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COMPULSORY LICENSING FOR RADIO-PLAY OF MUSIC IN INDIA: RECENT HISTORY AND ECONOMIC CONTEXT

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Abstract. Compulsory licensing of sound recordings is practiced in different countries, though the trajectories and rationale for arriving at this framework may differ. Developing countries often introduce measures to protect "infant" industries, but policy persistence can make subsequent changes hard. In 2010, the Copyright Board of India passed an order prescribing 2% of net advertising revenues to be paid by radio stations as compulsory license fees to copyright owners, citing the infancy of the private radio industry and the lack of access to music in India. Since the original order, the private radio industry has matured in size, coverage and listenership. Access to music today is facilitated through a far-reaching radio network, as well as widespread mobile and internet usage. The original order will be reviewed in September 2020. Given the maturation of the private radio industry over the past decade, this paper recommends India transitioning to the perspective considered for countries with mature radio industries. But how can the regulator determine the fair price of music closest to that found in a competitive market? Several strategies demonstrated in the literature can be used to establish a baseline valuation, following which adjustments can be made to account for any spillovers between the two industries.

1. Introduction

Compulsory licensing of sound recordings has legal support through the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations. Different countries have arrived at compulsory licensing for copyright works through various legal precedents.[1] Today most countries in the world exercise compulsory licensing of sound recordings, intended to allow increased access to copyrighted content for distributors. Some authors have recommended scrapping this licensing structure calling it outdated (Abrams, 2009), while others, such as Schultz (2018), state that regulators and courts do not have the necessary information or the processing capacity to correctly value copyrighted material compared to a competitive market. Audley and Boyer (2007) argue

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[1]For a history of how compulsory licensing was introduced in the United States, see Lee (1982).

that the nature of the setting makes it impossible to implement the competitive solution, and instead, regulators should try to assign shares of total surplus to be as close to the competitive market solution as possible.

This paper examines the effects of copyright licensing for sound recordings in India over the past decade. India introduced compulsory licensing for sound recordings in 2010 primarily as a protectionist measure to promote a private radio industry that had only a few companies who were running heavy losses after the first radio spectrum auction. Citing infancy of the radio industry as well as noting the limited access to music for people in remote areas of the country, the Copyright Board passed an order for 2% of Net Advertising Revenue (NAR) to be paid as compulsory license fee by radio stations to the owners of copyrights of sound recordings.[2] This licensing structure and rate was to be reviewed after ten years, and is set to be heard in September 2020 in front of the Intellectual Property Appellate Board (IPAB), the body which the Copyright Board has been merged with.[3]

Protectionist policies are often adopted in developing countries to protect infant industries (Krueger, 2002). These policies can persist for many years, as beneficiaries seek longer periods of protection than might be warranted (Slaughter, 2004). The order locked in the compulsory license structure for ten years, during which technologies have evolved. Due to policy persistence, the 2% rate may be hard to move away from. The order was remiss in that it didn't take into account that the radio industry is effectively being subsidized not directly but by the music industry, which provides valuable inputs for broadcasting. Reducing innovation and incentives in the music industry could potentially undermine the growth of the radio industry itself.

The private radio industry has experienced an average annual growth rate in revenue of 15.6% since the 2010 order was passed. Digital transmission, which allows carrying multiple stations on a single frequency, is expected to be introduced in India, which could lead to bidding for the license of a single frequency giving higher returns than expected for

[2]The order can be accessed here: http://iprmentlaw.com/wp-content/uploads/2018/02/Copyrightboardorder.pdf
[3]This was through Section 160 of the Finance Act, 2017. The objective was to reduce the number of tribunals in the country.

the same costs. The radio industry is also creating an online presence, where viewership and advertising revenue have scope to grow. A protectionist measure is hard to justify today as the industry appears mature.

Another argument of the Copyright Board to justify a compulsory licensing structure involves access. Individuals had limited access when the original order was passed, but today this is no longer the case. Radio stations cover 92% of India's geography and 99% of the population with the rollout of three phases of the expansion of the radio network. The growth of mobile internet gives several affordable options to stream music, which consumers report as using to access music.

In September 2020, the Copyright Board order of 2010 is set to be reviewed. Given the maturity of the radio industry and the expansion of radio and internet networks to provide access, India can consider moving to the policy objectives of countries that have mature private radio industries. The debates in these settings center around how to correctly price music in the absence of a market while facilitating access, recognizing the natural monopoly that copyright holders and collectives yield. Once a baseline rate or amount has been established, factors that need to be empirically examined for the context of India, such as whether radio has an advertising function for the music industry, can be used to refine the relative allocations of surplus.

