Main Article

MEDIA CULTURE & SOCIETY

Dealing with digital: the economic organisation of streamed music

Media, Culture & Society
1–18

DOI: 10.1177/0163443720919376
journals.sagepub.com/home/mcs
SAGE

Ruth Towse
Bournemouth University, UK

Abstract

The intervention of digital service providers (DSPs) or platforms, such as Spotify Apple Music and Tidal, that supply streamed music has fundamentally altered the operation of copyright management organisations (CMOs) and the way song-writers and recording artists are paid. Platform economics has emerged from the economic analysis of two- and multi-sided markets, offering new insights into the way business is conducted in the digital sphere and is applied here to music streaming services. The business model for music streaming differs from previous arrangements by which the royalty paid to song-writers and performers was a percentage of sales. In the case of streamed music, payment is based on revenues from both subscriptions and ad-based free services. The DSP agrees a rate per stream with the various rights holders that varies according to the deal made with each of the major record labels, with CMOs, with representatives of independent labels and with unsigned artists and song-writers with consequences for artists' earnings. The article discusses these various strands with a view to understanding royalty payments for streamed music in terms of platform economics, offering some data and information from the Norwegian music industry to give empirical support to the analysis.

Keywords

artists'earnings, copyright, copyright management organisations, digitisation, platform economics, streamed music

Streamed music has challenged the established economic organisation of the music industry. For listeners, it has made consuming music trivially simple but for those who supply music, the chain of production from its composition and performance through to

Corresponding author:
Ruth Towse, Bournemouth University, Poole BH12 5BB, UK.
Email: ruth.towse@gmail.com

the digital service provider (DSP) or platform from which listeners obtain their music, has become complex and has distorted payment to those who produce it. For many artists (song-writers and performers), streaming has made earning a living from music more difficult. The production process starts with contracts between song-writers (and other composers) and music publishers and between performers and record labels that deal with the rights accorded them by copyright law and ends with platforms that stream music direct to the consumer for a subscription fee or for free financed by advertisers. This article traces the economic aspects of the various stages of production.

Digital distribution of sound recordings via platforms has broken the established royalty deals based on sales as streaming has become an increasingly dominant mode of access to music: it now constitutes over half of music industry revenues in major markets. Platforms (DSPs), which take little part (at least so far) in the business of writing, performing, recording and marketing music, some of which do not even specialise in music as part of their wider business interests, are hosting music streaming services with business models that differ fundamentally from the sales model of CDs and DVDs, with resulting consequences for the earnings of the creators and performers in the music industry and for rights management by copyright management organisations (CMOs). Moreover, the DSPs have different incentives from those of the music industry and adopt different business models – platform pricing – which have far-reaching implications for the streaming rates paid to song-writers and performers. This article analyses the supply side of streaming through the lens of platform economics and the attendant business models and considers those consequences for payments to artists, using the Norwegian music industry, one of the most advanced in terms of the use of streamed music, as a case study.

Economic organisation and the music industry

Contemporary industrial economics identifies the production and distribution of goods and services in terms of a stream of uses of inputs that lead eventually to the output: upstream activities in which the content is produced or created and downstream activities as those which prepare the product for the market and distribute it. Each stage in the process requires sequential contracts between the entrepreneurs involved and, in order to avoid hold-ups that could disrupt the production process and lead to losses downstream, they may buy up residual rights of upstream producers. Contract theory is now widely adopted in cultural economics to explain the structure of the creative industries in these terms along with the trade-off of transaction costs inherent in drafting and enforcing contracts (e.g. Towse, 2019; Caves, 2000).

It is obvious from this description that the music industry fits comfortably within this framework: upstream musical composition leads on downstream to its performance (live or in recording) on to the consumer and then to other users in the secondary markets, such as those playing recorded music in public places. As an intangible information good, music has strong public goods characteristics of non-rivalry and non-excludability (see Haskell and Westlake, 2018). While the distribution of music embodied in physical goods (printed music and CDs) may be controlled by the seller, intangible goods require intervention in the market to control misappropriation by non-payers (piracy), the role which copyright plays in providing statutory protection and an economic incentive to

content creation. Copyright law confers various rights to protect musical works by upstream creators (song-writers) and further downstream, protects rights in performers' performances and in sound recordings.[1] In order for creators and performers to reach the market, contracts are made with downstream producers in the music industry for the right to use copyright works in production and distribution. The deal behind those contracts has implications for the party that controls usage, such as streaming. Which rights creators and performers trade or retain upstream have downstream consequences for their subsequent earnings from use of their works, including streaming. It is these processes in relation to music streaming that are dealt with in this article.

The role of copyright

Song-writers may well be seen in economic terms as upstream entrepreneurs: they invest their time, talent and human capital in creating a work which, *if* successfully exploited and *if* successful on the market, would eventually lead to payment based on that success, depending on the contract with downstream users (often, in the first place, a publisher). Contracts are complex and attempt to cope with every potential use, though they are never complete (see Caves, 2000). The type of contract determines which party has decision rights over the use of their work. Publishing contracts for music and lyrics take various forms ranging from an administration deal (in which the author retains the copyright while licensing reproduction and other such rights), a single song assignment (the publisher obtains the rights in exchange for an agreed royalty) or an exclusive publishing agreement, which may cover a specific number of songs over a period of time and require the assignment of all rights to each song (Towse, 2017; Harrison, 2011). Where there is an assignment of rights, the publisher would typically pay an advance to be recouped from future royalties (which is not repayable by the author if royalties are insufficient). With rights assigned to the publisher, the song-writer's royalties from streaming depend on the arrangement made by the publisher with the DSP via the CMOs that licence mechanical and performing rights.

