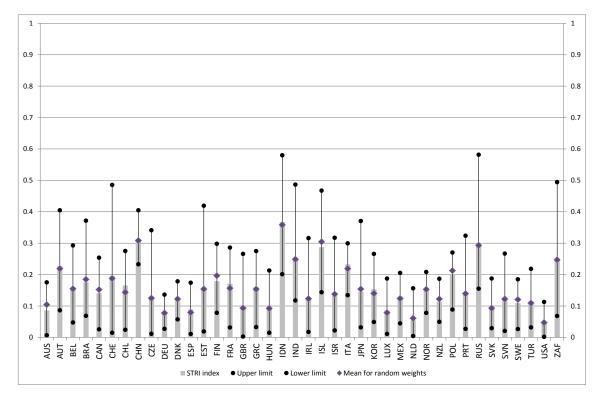


Figure 12. Random weights, sound recording

An STRI index value of zero is technically possible even for countries with a number of important limitations if these are concentrated in 1-4 policy areas and the policy areas where the country has no limitations get all the weights. It is also noted that the indices calculated on the basis of the average of the random weights are quite similar to those calculated on the basis of expert judgment weight, with a correlation coefficient above 0.9 for all three sectors. The sensitivity test shows that the scores do indeed depend strongly on the weighting system, underscoring the importance of having a weighting system that truly reflects the contribution of each policy area to overall costs of entry and operations in foreign markets.

7. Conclusions

This paper presents results for the STRI indices for audio-visual services. It shows that the sub-sector most open to international trade and investment is sound recording, closely followed by motion pictures, while there are more significant limitations in the broadcasting sector. The most important limitations for broadcasting are foreign equity limitations and quotas. The latter is related to program content, and in a few cases there are quotas also on the number of TV channels. Measures related to the competition between government owned and private broadcasters also figure prominently in a number of countries. Finally, lack of national treatment as far as subsidies are concerned is found in almost half of the countries included in the STRI database.

For motion pictures an important contribution to the STRI indices in some countries is quotas for local films on TV channels and to a lesser extent in movie theatres. Lack of national treatment as far as subsidies are concerned contributes to the indices also for motion pictures, but to a lesser extent than for broadcasting. Instead, limitations on movement of people are relatively more important in the motion picture and in the sound recording sectors. This is not because movement of people is more restricted in these sectors, but because

individuals matter relatively more for the production and promotion of the films and sound recordings.

The audio-visual sector in general and sound recording in particular is strongly affected by the enforcement or lack thereof of copyright and the related distribution of royalties across borders. This is an issue that needs further investigation as it appears that there is little variation in copyright legislation in the sample of countries included in the STRI, while there may be more variation in the implementation of copyright legislation. More work is needed to capture implementation in a factual and objective way.

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Annex A. Index values by policy area

Table A.1. Motion pictures

Country	Limitations on foreign market entry	Limitations on movement of people	Other discriminatory measures	Barriers to competition	Regulatory transparency	Overall indicator
AUS	0.05	0.04	0.00	0.00	0.00	0.10
AUT	0.04	0.09	0.03	0.00	0.04	0.19
BEL	0.04	0.07	0.00	0.00	0.01	0.12
BRA	0.11	0.09	0.08	0.00	0.02	0.30
CAN	0.16	0.03	0.04	0.01	0.00	0.24
CHE	0.05	0.13	0.03	0.00	0.00	0.21
CHL	0.04	0.04	0.03	0.01	0.04	0.15
CHN	0.31	0.04	0.04	0.02	0.04	0.45
CZE	0.02	0.09	0.03	0.00	0.01	0.14
DEU	0.04	0.03	0.01	0.01	0.01	0.10
DNK	0.05	0.04	0.01	0.00	0.00	0.11
ESP	0.04	0.03	0.00	0.00	0.02	0.09
EST	0.04	0.12	0.03	0.00	0.00	0.18
FIN	0.13	0.07	0.01	0.00	0.00	0.21
FRA	0.07	0.07	0.05	0.02	0.00	0.22
GBR	0.04	0.07	0.03	0.01	0.00	0.14
GRC	0.07	0.06	0.00	0.01	0.00	0.14
HUN	0.07	0.04	0.01	0.01	0.00	0.14
IDN	0.46	0.15	0.08	0.00	0.04	0.72
IND	0.07	0.10	0.03	0.02	0.05	0.27
IRL	0.04	0.09	0.00	0.00	0.00	0.12
ISL	0.13	0.12	0.05	0.00	0.00	0.30
ISR	0.02	0.10	0.01	0.00	0.00	0.13
ITA	0.04	0.06	0.03	0.01	0.02	0.15
JPN	0.04	0.09	0.00	0.00	0.02	0.15
KOR	0.07	0.04	0.00	0.01	0.01	0.14
LUX	0.02	0.04	0.03	0.00	0.01	0.10
MEX	0.09	0.04	0.06	0.01	0.01	0.22
NLD	0.02	0.04	0.00	0.00	0.00	0.06
NOR	0.07	0.04	0.01	0.00	0.00	0.13
NZL	0.04	0.04	0.01	0.00	0.01	0.11
POL	0.04	0.03	0.00	0.00	0.02	0.09
PRT	0.02	0.09	0.03	0.00	0.00	0.13
RUS	0.11	0.15	0.03	0.02	0.02	0.32
SVK	0.04	0.04	0.01	0.00	0.01	0.11
SVN	0.04	0.07	0.01	0.00	0.00	0.12
SWE	0.09	0.04	0.01	0.00	0.00	0.15
TUR	0.02	0.04	0.03	0.00	0.02	0.11
USA	0.02	0.03	0.01	0.00	0.00	0.06
ZAF	0.04	0.13	0.03	0.01	0.00	0.20

