

# Agenda

## Advancing economics in business

### Going with the stream: a new chapter for the music industry

**Streaming music at home, at work, or ‘on the go’ has become the norm for many consumers in the last few years. Several companies now offer ad-supported or subscription services in most countries. What are the differences between these streaming services, and how have they affected legal and illegal music downloads?**

For many decades, purchasing music content was similar to buying a new pair of trousers. Consumers visited high-street shops, browsed their favourite styles or new releases and occasionally tried the music in listening booths or using in-store headsets. They then purchased a hard copy (e.g. a CD) of their preferred music. More recently, consumers have had the option to buy soft copies (e.g. MP3 files) of music through online stores. These files are downloaded and can be enjoyed offline. This way of accessing music is often termed the ‘buy model’ as consumers own the product outright, without limitations on when and where they can listen to it.

Since the growth of ‘peer-to-peer’ file-sharing software for music—a major driver of which was the introduction of Napster in the late 1990s—the buy model has been under threat. Piracy has been blamed for declining revenues in the recording industry, and several court cases against file-sharing services or individuals have been initiated by large record labels.

Now the proliferation of high-speed Internet, wireless connections and smartphones has again changed the way consumers can access content. Streaming music at home, at work, or ‘on the go’ has become widespread among consumers.

What are the different streaming models, and how have they affected legal and illegal music downloads?

#### The different music streaming models

A number of streaming services are now available to consumers, typically through websites and applications. These services differ along three main dimensions:

- the amount and type of advertising;
- the variety and quality of the content;

- the ability to access content offline.

Streaming models typically fall into three categories: ad-supported; premium; and the ‘freemium’ model that lies between the two.

The ad-supported model (used by providers such as YouTube) allows consumers to stream content for free. Advertisements are displayed on the user’s screen (e.g. as a video), heard before playback, or both. This model is attractive to consumers, as the most obvious, instant benefit is zero financial cost. Essentially, the ad-supported model is similar to a free newspaper in which advertisements feature prominently and provide the source of revenue for the service provider.

These services are not only free, but typically do not require users to provide debit/credit card details that might otherwise deter them. However, consumers still incur non-monetary costs, often in the form of surrendering personal data (e.g. through the use of cookies) or by viewing adverts. The variety of the content and the quality of the music are also often inferior to the premium model.

The premium model (used by providers such as Apple Music) is fairly similar to the traditional buy model. The key difference is that consumers do not own the music they pay for, but rather they access it online (i.e. stream it) or download it and enjoy it offline for as long as they pay their subscription. Premium services are often devoid of advertisements. Consumers pay a fee, typically on a monthly basis, to access the content. Their level of subscription determines the type or volume of content, or both.

The ‘freemium’ model (used by providers such as Spotify) combines characteristics of the other two models; it is free to use but often has advertisements, and the quality is inferior to that of the premium model. This type of model is used by

suppliers as a way to incentivise customers to switch to the premium model, for example when a trial period ends.

Although streaming may not generate as much profit for record companies as the traditional buy model, there may be good reasons why it is being backed by record labels. One such reason is that streaming may be an effective solution to piracy.

## Keeping pirates at bay?

Since the late 1990s, online peer-to-peer sharing of unlicensed music content has come into the spotlight. It has often been blamed for the decline of legal music sales. Several economists have sought to estimate the effect of piracy on sales. For example, in 2005 Zenther found that online piracy might have resulted in a reduction of up to 24% in legal music sales.<sup>1</sup> Others have estimated similar figures.<sup>2</sup>

It is therefore no surprise that the Recording Industry Association of America (RIAA) has brought multi-billion-dollar lawsuits against those operating or facilitating peer-to-peer networks and users. For example, in 2010 it was claimed that the peer-to-peer LimeWire network had led to a damage value of over \$40bn.<sup>3</sup>