For the last 100 years or so, CMOs have acted on behalf of their members to collect and distribute copyright royalty and other statutory payments, making deals on rates with user organisations and enforcing them, including when necessary in court. The CMO negotiates rates for use of copyright material in secondary markets, for example, broadcasting. Revenues from streaming due to song-writers and are distributed by the appropriate CMO, which holds details of the mandated share to the revenue handed over to them by the streaming service in accordance with the mandates agreed in the various underlying contracts.

Music mostly requires performance to elicit payment and music publishers (and independent song-writers without a publishing contract) deal with record labels and producers of live performances to promote the work of their clients; though many song-writers are also performers performing their own songs, it is important to distinguish the two activities for copyright purposes as rights differ and are managed by different CMOs. Others, such as music managers and record producers, involved in the initial production may also have a share of revenues but they are ignored here for want of space (see Riches, 2012) for a detailed exposition. The publishing contract enables the publisher to

negotiate the deal with a record label and to register the work with a CMO for administering the performing rights (usually shared 50:50 between publisher and song-writer(s) and the mechanical rights. There may be several, even many, persons involved in the creative process who may or may not have a formal contract allocating their share of royalties between them, leading to later disputes. Performers have rights in their performances, though in the recording contract with the record label, they mostly sign away all rights in a royalty deal, often with an advance to cover costs of making the recording. The record label argues that is necessary for it to be able to fully exploit the recording and thus it is the party that deals with the DSP.

By the end of this process (which is only briefly sketched here), song-writers, performers, publishers and record labels have shares as agreed in their respective contracts of the value created by the various uses of the recording, including streaming. Pre-streaming contracts (and reportedly many post-streaming contracts) do not make formal provision for the division of streaming royalties, however (see Cooke, 2018).

Platform economics and streaming services

Platform economics is a term used in industrial economics to analyse activities of enterprises that distribute products online, such as streamed music. A platform coordinates distinct groups of participants in two or more markets by offering a virtual 'marketplace' on which they can trade. The term platform economics has become established for the analysis of the various types of enterprises, mostly online intermediaries, which act as distribution channels for goods and services produced by others (i.e. production and distribution are split up, often a key feature in the digital economy). Online business models are enabled by the freedom from engagement in production, on the one hand, and, on the other hand, are empowered by the vast amounts of data that are harvested from consumers' online behaviour involved in all kinds of activities, not just those relating to the purchase of music – so-called datafication (Ezrachi and Stucke, 2016).

Crucial to these business models are network effects. Network effects arise on platforms in two ways: direct effects within a group of users (producers or consumers) when users benefit from the number of users on their side of the market; and indirect cross-group effects when users benefit from the number on the other side of the market (for instance, advertisers benefit from the number of viewers). In fact, the analysis of platforms has caused economists to recognise some older enterprises – credit card companies, dating agencies and some kinds of department stores – as platforms, along with commercial broadcasters and newspapers which have long been regarded as operating two-sided markets. The aim of the platform is to set prices so as to maximise its profits over all its activities, thus causing the price on one side to depend on the price(s) on the other side(s).

A platform also creates network effects by offering its own additional services; for example, ratings and recommendations systems to steer consumers towards complementary goods and hosting applications created by others.[2] These activities generate data that are commercially valuable to the platform; for example, Netflix has used data on audience preferences to predict the success of certain film and TV programme genres and applied the information in the production of its own products, a route that could be taken

by music streaming services in the future. Data acquired on one platform is also valuable to other enterprises, to which platforms may sell their data.

Streaming services are platforms; they acquire rights from record labels to distribute recorded music online or to mobile devices, which they make available to consumers (listeners) either by selling a subscription (the price for time-limited rental) or providing it for free to listeners via an ad-based service financed by the sale of time-based slots to advertisers on the other side of the market. A DSP for which streaming music is its sole activity, for instance, Spotify, is a two-sided market with prices on one side for listeners and on the other side for advertisers. Other DSPs, such as Apple, are multi-sided platforms supplying several types of services, for each of which there is a price. A question addressed later is whether competition between music streaming services is affected by the structure of the DSP market, that is, two-sided versus multi-sided platforms.

The analysis presented here provides the background for applying economics to music streaming with the emphasis on the generation and distribution of revenues to song-writers and performers. In the streaming market, the upstream price is negotiated by the DSP for the rights to stream the music and the downstream price is a subscription fee (or zero price for ad-based users of the service) and for ad-based services, the price charged to the advertiser. It is an obvious application of platform economics.

DSPs, competition and pricing of streamed music services

Competition and prices are linked: in general, the greater the extent of competition in a market, the greater the downwards pressure on prices. For DSPs, however, the relationship is more complex due to two- and multi-sided business models (Hagiu, 2012).

Competition between streaming platforms

Streamed music is supplied directly to end users by competing DSPs. DSPs contract with the major record companies (Universal Music, Sony and Warner Music) and with bodies representing independent labels for licences to stream music. Payment is made to the record label which in turn distributes it to contracted performers, in principle, in accordance with their contracts. The DSPs provide some (but reportedly inadequate) data on usage and there is controversy over the amount and manner of these distributions over and above the issue of the streaming rates paid (www.digitaltrends.com/music/apple-music-vs-spotify/). A prominent example is that of Eminem's songs: his publisher, Eight Mile claims that Spotify does not have the requisite permissions for streaming his work and is suing for copyright infringement (see The Hollywood Reporter, 2019).