Table A.2. Broadcasting

Country	Limitations on foreign market entry	Limitations on movement of people	Other discriminatory measures	Barriers to competition	Regulatory transparency	Overall indicator
AUS	0.13	0.02	0.01	0.02	0.00	0.18
AUT	0.25	0.05	0.04	0.03	0.03	0.40
BEL	0.08	0.04	0.01	0.03	0.01	0.17
BRA	0.40	0.05	0.03	0.00	0.02	0.50
CAN	0.33	0.02	0.03	0.01	0.00	0.39
CHE	0.30	0.07	0.03	0.03	0.00	0.44
CHL	0.23	0.02	0.01	0.02	0.03	0.31
CHN	0.63	0.05	0.01	0.06	0.04	0.78
CZE	0.05	0.05	0.02	0.02	0.01	0.15
DEU	0.10	0.02	0.01	0.02	0.01	0.16
DNK	0.10	0.02	0.02	0.04	0.00	0.19
ESP	0.08	0.02	0.00	0.02	0.02	0.13
EST	0.08	0.06	0.02	0.03	0.00	0.19
FIN	0.18	0.04	0.01	0.03	0.01	0.27
FRA	0.15	0.04	0.05	0.02	0.00	0.27
GBR	0.05	0.04	0.02	0.02	0.00	0.13
GRC	0.25	0.03	0.02	0.02	0.00	0.33
HUN	0.10	0.03	0.02	0.04	0.00	0.20
IDN	0.33	0.05	0.02	0.04	0.03	0.47
IND	0.35	0.05	0.03	0.03	0.03	0.51
IRL	0.08	0.05	0.01	0.02	0.00	0.15
ISL	0.20	0.06	0.08	0.06	0.00	0.40
ISR	0.28	0.05	0.01	0.03	0.00	0.37
ITA	0.10	0.03	0.04	0.03	0.02	0.23
JPN	0.08	0.05	0.00	0.02	0.02	0.16
KOR	0.28	0.02	0.00	0.03	0.01	0.34
LUX	0.03	0.02	0.01	0.01	0.01	0.08
MEX	0.25	0.02	0.02	0.03	0.02	0.35
NLD	0.03	0.02	0.01	0.01	0.00	0.07
NOR	0.15	0.02	0.03	0.03	0.00	0.24
NZL	0.08	0.02	0.02	0.02	0.01	0.15
POL	0.25	0.02	0.00	0.03	0.02	0.32
PRT	0.05	0.05	0.03	0.03	0.00	0.16
RUS	0.13	0.08	0.02	0.03	0.02	0.27
SVK	0.05	0.02	0.01	0.02	0.01	0.11
SVN	0.10	0.04	0.01	0.03	0.00	0.18
SWE	0.15	0.02	0.01	0.03	0.00	0.22
TUR	0.33	0.02	0.01	0.03	0.02	0.41
USA	0.25	0.02	0.02	0.00	0.01	0.30
ZAF	0.35	0.07	0.02	0.06	0.01	0.51