The paper proceeds as follows. In section 2, I outline the events leading up to the 2010 order by the Copyright Board. In section 3, I lay out some concerns with the order. In section 4, I argue that the radio industry can be considered mature in terms of revenue and listenership. Next, in Section 5, I describe the expansion of the radio network as well as internet access for Indian consumers. Section 6 discusses how India can evaluate the fair value of music based on techniques in the literature as well as considering technology-based techniques for price discovery of sound recordings. In Section 7, I conclude.

2. History of compulsory licensing in India

In 2000, FM radio waves were for the first time in India opened up to the private sector. 108 FM radio channels were auctioned across 40 cities. Following this, in 2001 Phonographic Performance Limited (PPL), the copyright society which administered the radio broadcast rights for the majority of sound recordings in India, set a tariff of Rs. 2400 ($53) per needle hour. Several FM radio stations disagreed with this rate. They approached the Copyright Board for a compulsory license under Section 31 of the Copyright Act. Thirty-one petitions were filed before the Copyright Board.

On 19th November 2002, the Copyright Board fixed an interim rate. This interim rate was Rs. 1200 for peak hours and a formula that made a deduction for other periods and also for the 'B' and 'C' categories (smaller and less populous) cities.[4] However this order was challenged by a leading music producer (T-Series) in the Delhi High Court, and a cross-appeal was filed in the Bombay High Court by PPL and the FM radio stations.

On April 13th 2004, the Bombay High Court questioned "whether the Copyright Board was justified in rejecting the entire material produced by the complainants as totally irrelevant for determination of the compensation and fixing the amount of compensation on the basis of their best judgment or a valued judgment." The court remanded the matter back to the Copyright Board.[5]

On June 30th 2004, the Delhi High Court ruled that a compulsory license could not be granted *at all* under Section 31. Under Section 31(2), compulsory licenses could only be granted in situations where licenses had not been granted to even one FM radio broadcaster. If there was more than one applicant, the license was to be granted to the applicant that would best serve public interest. The view taken by the Delhi High Court therefore was that the "mass grant" of compulsory licenses could not be done, as All India Radio (the public radio broadcaster) had already been given a license to broadcast songs to serve public interest.[6]

[4]Music Broadcast Pvt. Ltd. and Ors. vs Phonographic Performance Ltd. on 19 November, 2002, 2003 (26) PTC 70 CB.
[5]Phonographic Performance Ltd. vs Music Broadcast (P) Ltd., 2004 (29) PTC 282 Bom.
[6]Super Cassette Industries Ltd. vs Entertainment Network (India), AIR 2004 Delhi 326.

Appeals on both these decisions were made by the relevant parties to the Supreme Court of India. On May 16th 2008 the Court upheld the view taken by the Bombay High Court while rejecting the view taken by the Delhi High Court. Compulsory licenses could be granted to more than one FM radio broadcaster but at the same time, the rate would have to be determined through data. The Supreme Court disposed of the Special Leave Petitions holding as follows: "However, we do not approve the manner in which the Board has dealt with the matter. It has refused to examine the witnesses. It took up the matter on a day for hearing which was fixed for production of witnesses. We, therefore, are of the opinion that the order of the Board should be set aside and the matter be remitted to the Board again for the consideration of the matter afresh on merit."

Thus, the Supreme Court redirected the matter back to the Copyright Board and the Board commenced a fresh hearing of the compulsory license applications filed by the respondents.[7] A total of nine applications[8] were filed under Section 31 (1) (b) of the Copyright Act, 1957 for the granting of compulsory license for radio broadcast of sound recordings and were heard collectively by the Copyright Board.[9]

On August 25, 2010, the Copyright Board passed an order fixing the royalty at 2% of net advertisement earnings of each FM radio station to be paid to copyright holders of sound recordings. The validity of the license granted is until 30th September, 2020, when the matter will be reviewed.

3. Concerns with the order

3.1. ***In personem* versus *in rem*.** The order originally concerned music producers who were parties in the nine applications that came up before the Copyright Board. However, it was treated as *in rem* by radio broadcasting companies who took the order as a precedent

[7]M/S. Entertainment Network vs M/S. Super Cassette Industries.
[8]Cases led by the radio broadcasters namely Music Broadcast Private Limited, Entertainment Network India Limited and Radio Midday West India Private Limited were earlier decided by the Copyright Board in the 19th November 2002 order. After the Copyright Board decision was challenged in the Bombay High Court and ultimately in the Supreme Court, these three cases were remanded back to the Copyright Board for fresh hearings as described. Fresh filings of six additional related cases were made in 2008.
[9]M/s Music Broadcast Pvt. Ltd. & Ors. v. PL.

to apply the royalty rate of 2% of Net Advertising Revenue to the entire music industry. This was not necessarily clear to other copyright holders in the industry at the outset.