Platforms compete through pricing and non-price means. As the price on one side of the platform influences demand on both sides through cross-group network effects, the platform may run one side at a loss in order to compete with its rivals on a particular market (though that may be illegal in some jurisdictions). By attracting consumers to the loss-leading side through very low prices, the platform makes its service valuable for the other (profit-making) sides and ensures their participation (Bourreau and Bacache, 2020). This suggests that multi-sided platforms have a competitive edge over two-sided

platforms as they can support greater losses on the loss-making side. Thus Apple Music (part of a multi-sided DSP) has caught up with Spotify (a two-sided DSP) in the United States, though Spotify still dominates other markets (www.digitaltrends.com/music/apple-music-vs-spotify/). That said, there seems to be little competition in terms of the price of the subscription fee (see Table 1 in the Appendix).

In terms of non-price competition, DSPs compete by the range of additional services they offer in addition to the catalogue. Catalogue sizes and genre range vary between platforms but as the major record labels have made non-exclusive deals with streaming platforms, they each offer a very similar portfolio. Differences arise particularly in relation to indie catalogues and other non-economic features: for instance, one would expect Norway to have different catalogue preferences based on language, and of course, advertisements would specifically target Norwegian consumers.

Single and multi-homing

A 'natural' brake on the market power of a DSP is provided by consumers' choice to use more than one platform; opting for a single 'home' reduces search and other transaction costs but opens them up to potential exploitation from a monopoly, while 'multi-homing' incurs higher costs of time and attention but increases choice and may reduce the prices they pay (Belleflamme and Peitz, 2019). Platforms try to capture ('lock-in') consumers through subscriptions that last a fixed period of time but they also offer free trials to entice them away from competitors. The type of streaming agreements, for example, for families and free introductory offers impact on the amounts paid to songwriters and performers.

Rights holders may also choose between giving exclusive rights to a DSP (single home) or to several or all (multi-home), thereby also influencing the market power of the streaming service.

Platform pricing

Platforms set prices on the different sides of the market according to users' willingness to pay: with market power, it can price discriminate, including supplying some services for free, taking advantage of consumers' differing valuations and responsiveness to price, while marginal costs of supplying any number of consumers are effectively zero. Platforms are able to estimate an individual's willingness to pay based on data acquired from users' previous sales or the profile of their characteristics (gender, age, interests and the rest) obtained from their own or other data sources. Perfect (first degree) price discrimination, which elicits the maximum revenues from consumers, is possible as well as dynamic pricing sensitive to the interaction between supply and demand with the use of AI (Artificial Intelligence) settings, now widely adopted by platforms. As a degree of monopoly is needed for price discrimination to work, it attracts the attention of competition authorities, which regulate monopolistic practices, though dynamic pricing may be covert and evade scrutiny (see Ezrachi and Stucke, 2016, on the use of AI for dynamic pricing).

Subscription fees for consumers

Starting at the downstream end, Table 1 in Appendix shows monthly subscription rates to individual users of leading DSPs and the number of subscribers to the leading music streaming services. There is almost no price competition for individual subscription rates.

User numbers have been growing for all except Tidal: Apple Music had just overtaken Spotify in the United States in terms of the number of subscribers at the time of writing. While subscriptions may grow, though, their rate of growth is slowing down. Moreover, retaining the same price has led to reduced value in real terms due to inflation. Some countries, especially those in Scandinavia, have a very high percentage of paid subscriptions as a proportion of total revenue by international standards, raising the question of how much further growth is possible: is the paid subscription market saturated? If so, the only means of increasing upstream payments would be to increase subscription fees and/or advertising rates; for instance, Spotify was due to increase the family subscription rate by 13% at the time of writing (www.digitalmusicnews.com/2019/08/15/spotify-price-). Given the competition between streaming services, some two-sided and other multi-sided platforms, it not a simple equation. A DSP raising the subscription charge could cause consumers to switch to another service thus lowering revenue; that would then have to be made up by more revenue from advertisers, since advertising revenue 'cross subsidises' subscribers. If subscribers switch to an ad-funded streaming service, however, advertisers would switch too as they seek more listeners to their ads. It is becoming evident that two-sided platforms that specialise in one product, as Spotify does in music, are in a relatively weaker competitive position in the streaming market in contrast to multi-sided platforms which can cross-subsidise music streaming with revenues from other products and sources. These issues have implications for song-writers' and artists' earnings and are the manifestation of platform economics.

Streaming rates to record labels

Moving upstream, Table 2 in Appendix shows the considerable variation in the rates payable to the major record labels in the streaming market in the United States in 2019, as reported by *Digital Music News*. The report also provides data on changes within each year, showing that this is not a stable market in terms of pricing. Indeed, several of the music streaming services reported losses: Spotify, for instance, has so far not made a profit. As argued above, those which are part of multi-sided platforms, such as Apple Music and Amazon, may have more secure 'internal' finance and accordingly be able to offer higher rates to record labels. They benefit from both direct and indirect network effects as well as from scalability and synergies and economies of scope (Haskell and Westlake, 2018). On the last point, at the time of writing, Apple was negotiating with the record labels with the aim of offering a combined Video and Music service.

Advertising rates

The other upstream element in a two-sided market is the rate paid by advertisers. On Spotify's Premium ad-based services, advertisements last up to 30 seconds and are

played every 15 minutes between songs; there are options for branded and sponsored playlists with logos and scrolling through to the advertiser's site. The minimum charge is US$25,000 per campaign, with cost per minute ranging from US$5 to US$30, and a service for small businesses; for individual adverts using the Spotify Ad Studio, the minimum Spotify advertising budget is US$250 (www.digitalmusicnews.com/2018/12/25/streaming-music-services-pay-2019/). Income from advertising forms part of the pot from which payment is made to artists.