Table A.3. Sound recording

Country	Limitations on foreign market entry	Limitations on movement of people	Other discriminatory measures	Barriers to competition	Regulatory transparency	Overall indicator
AUS	0.04	0.04	0.00	0.00	0.00	0.09
AUT	0.02	0.09	0.04	0.02	0.05	0.23
BEL	0.02	0.07	0.00	0.05	0.02	0.16
BRA	0.03	0.09	0.02	0.00	0.04	0.18
CAN	0.05	0.03	0.06	0.00	0.00	0.14
CHE	0.00	0.13	0.04	0.02	0.00	0.20
CHL	0.00	0.04	0.02	0.05	0.05	0.17
CHN	0.08	0.04	0.08	0.05	0.05	0.31
CZE	0.00	0.09	0.00	0.02	0.02	0.13
DEU	0.01	0.03	0.00	0.02	0.02	0.08
DNK	0.03	0.04	0.02	0.02	0.00	0.12
ESP	0.00	0.03	0.00	0.02	0.04	0.09
EST	0.01	0.12	0.00	0.02	0.00	0.15
FIN	0.06	0.07	0.02	0.02	0.00	0.18
FRA	0.01	0.07	0.04	0.05	0.00	0.17
GBR	0.00	0.07	0.02	0.00	0.00	0.09
GRC	0.03	0.06	0.00	0.07	0.00	0.16
HUN	0.01	0.06	0.00	0.02	0.00	0.09
IDN	0.05	0.12	0.12	0.02	0.05	0.37
IND	0.03	0.10	0.02	0.02	0.07	0.25
IRL	0.01	0.09	0.00	0.02	0.00	0.12
ISL	0.08	0.12	0.04	0.05	0.00	0.29
ISR	0.02	0.09	0.00	0.02	0.00	0.13
ITA	0.03	0.06	0.06	0.05	0.04	0.23
JPN	0.02	0.09	0.00	0.00	0.04	0.15
KOR	0.02	0.04	0.00	0.07	0.02	0.15
LUX	0.00	0.04	0.00	0.02	0.02	0.09
MEX	0.02	0.04	0.00	0.05	0.02	0.13
NLD	0.01	0.04	0.00	0.00	0.00	0.05
NOR	0.04	0.04	0.02	0.05	0.00	0.15
NZL	0.03	0.04	0.02	0.00	0.02	0.11
POL	0.07	0.04	0.00	0.05	0.04	0.20
PRT	0.01	0.09	0.02	0.02	0.00	0.14
RUS	0.04	0.15	0.02	0.05	0.04	0.29
SVK	0.01	0.04	0.00	0.02	0.02	0.10
SVN	0.02	0.07	0.00	0.02	0.00	0.12
SWE	0.04	0.04	0.00	0.02	0.00	0.11
TUR	0.01	0.04	0.00	0.02	0.04	0.11
USA	0.00	0.03	0.02	0.00	0.00	0.05
ZAF	0.03	0.13	0.04	0.05	0.00	0.25

Annex B. List of measures

Table B.1. Motion pictures

Limitations on foreign market entry	Establishment/ Operations
Foreign equity limitations: maximum foreign equity share allowed (%) (production and distribution)	Е
Non-residents are allowed to invest in local film production and distribution through minority shares in local investment companies. Maximum foreign ownership in local investment companies (%).	E
There are statutory or other legal limits to the number or proportion of shares that can be acquired by foreign investors in firms that are controlled by national state or provincial governments	E
Legal form: only joint ventures are allowed	Е
Legal form: other limitations	E
The number of firms permitted to practice is restricted by quotas	Е
Board of directors: majority must be nationals	0
Board of directors: majority must be residents	0
Board of directors: at least one must be national	0
Board of directors: at least one must be resident	0
Manager must be national	0
Manager must be resident	0
Screening: foreign investors must show net economic benefits	E
Screening: approval unless contrary to national interest	Е
Screening: notification	E
Limitations on the type of shares or bonds held by foreign investors	Е
Conditions on subsequent transfer of capital and investments	E
Limitations on cross-border mergers and acquisitions	E
Broadcast or airtime quotas are in place for motion pictures	Е
Screen quotas are in place	E
Import duties on film	E
Limitations on film renting	E
Limitations on downloading and streaming affecting cross-border trade	E
Other limitations	
Limitations on movement of people	
Quotas: intra-corporate transferees	0
Quotas: contractual services suppliers	E
Quotas: independent services suppliers	E
Labour market tests: intra-corporate transferees	0
Labour market tests: contractual services suppliers	E
Labour market tests: independent services suppliers	E