The Copyright Board order was challenged by Super Cassettes Industries Limited (T-Series), who was not part of the initial cases, but was affected by the pricing structure that emerged. The matter was heard before the Delhi High Court which ruled that the order of the Copyright Board could not be applied against T-Series since T-Series was not a party to the proceedings in which the impugned order came to be passed.

Two appeals against the Copyright Board Order dated August 25th 2010 were also filed before the Madras High Court, one of them by the South Indian Music Companies Association (SIMCA), an industry body of music producers. SIMCA also challenged the Copyright Board order on the grounds that since they were not made party by the radio stations in the compulsory licensing applications filed before the Copyright Board, the Order should not be enforced against them. The Madras High Court did not grant a stay to SIMCA in the case, in contrast to the outcome of the Delhi High Court order that favored T-series.

This sequence of events eventually established expectations and effectively set the rate for sound recordings at the compulsory license rate set by the Copyright Board. However, during the two years in which the trial was ongoing, there was confusion on the interim royalty rates,[10] and for the initial years following the order the opposing judgments from the Delhi High Court and the Madras High Court music producers who were not parties in the original order were unclear as to what rate was legally set for them.

3.2. **Cross-subsidization.** One of the arguments mentioned in the Copyright Board order for keeping compulsory rates at low values is that radio companies incurred losses due to the spectrum bid amounts paid to the government for radio frequencies when the order was passed, and that there were inconsistencies in the spectrum auction structure. No

[10]During the period of 2008-2010, the trial was ongoing and music could not be broadcast without an interim compulsory license. From 2002 to 2010, the private FM radio industry and the recorded music industry had followed the interim order rate of Rs 1200 per needle hour based on the 19th November 2002 Copyright Board order. This had not been worded as an interim compulsory license. The court claimed to be granting a compulsory license based on its "best judgment assessment" on terms that may be revised later. In 2012, the Supreme Court held that under Section 31 of the Copyright Act of 1957, the Copyright Board did not have the power to grant interim compulsory licenses.

financial statements were submitted to the Copyright Board by the radio stations despite requests made by the board during the hearings. Thus, it is not possible to trace the source of losses as being due to the bidding process, the royalty payments, or simply poor performance in a non-competitive industry at the time.

If protecting an infant industry is the objective, it is arguably a poor idea to subsidize the radio industry *at the cost* of the music industry, since music content can be considered an essential input into radio broadcasting. This strategy is essentially short sighted; it could stunt the growth of the music industry, and subsequently affect the quality and diversity of content that radio stations can broadcast to listeners.[11]

If the government wishes to subsidize radio, it could do so directly. This could be a targeted subsidy to promote smaller players or new entrants, or to promote broadcasting of certain kinds of content. It is up to the regulator to decide what content the public would not have access to otherwise, or where the gap in the existing economic framework is. The chosen intervention could then be done by directly transferring any subsidies to targeted parties. This would be a more transparent and less distortionary process of subsidization, and may help avoid unintended upstream effects on the underlying music industry.

3.3. **Locked-in rates.** The Copyright Board order was meant to be temporary, set to be reviewed in 2020, ten years after the original order. During this period, there have been significant advances in radio technologies globally. In their 2017 consulting paper[12] the Telecom Regulatory Authority of India (TRAI) recommended bringing in digital transmission into private radio, citing reasons of quality, more channels on a single frequency and reduced costs of transmission. We can anticipate that radio stations will potentially upgrade to this technology in the future as the ecosystem and ancillary technologies develop. Bidding has already been conducted for three phases of radio spectrum auctions, with licenses of the third phase extending up to 2033 granted and paid for, while revenues have potential to increase through technological advancements.

[11] With interlinked industries producing intellectual property, there is evidence using patents that compulsory licensing can increase innovation by other inventors, see for example Moser and Voena (2012) and Chien (2003). Goh and Olivier (2002) argue that in the case that both the upstream and downstream industries, subsidizing the upstream industry can promote innovation in the downstream industry.

[12] Available at https://main.trai.gov.in/sites/default/files/consultation_paper_digital_radio_10072017.pdf

The potential for rapid advancement in radio broadcasting technology and the associated lowering of costs did not factor into the considerations of the Copyright Board in 2010. Similarly, widespread access to low-cost internet and smartphones through which users can access content was not anticipated at the time the Copyright Board order was passed. A shorter review period may have helped update licensing structures and rates to reflect technological advancements in radio broadcasting as well as complementary technologies.