Streaming rates and artists

Taking all this as a whole, the above data provide a basis from which to discuss the important question of how and how much song-writers and performers earn from streaming. Table 4 in Appendix is based on an interesting calculation made by *Digital Music News* of the total plays needed to earn the US Minimum Monthly Wage in 2019. It cannot make encouraging reading for the majority of recording artists. By contrast, *Digital News* reported that in 2017, the 'big three' – Universal, Sony and Warner – made an estimated US$14.2 million a day from streaming services such as Spotify and Apple Music, with the Universal Music Group alone making US$4.5 million each day.[3]

Streaming revenue depends on both sides of the market: subscriptions and fees from advertisers. As markets are international, revenues are also influenced by other factors such as variations in currency rates in the consumer's domicile and in national copyright law. How much is passed on to song-writers and recording artists, however, depends on the type of contract and the royalty rate they have agreed with the publisher and/or the record label and whether payment is managed by the CMOs or dealt with individually.

Streaming and copyright

Changes to copyright law have not been helpful to performers (Taylor and Towse (1998)), though the recent changes made to deal with online activity were supposed to favour them. The so-called Internet Treaties established by the World Intellectual Property Organisation (WIPO) the WIPO Copyright Treaty (WCT) and the WIPO Performers and Phonograms Treaty (WPPT), which have been adopted throughout Europe and elsewhere, mandated the so-called 'making available' right for authors and performers respectively, which relates to any use for which the consumer can choose the time of access as with streamed music (Towse, 2005). Apart from the issue whether publishing and performers' contracts explicitly include this right, there is disquiet regarding its efficacy. The right is an individual one and, though mostly contracted to a publisher or record label, it may be exercised independently, usually via a CMO or other monitoring agent.

Implications for the regulation of CMOs in the music industry

CMOs act on behalf of rights holders to set royalty rates for usage and to collect and enforce payments by users. In most countries, they are regulated in one way or another by the state due to their monopoly power: in some (e.g. United States and Canada), there are Copyright Courts or Boards that set rates for specific rights and uses; other

arrangements involve the Ministry of Justice or a Copyright Tribunal to which conflicts may be referred. Platform economics is making the operation of these regulators more complex as it is not simply the rate charged to the user or the administration charge that has to be taken into account but more complex pricing in two- and multi-sided markets.

One might ask whether the CMOs are themselves platforms (Handke, 2014). A CMO bundles together a specific right or group of rights to many works by many authors and sets prices with the many diverse users. It then distributes its net revenues to its members. With rights assigned to the CMO, it obtains the exclusive mandate to act on behalf of the right owner and therefore may be seen as a reseller platform. Not all CMOs require assignment of rights or exclusivity, though, and moreover, streaming and adjustments to copyright law (such as the making available right) have disrupted established operations of CMOs. Thus, as has been argued in the economics literature, the assignation of 'platform' to CMOs has to depend on the institutional arrangements and attendant business model.

The rights relevant to streaming are the mechanical and performing rights of the song-writer and the making available right and the performance right of the performer. Music streaming services therefore require licences for two sets of rights mandated by copyright law: from the song-writer for the mechanical rights for reproduction and distribution of a recorded track of copyright music and for the performing right for its public performance, on the one hand, and from the performer for the right to use their performance, on the other. For contracted song-writers, the publisher and the song-writer share the performing right royalty; otherwise the unsigned song-writer gets the whole payment (minus the administrative charge of the CMO). (In addition, a synchronisation licence is also needed for music in a video; synch rights payments are not considered here, however.) Performers get the percentage agreed with record label, though a bone of contention is whether or not labels are exempted from paying performer equitable remuneration for streamed music, potentially reducing performers' income from that source (Cooke, 2018).

The outcome is that there is competition for the 'digital dollar' between the various rights holders and their representatives, as noted in a recent US Copyright Board decision in relation to the appeal by Spotify; in the United States, the Copyright Royalty Board sets the rates for mechanical licences (see www.publicknowledge.org/news-blog/blogs/spotifys-copyright-royalty-board-appeal-decoded).

How the money reaches the artist

How does the money from streaming reach the artist? Few artists, if any, have individually tailored deals with a streaming service – transaction costs would be too high. Instead there is a structure of deals and arrangements that eventually transfers the monies collected from plays on streaming services to the creators, which differs as between song-writers, signed and unsigned performers and backing performers.

Song-writers

Song-writers initially own all rights in the copyright of their works: not all songs are published but for those that are, the song-writer may opt for one of several types of

publishing contracts, ranging from full assignment of all rights of a bundle of works for a period of time (often the full copyright term) to a non-exclusive administration contract for one or more songs. Of course, many songs are written by those who perform them and that could mean that the copyright in them is handled by the record label in a so-called 360-degree contract (which also includes live performance fees, sales of any memorabilia, branded goods etc.). There are specific organisations dealing with digital publishing rights; for example, IMPEL (Independent Music Publishers' E-Licensing) Collective Management Ltd is the collective licencing agency representing digital publishing rights; it is owned and controlled by its independent publisher members.

Whichever contractual arrangement is made, when a song is recorded, the record label contracts with the publisher or with the song-writer for permission to record and distribute it. The publisher and/or song-writer join the relevant CMO for the public performance of the song (live or recorded) and for the mechanical right. Evidence on song-writers' earnings from streaming, is hard to come by, however. Some performing rights CMOs make data available on the distribution of their revenues according to various income brackets; those data in the past have shown that more than half the membership fails to earn the minimum amount eligible for distribution (Towse, 2017; Taylor and Towse, 1998).