	<u> </u>
Limitation on duration of stay for intra-corporate transferees (months):	0
Limitation on duration of stay for contractual services suppliers is limited to (months):	E
Limitations on duration of stay for independent services suppliers is limited to (months):	E
There are measures facilitating the temporary entry of artists, crew and cast	E
Other limitations	
Other discriminatory measures and international standards	Establishment/ Operations
Foreign suppliers are treated less favourably regarding taxes	0
Foreign suppliers are treated less favourably regarding eligibility to subsidies	0
There are limitations on foreign participation in public procurement	0
Dubbing is regulated	0
Local content: replication requirements	0
Local content: Obligations to perform dubbing and/or subtitling locally	0
Local content: limitations on cast and crew	0
International standards on protection of artistic work apply	0
Royalties and license fees collected are distributed in an equitable and non-discriminatory manner	0
Discriminatory censorship fees and procedures	0
Other limitations	
Barriers to competition and public ownership	
When appeal procedures are available in domestic regulatory systems, they are open to affected or interested foreign parties as well.	0
Foreign firms have redress when business practices are perceived to restrict competition in a given market	0
Publicly-controlled firms or undertakings are subject to an exclusion or exemption, either complete or partial, from the application of the general competition law.	E
National, state or provincial government control at least one major firm in the sector	E
Advertising limitations	0
Vertical integration is monitored and regulated	0
Other limitations	
Regulatory transparency and administrative requirements	
Regulations are published or otherwise communicated to the public prior to entry into force	0
There is a public comment procedures open to interested persons	0
Range of visa processing time (days)	0
Time to complete all official procedures required to register a company (in calendar days)	E
Total cost to complete all official procedures required to register a company (in % of income per capita)	E
Number of official procedures required to register a company	E
Intellectual property rights are enforced	0
Other limitations	

Table B.2. Broadcasting

Limitations on foreign ownership and other market entry conditions	Establishment Operations
Foreign equity limitations: maximum foreign equity share allowed for broadcast and media outlets (%)	E
Foreign equity limitations: maximum foreign equity share allowed for terrestrial television broadcasters (%)	E
There are statutory or other legal limits to the number or proportion of shares that can be acquired by foreign investors in firms that are controlled by national state or provincial governments	E
Legal form: only joint ventures are allowed	E
Broadcast or airtime quotas are in place for motion pictures	E
Broadcast time is regulated by quotas	E
The number of foreign channels is limited by quotas	E
Board of directors: majority must be nationals	0
Board of directors: majority must be residents	0
Board of directors: at least one must be national	Ο
Board of directors: at least one must be resident	0
Manager must be national	Ο
Manager must be resident	0
Foreign channels are subject to economic needs test	Е
There are residency requirements for TV producers	E
Screening: foreign investors must show net economic benefits	E
Screening: approval unless contrary to national interest	E
Screening: notification	E
Limitations on the type of shares or bonds held by foreign investors	E
Conditions on subsequent transfer of capital and investments	E
Limitations on cross-border mergers and acquisitions	E
Limitations on downloading and streaming affecting cross-border trade	E
Other limitations	
Limitations to the movement of people	
Quotas: intra-corporate transferees	0
Quotas: contractual services suppliers	E
Quotas: independent services suppliers	E
Labour market tests: intra-corporate transferees	0
Labour market tests: contractual services suppliers	E
Labour market tests: independent services suppliers	E
Limitation on duration of stay for intra-corporate transferees (months):	0
Limitation on duration of stay for contractual services suppliers is limited to (months):	E
Limitations on duration of stay for independent services suppliers is limited to (months):	E
There are measures facilitating the temporary entry of artists, cast and crew	E
Other limitations	
Other discriminatory measures and international standards	
TV channels receive discriminatory subsidies or tax breaks	0
There are discriminatory subsidies or tax breaks for the production of programmes	0
Subsidies and tax breaks for audio-visual work are subject to cultural tests	0