4. Growth of the Radio Industry

This section describes the expansion of radio since the 2010 Copyright Board order that introduced compulsory licensing citing that private radio was an "infant industry". During this past decade, the industry has had a high and steady growth in revenue. The network of radio stations has expanded to cover most of India's geography and population. New sources of revenue have also emerged for private radio companies.

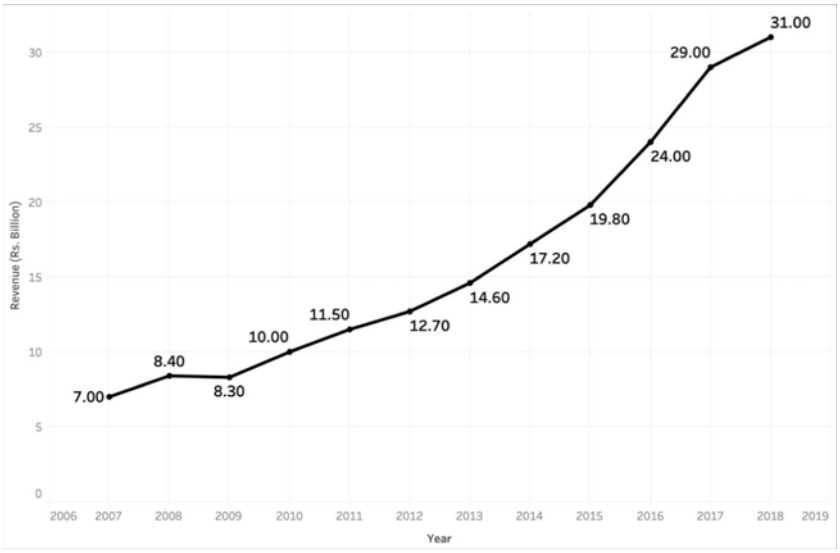

FIGURE 1: Private radio industry revenue in India

Source: FICCI reports on the Media and Entertainment industry.

4.1. **Revenue and Profits.** The total revenue of the private radio industry has grown steadily, at an annual average of 15.6% over the past decade. The revenue numbers for the overall industry and the growth rate in revenue across the years are shown in Figure 1.

With the scaling up of the industry over the past decade through high and steady growth, the infancy status attributed to the industry may stand to be re-examined.

When we consider profits, the data is limited at the firm level. Out of the 33 broadcasters, only about eight have made data publicly available through annual reports, primarily those who are part of organizations listed on the stock exchange where they are obligated to report to shareholders. Although data on profits fluctuates from year to year, it is unclear that positive profits for all firms are needed for an industry to be considered to have matured. Mature, competitive industries where entrants face fixed costs can show fluctuating profits for firms. Given the essence of the model, where firms first bid on a spectrum and later recover these costs, the analysis would have to account for which phase of the auction the firm was part of to examine maturity of the aggregate industry.

4.2. **New sources of income.** Private FM radio in India has grown in revenue at an average annual rate of 15.6% in the past decade.[13] Advertising, which earlier constituted the entire size of the earnings of the radio industry, is no longer the only source of revenue. Radio companies have diversified towards multiple avenues of earnings such as award shows, live events, "Video FM", which allows listeners to consume FM in a video format distributed online through licensing to popular streaming platforms, content advertising, providing clients sponsorship opportunities on podcasts as well as multimedia solutions.

Radio is also trending as a preferred platform for promoting political campaigns according to a report by Tam Media Research, which found a 14% increase in advertisement insertions on radio in the most recent election season, which also saw a 9% dip in advertisements in print media and an 83% dip in advertisements on television.[14]

4.3. **Consumption of content via radio.** The average internet user in India listens to 19.1 hours of music each week. This is slightly higher than the average of 18 listening hours across other countries as documented by the Music Consumer Study (2019) conducted

[13]Source: Figures from FICCI-Frames reports for the media and entertainment industry.
[14]See https://www.google.com/amp/s/m.businesstoday.in/lite/story/radio-is-the-preferred-advertising-media-for-political-parties-for-the-2019-general-elections/1/331733.html

by the International Federation of the Phonographic Industry (IFPI).[15] According to the survey conducted for India by the IFPI, radio was the most-mentioned method for listening to music (86% of users). However, it took up less than 13% of total listening time. The average hours spent using radio to access music relative to other media is 9.16%, similar to the shares of paid audio streaming (8.10%) and social media (10.56%). It is lower than the average hours spent on listening to music through free audio streaming (12.66%), pirated music (12.56%), purchased music (12.51%) and YouTube (13.77%).