Signed recording artists

For 'signed' performers, the contract is likely to transfer all rights to the label in exchange for a percentage royalty payment. The record label therefore holds the rights and makes the deal with the streaming service. The artist is then paid according to the contract that is made with the label. The contract may or may not specify the share (if any) of the streaming revenue due to the artist(s). That is one of the 'transparency' issues the EU has emphasised in this context (see Osborne, 2019).

Deals between DSPs and the majors are made individually or with Merlin, the global digital rights collection agency for the independent-label sector. In 2019, Merlin paid over US$2billion to its members, who represent thousands of independent labels and distributors; it licensed more than 25 DSPs on a global basis. In 2019, 54% of Merlin members reported that digital income accounted for more than 75% of their overall business revenues (www.merlinnetwork.org/news/post/merlin-reveals-record-revenue-distributions-in-new-2019-membership-report).

Unsigned artists

Independent artists offer their recordings on their own websites and via YouTube, Spotify for Artists, Apple Music of Artists, Google Play or other hosts. Spotify for Artists has an artist verification scheme, which operates via their preferred artist distributors (https://artists.spotify.com/faq/popular#how-do-i-submit-music-to-your-editorial-team). Spotify for Artists takes 30% of revenue and distributes the remaining 70% as royalties to the publishers, who then pay artists according to their agreements (www.openmicuk.co.uk/advice/how-to-make-money-in-the-music-industry/).

Backing performers

Little has changed with streaming for backing artists (sessions musicians) as they typically work for a flat fee that buys out the rights in their performances. In the EU, they now have the right to further payment 50 years after the publication of a sound recording: session musicians are entitled to an equal share of 20% of gross revenues from physical and online sales of the recording via the performers' rights CMO. The legislation states that a musician cannot waive the right to this income (www.musiciansunion.org.uk/Home/Advice/Recording-Broadcasting/Copyright-and-Performers-Rights-FAQs).

Overall, the growth of streaming has raised the question whether it has increased revenues for song-writers, music publishers, performers and record labels or simply replaced one source of revenue with another, so-called 'cannibalisation'. Using Spotify data for 2013–2015, Waldfogel and Aguiar (2015) found that Spotify use had displaced downloads and sales but, on the other hand, it had sufficiently stemmed piracy so that overall losses of revenue from sales were roughly outweighed by new income from streaming (see also Waldfogel, 2018).

Streaming and the CMOs

Streaming does not easily fit with the traditional blanket licence business model of the CMOs in the music industry, whereby the CMO negotiates fees and arranges licencing with a host of varied users from broadcasters to hairdressers then distributes the revenues to its members at the same rate according to the quantitative use made of their work (Handke and Towse, 2007). For uses such as TV and radio, for example, CMOs have blanket licence contracts and standardised rates with TV and radio stations; in the United Kingdom, in fact, the BBC continues to work that way with the PRS (Performing Right Society) and PPL (Phonographic Performance Ltd) for digital usage.

One of the main challenges of collecting income from streamed music is the huge number of transactions that have to be dealt with. Streamed music may require different administration (e.g. for individual and direct licencing) within a territory and for multi-territorial cross-border licencing, while business models of advertiser-financed services pose further challenges. CMOs have had to invest in new data management systems to adjust to these changes so that they are able to collect and distribute revenues more quickly and accurately. Moreover, national CMOs in the EU have been instructed by its 'Collecting Society Directive' to offer digital management services of equal standard throughout the EU, requiring those that cannot do so to make arrangements with a CMO that can; this has introduced a measure of competition into an arena in which non-profit membership organisations operated collectively and in which there was previously collaboration rather than competition.[4]

It has been argued that the requirements of the *Collecting Society Directive* necessarily favour the larger CMOs, that is, those that can invest most in data systems are able to produce the highest standard of service and, as CMOs are in economic terms natural monopolies, there is an underlying tendency for the bigger ones to dominate the 'market' for digital musical rights management services (Towse, 2012, 2013). The reason is that the greater the number of titles and the more members there are over which the fixed

(sunk) costs of a very large investment in computer capability can be spread (scalability), the lower are the administrative costs charged to right holders and therefore the more competitive is the larger CMO. As a result, those wealthy enough to make the investment are likely to attract more members and mandates and, as a consequence, spread fixed costs even further. As members upload their own data, more members may be added at almost no extra (marginal) cost to the CMO. The bigger the CMO, the bigger it will become – the logic of the intangible world (Ezrachi and Stucke, 2016; Haskell and Westlake, 2018). The United Kingdom's PRS for Music is one of the larger music CMOs in Europe and is part of the ICE (International Copyright Enterprise, see www.iceservices.com/company/what-is-ice/) formed with the Swedish and German performing rights CMOs, STIM and GEMA.[5] In the digital world in which scale and scope matters, it is difficult for smaller national CMOs to compete, however.

Does streaming need CMOs?

CMOs are typically monopolies for the specific rights they administer. In economic terms, they are natural monopolies (as are most network industries, in which competition is less efficient due to higher unit costs) and as such are subject to regulation by the state (Tirole, 2016). As noted earlier, CMOs traditionally required assignment of rights. Enabled by digital collection of data and the use of artificial intelligence (AI) to analyse it (Big Data and Big Analytics), other agents have entered this market; a notable example is Kobalt, which acts on behalf of the song-writer to monitor the use of their music and distribute the payment without requiring any assignment of rights. They offer only digital services and so do not have to have the wider administrative apparatus of the long-established CMOs which includes some uses (e.g. live concerts) that have much higher administration costs. Established CMOs therefore face cream-skimming from new entrants dealing only with streamed music, a topic that merits further research.