Other limitations

There are limitations on foreign participation in public procurement	Ο
Dubbing is regulated	0
Compulsory local processing, dubbing and sub-titling	0
Foreign programme producers have to recruit part of the cast and crew among local professionals	0
International standards on protection of artistic work apply	0
Other limitations	
Barriers to competition and public ownership	Establishment/ Operations
When appeal procedures are available in domestic regulatory systems, they are open to affected or interested foreign parties as well.	0
Foreign firms have redress when business practices are perceived to restrict competition in a given market	Ο
Foreign suppliers can appeal the decisions of the audio-visual regulatory authority	0
Foreign suppliers have redress when business practices are perceived to restrict competition in a given market	0
National, state or provincial government controls at least one major TV channel	E
Publicly-controlled firms or undertakings are subject to an exclusion or exemption, either complete or partial, from the application of the general competition law.	E
Minimum capital requirements	E
Public TV channels are subject to rules that affect the competition with private broadcasters	0
Vertical integration is monitored and regulated	0
Other limitations	
Memo: There is at least one dominant broadcaster	
Regulatory transparency and administrative requirements	
Broadcasting licenses are granted in a transparent manner	E
Regulations are published or otherwise communicated to the public prior to entry into force	Ο
There is a public comment procedure open to interested persons, including foreign suppliers	0
Range of visa processing time (days)	0
Time to complete all official procedures required to register a company (in calendar days)	E
Total cost to complete all official procedures required to register a company (in % of income per capita)	E
Number of official procedures required to register a company	E
Intellectual property rights are enforced	Ο

Table B.3. Sound recording

Limitations on foreign ownership and other market entry conditions	Establishmen Operations
Foreign equity limitations: maximum foreign equity share allowed (%)	Е
Non-residents are allowed to invest in local sound recording through minority shares in local investment companies. Maximum foreign ownership in local investment companies (%).	E
There are statutory or other legal limits to the number or proportion of shares that can be acquired by foreign investors in firms that are controlled by national state or provincial governments	E
Legal form: only joint ventures are allowed	E
Legal form: other limitations	E
The number of firms permitted to practice is restricted by quotas	E
Board of directors: majority must be nationals	0
Board of directors: majority must be residents	0
Board of directors: at least one must be national	0
Board of directors: at least one must be resident	0
Manager must be national	0
Manager must be resident	0
Screening: foreign investors must show net economic benefits	E
Screening: approval unless contrary to national interest	E
Screening: notification	E
Limitations on the type of shares or bonds held by foreign investors	E
Conditions on subsequent transfer of capital and investments	E
Limitations on cross-border mergers and acquisitions	E
Quotas: A proportion of television or radio broadcast time is reserved to domestic music	E
There is a statutory monopoly on copyrights management	Е
Limitations on downloading and streaming affecting cross-border trade	Е
Other limitations	
Limitations on movement of people	
Quotas: intra-corporate transferees	0
Quotas: contractual services suppliers	E
Quotas: independent services suppliers	E
Labour market tests: intra-corporate transferees	0
Labour market tests: contractual services suppliers	E
Labour market tests: independent services suppliers	E
Limitation on duration of stay for intra-corporate transferees (months):	0
Limitation on duration of stay for contractual services suppliers is limited to (months):	E
Limitations on duration of stay for independent services suppliers is limited to (months):	E
There are measures facilitating the temporary entry of artists, crew and cast	
Other limitations	
Other discriminatory measures and international standards	
Foreign suppliers are treated less favourably regarding taxes	0
Foreign suppliers are treated less favourably regarding eligibility to subsidies	0
There are limitations on foreign participation in public procurement	0

Local content: subsidies for film or television program making are conditioned on local content requirements for music	0
Local content: Limitations on cast and crew	0
International standards on protection of artistic work apply	Ο
Foreign rights holders are allowed to join a local copyrights management body	0
Royalties collected are distributed in an equitable and non-discriminatory manner	0
Other limitations	
Barriers to competition and public ownership	Establishment/ Operations
When appeal procedures are available in domestic regulatory systems, they are open to affected or interested foreign parties as well	0
Foreign firms have redress when business practices are perceived to restrict competition in a given market	0
Publicly-controlled firms or undertakings are subject to an exclusion or exemption, either complete or partial, from the application of the general competition law.	E
National, state or provincial government control at least one major firm in the sector	E
Minimum capital requirements	E
Arbitration structures are in place to deal with commercial disagreement between users of rights and collective rights managers	0
Vertical agreements: territorial or customer group sales restrictions are subject to regulation	0
Anti-competitive behaviour such as cartels are prohibited	0
Other limitations	
Regulatory transparency and administrative requirements	
Regulations are published or otherwise communicated to the public prior to entry into force	0
There is a public comment procedures open to interested persons	0
Range of visa processing time (days)	0
Time to complete all official procedures required to register a company (in calendar days)	E
Total cost to complete all official procedures required to register a company (in % of income per capita)	Е
Number of official procedures required to register a company	E
Intellectual property rights are enforced	0
Other limitations	