A relevant aspect of private FM radio's listenership is its listener profile. As many as 45% of listeners in the top 8 markets belong to the "premium" class of listeners, typically referred to as NCCS A.[16] These listeners are the prime audiences for advertisers. At a national level, this class of listeners of private FM radio are at 29%, which is nearly double their share in the overall population. One reason for the high profile of listeners is the large share of commuters who listen to the radio while driving, which is 25% of listeners in the eight metro cities of India.[17]

5. Access to music

One of the reasons cited in the original Copyright board order of 2010 was access to music. With expansion of radio networks as well as low cost internet on smartphones, consumers throughout the country today have access to content at low costs.

5.1. **Radio network coverage.** To date, three phases of radio auctions have been conducted. All the cities which were in the first phase (predominantly metropolitan and more populous cities) also acquired more stations in the second and third phases of the radio auctions. In the second phase of the auctions, several smaller cities were covered. In the third phase, even smaller cities acquired channels, in addition to the expansion of radio broadcasting through additional radio channels in the cities covered in earlier phases.[18]

[15]Though exact figures differ year to year, the pattern remains consistent. In 2018, the average was 21.5 hours while the global average was 17.8 hours from the Music Consumer Study (2018) by the IFPI.

[16]The New Consumer Classification System (NCSS) developed by the Market Research Society of India (MRSI) and Media Research Users Council (MRUC).

[17]See https://www.musicplus.in/irs-releases-data-radio-mirchi-tops-chart-amongst-fm-broadcasters-india/

[18]In the first phase of FM radio auctions, 108 FM radio channels were auctioned across 40 cities. 21 of these became operational. The second phase of FM Radio auctions commenced in 2005 when a total of 337 channels were put on

The latest available data on the presence of the radio industry from the telecom regulatory authority is from 30th June 2019.[19] All India Radio (the public radio broadcaster) has 420 radio stations (AM & FM) that cover almost 92% of the country by area and more than 99.20% of the country's population. There are 33 operational private radio broadcasters with 366 private FM radio stations in 104 cities.

Figure 2 shows the distribution of radio channels across India after the completion of the third phase of private FM radio broadcasting auctions. Each circle on the map represents a city with the size of the circle indicating the number of radio stations at that location.

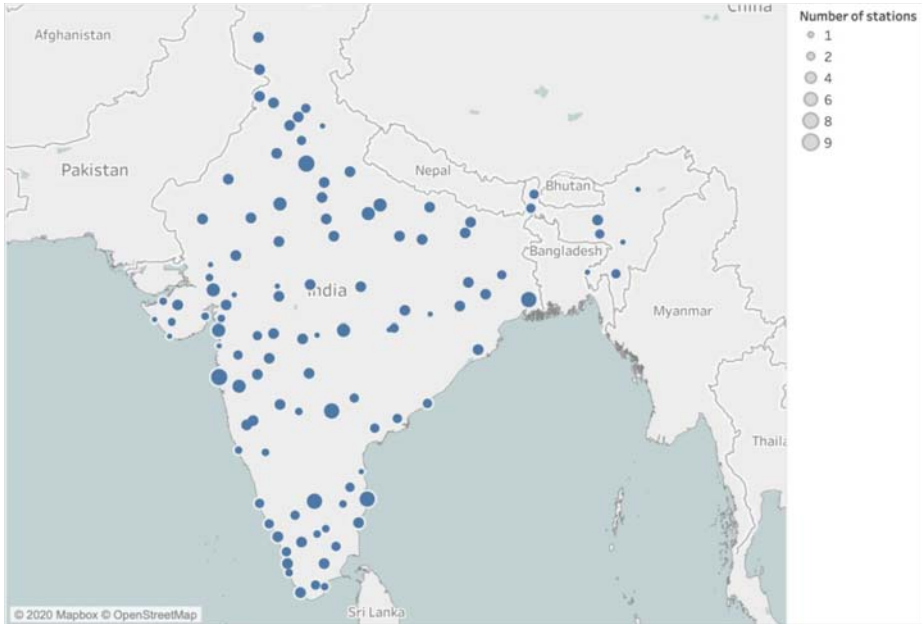

FIGURE 2: Private radio coverage in India

Source: Annexure 2 of the report "Recommendations of the 3rd phase of private FM radio broadcasting", published by the Telecom Regulatory Authority of India.