Overall, the question that concerns the music industry is whether subscription services are able to grow replacing 'free' or freemium services. It is a significant matter for those territories in which streaming was adopted early; a prominent case in point is Norway (discussed below) where almost 90% of the population stream music. Another source of concern about streaming is that user upload content (UUC) services such as YouTube, which have large advertising revenues, pay only a tiny fraction to creators and significantly less than other streaming services such as Spotify and Apple Music (see Tables 2 and 3 in Appendix). The differential (often referred to as the 'value gap') impedes competition (Liebowitz, 2018). Usage figures bear out this point for Norway (Polaris Nordic, 2018).

Data profile of streaming the Norwegian music industry

The Norwegian music industry offers an interesting case study of the economics of streaming. Norway (population 5.4 million) is one of the wealthiest countries worldwide; it has very high Internet coverage with very high levels of daily usage (91% of individuals in 2018: see www.statista.com/topics/4258/media-usage-in-norway/). Norway has a vibrant domestic market for music, which is strongly supported by state subsidies

in various ways, including grants to early career artists. It has a growing international market which is also supported by state funding and institutional arrangements. These economic aspects have to be taken into account in understanding its music industry and the role of streaming.

In the context of the international music industry, the CISAC (2018) *Global Collections Report*, which presents internationally comparative data per capita, reported that CMO revenue from music licencing in Norway was 12.5 euros per head of population (compared, for instance, to 10.2 euros in the United Kingdom, which has a much bigger market). There are limitations to making such comparisons as they may be biased by the way that exchange rates are calculated and also fail to reflect the underlying differences in cultural consumption and institutional arrangements.

According to Arts Council Norway, music industry revenue was NOK 4889 m. (roughly 500 million euros) in 2017, of which domestic revenue represented 93%; 'copyright revenue' constituted 22% of domestic revenues. In terms of consumption patterns, a 2019 Polaris Norway survey on music consumption patterns showed that

- Twenty-one per cent downloaded music and 15% purchased CDs;
- Eighty-eight per cent streamed music: 50% with a paid subscription; 38% on a free service;
- Sixty-nine per cent listened on YouTube; 58% on Spotify; 25% on Facebook; 15% on iTunes; 11% on Instagram.

The 2019 BI report *What Now* (*Hva Nå*) (BI, 2019) provides data on the changing pattern of the Norwegian music industry from 2011 to 2017 in terms of turnover, which grew by approximately 50% over the period. Streamed music services grew from 5% to14% of the total over the period, while physical sales fell from 10% to 9%. At the same time, the share of composers and performers fell from 29% to 24%. Concert turnover rose from 29% to 33%, representing the largest single item of the total. Indexed growth of streaming services was 367% between 2011 and 2017; it was also projected to rise with Spotify, the dominant DSP, increasing its turnover, though at a lower rate of growth than before. Turnover data run the danger of double-counting, however, and do not take inflation into account, which varied from 0.7% to 3.6% over the period; even taking that into account, though, it is clear that revenue from streamed music had grown. Nevertheless, there is concern that the rate of growth is slowing down, something that is reported in other developed markets (www.musicbusinessworldwide.com/the-major-labels-are-now-close-to-generating-1m-from-streaming-every-hour-but-global-growth-is-actually-slowing-down/).

Two CMOs are involved in licencing music and distributing revenues: TONO manages performing rights and also mechanical rights for Norwegian song-writers on behalf of the Nordic Copyright Bureau, which deals with mechanical rights (including synchronisation) for melody and lyrics in sound recordings in various media (including streaming) for all the Nordic countries; Gramo administers the economic rights of performers and record companies. In 2017, TONO distributed NOK 565 m. (around 57 million euros); online use contributed 23% to the turnover while GRAMO distributed NOK 58.7 million (around 6 million euros) to performers (of which 27% was to foreign performers). These data offer

an insight into the music business in a relatively small national market in a highly developed economy; they are indicative of future trends elsewhere.

Conclusion

This article has dealt mostly with the supply side of streamed music: other insights may come from fuller analysis of the demand side, represented here by data showing that the market produces uniform prices and more or less the same service for users in terms of catalogue. Economics of contracting provides insight into the organisation of the production of recorded music and the economics of platforms does the same for music streaming. Platform economics goes a long way to unravel the structure of incentives and payments to both sides of these two- and multi-sided markets. Taken together, the analysis goes some way to understanding the processes leading to the distribution of incomes to song-writers and performers from streamed music.

From being regarded initially as the cuckoo on the nest of the recording industry, streaming is hailed as the solution to revenue losses from piracy and falling CD sales and the majors are now benefitting from significant payments from DSPs. The multiplicity of the underlying deals for streamed music and the mixture of individual and collective arrangements is confusing, however, and has led to considerable dissatisfaction on the part of song-writers and performers as well as of legal scholars and policy-makers.

Streaming has disrupted the process of payments to creators and performers. Due to the underlying contractual arrangements, signed artists have less control over the earnings from their performances than song-writers, whose CMOs make the deals. The creation of the making available right as an individual right (rather than a collective right entitling performers to equitable remuneration) has if anything reduced payments to performers. Evidence has long shown the relatively low earnings from copyright for the typical song-writer and performer: there is a middle rank of those who can sustain a modest living from recording along with other paying activities but only the superstars truly benefit. Streaming rates are too low to fully sustain a full-time career as a recording artist for the majority.