In addition to the private radio spectrum auctions, the Government has facilitated the set up of 206 Community Radio Stations across India, which provide regional content

bid across 91 cities having population equal to or more than three hundred thousand. Of 337 channels auctioned, 222 channels became operational. Thus, at the end of the second phase of radio auctions, a total of 243 FM Radio channels were operational in 86 cities. In the third phase of the expansion of FM radio, 966 FM radio channels were to be made available in 333 cities. In the first batch of the third phase of auctions, 135 private FM Radio channels in 69 cities were auctioned in 2015. Out of these, 96 FM Radio channels in 55 cities have been successfully auctioned. In the second batch, 266 private FM Radio channels in 92 cities were auctioned in 2016. Out of these, 66 FM Radio channels in 48 cities have been successfully auctioned.

[19]See https://main.trai.gov.in/sites/default/files/recom22feb08.pdf

in local languages to listeners.[20] The Community Radio Stations typically broadcast in the FM band with low power transmitters, with coverage to the local community within approximately a six-mile radius.

With the presence of the public radio broadcaster covering most of India's geography and population, the large number of private radio stations in large and small cities, as well as community radio stations serving local needs, it may be safely said that the objective of access to music for the population through radio broadcasting has been largely addressed in the past decade.

5.2. **Online access to music.** Outside of radio, the previous decade has also seen an explosion in internet access and mobile telephony. According to the IMRB's ICUBE report for 2018,[21] 627 million Indians have access to the internet, and 97% of them access the internet through smartphones. The penetration of internet in rural India has gone from 9% in 2015 to 25% in 2018. Of the total user base, 87% or 493 million Indians, are defined as regular users, having accessed internet in last 30 days. Nearly 293 million active internet users reside in urban India, while there are 200 million active users in rural India.

There is a variety of digital platforms where consumers can access music at low costs. As shown in Figure 3 in the next section, 8.10% average share of time spent listening to music was through paid online streaming platforms (subscription-based), 12.66% of time was spent on free online streaming platforms (advertisement-based), and 13.77% on YouTube. Interactive radio is a new entrant into this market, with currently 1.76% share. Online platforms help consumers discover new music as well, with 53% discovering new music through YouTube versus 31% discovering music through conventional means such as television or radio.

[20]For more details, see the Community Radio Compendium, 2019. Published by the Ministry of Information and Broadcasting.

[21]See https://economictimes.indiatimes.com/tech/internet/internet-users-in-india-to-reach-627-million-in-2019-report/articleshow/68288868.cms?from=mdr

6. Fair value of music

As described in the previous two sections, the original objectives the Copyright Board cited when it introduced a 2% compulsory license fee have been satisfied to a large extent today. If we consider the private radio industry as having matured, and access of consumers to music no longer a problem, the question arises as to what should be the objective of the regulating authority when updating the order.

Although several other countries have low compulsory license rates for radio-airplay of sound recordings (for example the US has 0% land Australia has 1% embedded in its copyright act), and the Copyright Board in its hearings has also taken these rates into account, they are not necessarily representative of what would be allocated through a competitive market. Audley and Boyer (2007) and Watt (2010) have argued that the regulatory objective of licensing should be to determine "fair" value, or to enable access to radio broadcasters at fair prices acknowledging the monopoly power of copyright holders as well as copyright collectives, while also trying to seek for fair returns to copyright holders in the absence of a competitive market to determine the price of music.

6.1. **Measuring fair value.** Audley and Boyer (2007) use the observed time sharing between music and talk contents to infer the competitive value of music content, or the revealed willingness to pay for music content. Different hours of the day have different ratios between music and talk contents, these can be weighted by listeners to arrive at an aggregate measure. This is then compared to the relative expenditure on the two types of content, with the idea that music should have returns that are proportionate to its contributions towards earnings. This type of calculation is very feasible for India, but will require the radio industry to furnish data on the breakdown of expenditures, advertising revenue rates and ratio of music to talk content.

Watt (2010) suggests sharing the surplus from music radio using the Shapley sharing rule, which removes the monopoly power held by the copyright holder by equating the payoff to the average value as the fair allocation. The calculation of the Shapley value in this methodology requires estimating the marginal contribution of each participant (music

producer), but this can be estimated with simplifying assumptions and data on repertories of music, which can be subsequently used to calculate the equivalent tariff.

This cannot be measured using publicly available data, but can be calculated if the regulator requests data from the radio broadcasters. Following methodologies such as the two described above can give us a starting point on how to split surplus from radio broadcasting of music between copyright holders and broadcasters.[22] To refine our estimate, we next need to know the particularities of the Indian market centering on the relationship between the two industries.

6.2. **Exposure and substitution effects.** The literature considers two potential effects, the "exposure effect", where radio promotes musical content for listeners, and the "substitution effect", where listeners have limited time and budgets, and listening to the radio reduces the sales of music (Liebowitz, 2004). If there is an exposure effect of radio, then it would make sense to keep the rate lower than that determined through assuming no spillovers.