The situation in Norway, where subscription levels and fees for streamed music are already high, raises the question whether a 100% subscription market with no advertising could sustain the current level of activity and the output of new work in the music industry. The record industry in Norway faces effective competition from concerts and festivals, though royalties from live performance are only around 20% of total copyright income. In order to increase royalty income from concerts, fees to artists would have to rise, pushing up the price of concert tickets (or be financed by advertisers?). That raised the question to what extent can the music industry depend on the market or is long-term subsidy needed? These are issues that participants in many other national music industries face.

The analysis in this article raises the fundamental question: how sustainable *is* streaming as a long-term business model for the music industry in terms of creating new work in a viable music market? The Spotify two-sided model faces competition from multi-sided platforms, notably Apple, which can cross-subsidise from their other activities. In addition to 'traditional' economies of scale and scope, they are able to internalise benefits from network effects, spillovers and synergies that can be captured within the

corporate enterprise. It is hard to see how Spotify, for example, which has yet to turn in a profit, can compete in the long run. The music industry therefore could be swallowed up in a multi-product corporation, presumably losing its identity and maybe any vestigial claim to creativity. True to its image as the dismal science, the economics of streaming does not suggest a rosy future for the music industry.

Acknowledgements

The author is grateful for the support of her colleagues on the MUSEC project and to Alan Hui, Christian Handke and an anonymous referee for their detailed comments.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship and/or publication of this article: This article is produced in association with the University of Oslo research project titled 'Music on Demand: Economy and Copyright in a Digitized Cultural Sector' and is funded by the Research Council of Norway [grant number 271962].

ORCID iD


Ruth Towse https://orcid.org/0000-0002-8020-7583

Notes

1. For full details of these rights in music, see Going for a Song, a short comic-format video which also provides carefully prepared information on musical rights and how they are managed (www.copyrightuser.org/create/creative-process/going-for-a-song/, accessed 6 December 2019).
2. See Belleflamme and Peitz (www.ipdigit.eu/2018/10/reviews-ratings-and-recommendations-the-3-rs-that-make-digital-platforms-engine-roar/, accessed 4 December 2019). Bourreau and Gaudin (2018) have shown that the use of a recommendation system that steers listeners towards lower priced content enables the platform to reduce its royalty payments to copyright holders.
3. www.digitalmusicnews.com/2017/07/24/what-streaming-music-services-pay-updated-for-2017/. Some analogous data are provided by PRS for the United Kingdom for different outlets – see www.openmicuk.co.uk/advice/why-singers-should-join-the-prs-performing-rights-society/ (Both accessed 4 December 2019).
4. Directive 2014/26 EU on Collective Management of Copyright and Related Rights and Multi-Territorial Licensing of Rights in Musical Works for Online Use in the Internal Market. For a commentary on the Directive, see http://eprints.bournemouth.ac.uk/30489/1/Lodder%2 C%20 Murray-Regulation_of_E-commerce_15_Chapter10%20Mendis.pdf (accessed 4 December 2019). There are other challenges, such as the trade-off between efficiency of distribution versus equity within the copyright management organisations (CMO), dealt with in detail by Page and Safir (2018).
5. STIM is the Swedish copyright management organisation form music creators and publishers; GEMA (Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte) is the equivalent organisation in Germany. PRS for Music itself processed 6.6 trillion uses in 2017; in 2019, it licensed 25 million works on behalf of its 140,000 UK members who assign their rights to it with an administrative charge of 12.5%. Its revenue was £1 billion in 2019, with International representing 36%, Public Performance 28%, Broadcast 19% and Online, 17%. Online had grown by 53% since 2016 (www.prsformusic.com/what-we-do/

who-we-work-with/ice). The CISAC *2019 Global Collections Report* showed that digital music revenues had grown by over 28% (www.cisac.org).

References

Belleflamme P and Peitz M (2019) The competitive impacts of exclusivity and price transparency in markets with digital platforms. *Available at*: https://paulbelleflamme.files.wordpress.com/2019/11/coredp2019_19web.pdf (accessed 2 December 2019).

Bourreau M and Bacache M (2020) 'Platforms' chapter. In: Towse R and Navarrete T (eds) *A Handbook of Cultural Economics*, 3rd edn. Cheltenham; Northampton, MA: Edward Elgar Publishing, pp. 421–29.

Bourreau M and Gaudin G (2018) *Streaming platform and recommendation bias*. *Cesifo working paper series 7390. Munich: Cesifo Group*. Available at: https://ideas.repec.org/p/ces/ceswps/_7390.html (accessed 4 December 2019).

Caves R (2000) *Creative Industries*. Cambridge, MA: Harvard University Press.

CISAC (2018) *Global collections report 2018*. Available at: www.cisac.org/CISAC-University/Library/Global-Collections-Reports/Global-Collections-Report-2018 (accessed 2 December 2019)

Cooke C (2018) *Dissecting the Digital Dollar*, 2nd edn. London: Music Managers Forum.

Ezrachi A and Stucke M (2016) *Virtual Competition*. Cambridge, MA; London: Harvard University Press.

Hagiu A (2012) Software platforms. In: Peitz M and Waldfogel J (eds) *The Oxford Handbook of the Digital Economy. Oxford: Oxford University Press*, pp. 59–82.

Handke C (2014) Collective administration. In: Watt R (ed.) *Handbook on the Economics of Copyright*. Cheltenham; Northampton, MA: Edward Elgar Publishing, pp. 179–204.

Handke C and Towse R (2007) Economics of copyright collecting societies. *International Review of Intellectual Property and Competition Law* 38(8): 937–957.

Harrison A (2011) *Music: The Business*, 5th edn. London: Virgin Books.

Haskell J and Westlake S (2018) *Capitalism without Capital*. Princeton; Oxford: Princeton University Press.

Liebowitz S (2018) Economic analysis of safe harbor provisions. Available at: https://ssrn.com/abstract=3143811 or http://dx.doi.org/10.2139/ssrn.3143811 (accessed 5 December 2019).

Maasø A (2014) *User-Centric Settlement for Music Streaming*. Oslo: University of Oslo. Available at: www.hf.uio.no/imv/forskning/prosjekter/skyogscene/publikasjoner/usercentric-cloud-sandconcerts-report.pdf

Osborne R (2019) One directive? Equitable remuneration and the making available right. Available at: www.academia.edu/39795776/One_Directive_Equitable_Remuneration_and_the_Making_Available_Right (accessed 5 December 2019).

Page W and Safir D (2018) Money in, money out. Lessons from CMOs from allocating and distributing licensing revenues. *Music and Copyright Newsletter*, 29 August Page W and Safir D (2018) Money in, money out. Lessons from CMOs from allocating and distributing licensing revenues. Music and Copyright Newsletter, 29 August. Available at: http://serci.org/congress_documents/2018/money_in_money_out.pdf (accessed 13 May 2020).

Polaris Nordic (2018) *Digital Music in the Nordics*. Oslo: YouGov. Available at: www.tono.no/wp-content/uploads/2018/11/Digital-Music-in-the-Nordics-2018.pdf (accessed 20 February 2020).

Riches N (2012) *The MMF Music Managers' Bible*. London: Music Mangers Forum. Available at: https://themmf.net/2012/06/27/new-mmf-music-management-bible-launched-order-now/ (accessed 5 December 2019).

Taylor M and Towse R (1998) The value of performers' rights: an economic approach. *Media, Culture and Society* 20(4): 631–652.
The Hollywood Reporter (2019) Eminem publisher sues spotify claiming massive copyright breach, 'unconstitutional' *law*. Available at: www.hollywoodreporter.com/thr-esq/eminem-publisher-sues-spotify-claiming-massive-copyright-breach-unconstitutional-law-1233362 (accessed 12 May 2020)
Tirole J (2016) *Economics for the Common Good*. Princeton; Oxford: Princeton University Press.
Towse R (2005) Economics and copyright reform: aspects of the EC directive. Telematics and Informatics 22(1–2): 11–24.
Towse R (2012) Economics of copyright collecting societies and digital rights: is there a case for a centralised digital copyright exchange? Review of Economic Research on Copyright Issues 9(2): 31–58.
Towse R (2013) The economic effects of digitization on the administration of musical copyrights. *Review of Economic Research on Copyright Issues* 10(2): 55–67.
Towse R (2017) Economics of music publishing: copyright and the market. *Journal of Cultural Economics* 41(44): 403–420.
Towse R (2019) *A Textbook of Cultural Economics*, 2nd edn. Cambridge, UK: Cambridge University Press.
Waldfogel J (2018) *Digital Renaissance*. Princeton; Oxford: Princeton University Press.
Waldfogel J and Aguiar L (2015) *Streaming reaches flood stage: does spotify stimulate or depress music sales?* NBER working paper no. 21653. Cambridge, MA: National Bureau of Economic Research.

Appendix

Table 1. Streaming services monthly subscription rates (£), library size and users: 2019.

DSP	subscription[a]		library	users[b]
Spotify	9.99		35 m.	100 m.
Apple Music	9.99		45 m.	50 m.
Tidal Premium[c]	9.99		50 m.	3 m.
Tidal HiFi	19.99		50 m.	?
YouTube Music	9.99		50k.	15 m.
Amazon: Unlimited and Prime Music	9.99	7.99 for Prime members		35 m.

DSP: digital service provider.
[a]per individual.
[b]not all subscribers.
[c]includes exclusives by JayZ, Beyonce, Kanye West et al.
Sources: www.telegraph.co.uk/technology/0/best-music-streaming-services-apple-music-spotify-amazon-music/ (accessed 1 December 2019).
Spotify and Deezer offer a freemium ad-supported service (for which the number of users is not included here). The rate is quoted in UK pounds sterling (rates are the same in US dollars and in Euros, however).

Table 2. Rates per Stream to Major Labels, 2019: US$.

DSP	
Spotify	0.00437
Apple iTunes/Apple Music	0.00735
Google	0.00676
Amazon	0.00402
Deezer	0.0064
Tidal	0.0125
YouTube	0.00069

DSP: digital service provider.
Source: www.digitalmusicnews.com/2018/12/25/streaming-music-services-pay-2019/

Table 3. Streaming rates to unsigned artists in 2017.

Spotify	$0.0038
Apple Music	$0.0064
Tidal	$0.0110
Deezer	$0.0056
YouTube	$0.0006

Source: https://www.digitalmusicnews.com/2018/01/16/streaming-music-services-pay-2018/

Table 4. Total plays needed to earn US minimum monthly wage: 2019.

DSP	Stream rate	No. of plays needed
Tidal	0.0125	177,604
Apple Music	0.00735	200,272
Spotify	0.00437	336,842
Amazon	0.00402	366,169
YouTube	0.00069	2,133,333

DSP: digital service provider.
Source: www.digitalmusicnews.com/2018/12/25/streaming-music-services-pay-2019/