Whether the exposure or the substitution effect dominates is specific to each country's market and will need be determined for the Indian context. Dertouzos (2008) finds a positive effect of radio airplay on music sales for the US with data for 2004 to 2006. Liebowitz (2004) finds no effect for the US during the Great Depression and in the UK with the introduction of private commercial radio. Bandookwala (2010) examines the exposure effect of radio airplay for digital sales in New Zealand and finds no effect.

The exposure and substitution effects for radio on the music industry could potentially be understood using data on consumer behavior as a starting point. For example, as shown in Figure 3, the average share of total hours spent listening to the radio are lower than those for purchased music. However this changes when including other paid options to listen to music such as paid streaming and live concerts - the measure for the exposure effect would have to take into account various media, and the fact that any exposure

[22]One concern that will have to be incorporated is the present of a large fixed cost in the form of purchase of the frequency. Watt (2011) finds that the presence of fixed costs does not alter the Nash bargaining outcomes, however the policy implemented by the Copyright Board can be argued to have subsidized the costs of private radio companies by limiting the share of surplus given to copyright holders.

effect that private radio could have had in previous years is expected to decrease with the advancement of digital platforms.

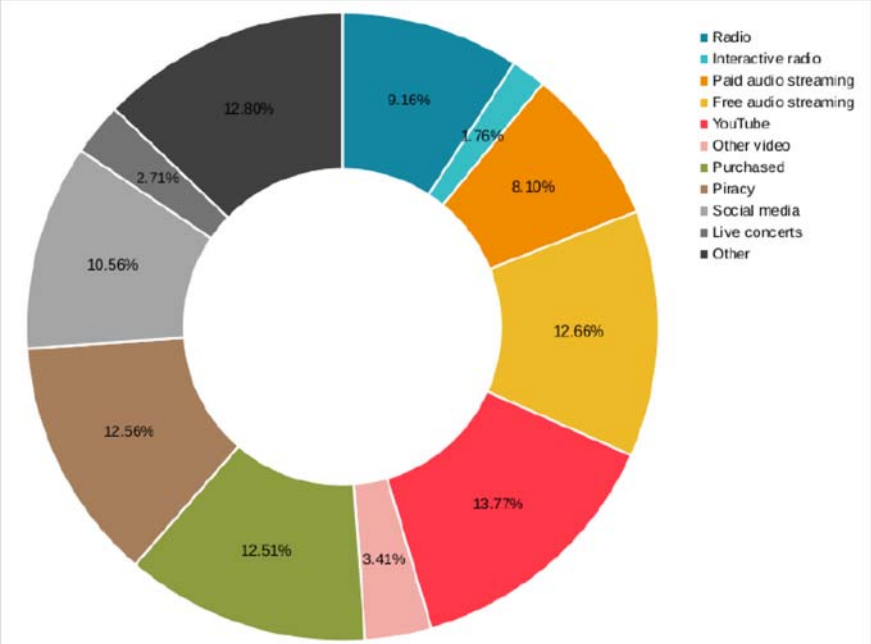

FIGURE 3: Shares of different sources of music for listeners in India

Source: Q17 of the IFPI Music Consumer Study, 2019. The figure shows the answers to the question "In a typical week, how many hours do you spend listening to music in the following ways?" Shares are assigned to each medium over the total number of hours for each listener. The sample was for all listeners out of 1357 survey respondents for India who listen to more than an hour of music per week and excluding those who report listening to over 70 hours of music in a week.

A natural experiment similar to that used by Liebowitz (2004) for the UK is also potentially available for India in the introduction and expansion of the private radio network. Data on record sales during this period can provide some evidence on the exposure effect for Indian consumers.

6.3. **Diversity implications.** Another potential spillover from radio-play of music is on the diversity of content played. Due to the advertising revenue based structure, radio may tend to play "popular" or mainstream songs rather than other songs (Bandookwala, 2010). In this case, some songs or genres in the industry get higher exposure than others. It remains to be determined whether there is an overall negative or positive spillover through any differences across songs in their treatment on private radio stations. In the

case the spillover is negative (a reduction in diversity of content), it may be justified to keep the rate higher than the rate calculated to be close to the market.

A start for measuring the implications on diversity of content can be through examining the genres and songs of existing radio stations (with an adjustment for smaller radio stations playing content in regional languages that mechanically creates diversity), and through examining the behavior of listeners on digital as well as other platforms.[23] Another aspect that can be considered here is how the copyright collective agency, PPL, distributes revenues from radio broadcasting back to individual members and how this could affect diversity.[24] If the advertising revenue based model is driving radio broadcasting to target the median listener and this can be linked to measurably reducing motives for heterogeneity and experimentation in the music industry, then the radio industry can be said to have a negative spillover on the music industry, even if it is not necessarily true in the financial sense. This is particularly important for artistic goods - Peacock (1994) describes the welfare implications of current creative works for future generations, noting that future generations benefit from these works but are not present to express their interests or exercise their preferences in today's market.

7. Conclusion

The Copyright Board of India set the compulsory licensing rate for radio broadcasting of sound recordings by private radio stations to 2% of Net Advertising Revenue in 2010. This order will be coming up for review in September 2020.

The immediate issues that arise from this order include lack of clarity who the order applies to, a potentially short-sighted approach through subsidizing the radio industry *at the cost* of the underlying music industry, and a long lock-in period that fixes the rate despite advancements in broadcasting technologies.

The radio industry has grown in revenue at an annual average of 15.6% over the past decade. Companies have expanded into new distribution platforms and revenue sources

[23]Some insights on this from the radio industry through interviews can be found at https://www.afaqs.com/news/media/19729_why-indian-radio-stations-are-having-so-much-fun

[24]Models focusing on equitable remuneration such as Watt (2010) have taken into account that the collectives act as a single bargaining unit.

such as online platforms and YouTube, and can be expected to benefit from digital transmission, which allows multiple stations to be broadcast on a single frequency.

With a large number of private and public radio stations that together cover 92% of India geographically and 99% of the population, access through radio has arguably been achieved. In addition, consumer surveys show listeners have affordable access to music via the internet on smartphones.

Given the advancements since the original order, the main recommendation of this paper in the review by the IPAB that is coming up in September 2020 is to aim to determine the fair market value for music in the Indian market and try to achieve the "efficient" outcome. These cannot be currently determined due to lack of data in the public domain, but the regulator can calculate this with data requested from the radio broadcasters and applying strategies described in the past literature for countries with mature markets. Any positive or negative spillovers from the radio industry in terms in of exposure and substitution as well as on the diversity of content can be then be incorporated to adjust the initial allocations.

References

Abrams, Howard B. (2009), "Copyright's first compulsory license", *Santa Clara Computer & High Technology Law Journal*, 26(2); 215-54.

Audley, P. and M. Boyer (2007), "The 'competitive' value of music to commercial radio stations", *Review of Economic Research On Copyright Issues*, 4(2); 29-50.

Bandookwala, Mehnaz (2010), "Radio airplay, digital music sales and the fallacy of composition in New Zealand", *Review of Economic Research on Copyright Issues*, 7(1); 67-81.

Chien, Colleen (2003), "Cheap drugs at what price to innovation: Does the compulsory licensing of pharmaceuticals hurt innovation?", *Berkeley Technology Law Journal*, 18(3); 853-908.

Dertouzos, James N. (2008), "Radio airplay and the record industry: An economic analysis", National Association of Broadcasters, USA. Available at http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.445.5870&rep=rep1&type=pdf

Goh, Ai-Ting and Jacques Olivier (2002), "Optimal patent protection in a two-sector economy", *International Economic Review*, 43(4); 1191-214.

Krueger, Anne O. (2002), *Political economy of policy reform in developing countries. Vol. 4*, Cambridge MA: MIT Press.

Lee, Robert Stephen (1982), "Economic analysis of compulsory licensing in copyright law" *Western New England Law Review*, 5(2); 203-26.

Liebowitz, Stan J. (2004), "The elusive symbiosis: The impact of radio on the record industry", *Review of Economic Research on Copyright Issues*, 1(1): 93-118.

Moser, Petra and Alessandra Voena (2012), "Compulsory licensing: Evidence from the Trading With the Enemy Act", *American Economic Review*, 102(1); 396-427.

Peacock, Alan T. (1994), "Welfare economics and public subsidies to the arts" *Journal of Cultural Economics*, 18(2); 151-161.

Schultz, Mark F. (2018), "The market for performance rights in aound recordings: Bargaining in the shadow of compulsory licensing". Available at SSRN, article no. 3292512.

Slaughter, Matthew J. (2004), *Infant-industry protection and trade liberalization in developing countries*, Washington DC: USAID.

Watt, Richard (2010), "Fair copyright remuneration: The case of music radio", *Review of Economic Research on Copyright Issues*, 7(2); 21-37.

Watt, Richard (2011), "Revenue sharing as compensation for copyright holders", *Review of Economic Research on Copyright Issues*, 8(1); 51-97.

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