More recently, however, reports have indicated that the prevalence of music piracy has diminished. For example, in the UK it was estimated that the proportion of people who have downloaded music illegally fell from 31% in 2012 to 26% in 2015. The number of tracks downloaded illegally is reported to have fallen by nearly 40% between 2013 and 2015.<sup>4</sup> In Norway, illegitimate sharing of songs apparently plummeted by over 80% between 2008 and 2012.<sup>5</sup>

## Why has piracy declined?

Consumers may access content illegally for a number of reasons. First, it may be available at zero or little cost.<sup>6</sup> Second, data on users (e.g. cookies) is typically not collected on peer-to-peer networks, and registration is often not required. Consumers may also be able to access content illegally before it becomes officially available, or they may be able to access content that might never be available in their home country due to geo-blocking.<sup>7</sup>

Nonetheless, the use of illegal platforms is not costless, even to the individual involved. Among the costs associated with piracy are the potential sanctions if the user is detected by the authorities. Sanctions vary from country to country; they most often consist of a monetary penalty; disconnection from the user's Internet service provider (ISP); or (in extreme cases) criminal prosecution and prison. There is also a risk of inadvertently downloading computer viruses or other malware.

It is questionable whether these factors alone are likely to be behind the decline in illegal downloads. The risk of detection and financial or other sanctions is regarded by many as minimal and does not appear to constitute a strong disincentive in this case.<sup>8</sup> Additionally, free anti-virus

software is now widely available, which could protect users from malware infections.

One reason for the decline might be that ISPs are forced to block access to websites that promote pirated music and other content. For example, in the UK, the High Court issues lists of websites that facilitate copyright infringement and that must be blocked by Internet providers.<sup>9</sup> This 'crackdown' has made illegal downloading more complex and time-consuming, as users need to constantly search for alternative sources.

Another likely reason is the growth of legal streaming services. Ad-supported or freemium services are widely considered a good substitute for illegal content. They are free, legal, straightforward to access, and almost guaranteed to be virus-free, as they are often a trial or an ad-supported version of a premium service. Indeed, the founder of Spotify has argued that '[they] are working day and night to recover money for artists and the music business that piracy was stealing away'.<sup>10</sup>

A number of academic economic papers have provided insights into the link between the emergence of licensed streaming services and the decrease in piracy consumption. For example, Thomes (2013) formulated a theoretical model of online streaming music services and illustrated that, under reasonable assumptions, the freemium model can be profitable for the platform provider and provides a successful way of reducing piracy.<sup>11</sup> More recently, Aguiar and Waldfogel (2015) have undertaken an empirical analysis of the effect of streaming services. Using data from Spotify and unlicensed peer-to-peer downloads, they showed that streaming services indeed displace pirated content.<sup>12</sup>

## Secondary effect

If the growth of streaming services can reduce piracy (and therefore increase the consumption of licensed content), an interesting question arises. To what extent do streaming services also 'cannibalise' or displace music sales that are relatively more profitable for record labels?

It is worth noting that, even if some sales are displaced, streaming might still raise overall profitability; if any reduction in profits from reduced sales due to the growth of streaming services were outweighed by additional profits due to the reduction in piracy, then record labels would benefit overall.

Aguiar and Waldfogel (2015) found that, in the case of Spotify, although the service displaced piracy, the resulting increase in profits for the record labels was roughly offset by revenue reductions from music sales; in other words, streaming was found to be revenue-neutral for the labels.

A further effect of the growth of streaming platforms, in addition to the direct effect of reducing the number of users who download pirated content, is that positive 'network effects' can undermine the foundation and growth of peer-to-peer platforms that spread illegal content.<sup>13</sup>

Network effects are a form of economy of scale driven by the demand characteristics of a product rather than the supply side (such as high fixed costs). A network effect is where the benefit that one consumer receives from being part of the network is affected by how many other consumers also use it. Peer-to-peer platforms, which are the most common sources of illegal downloads, rely on a large number of users in order to be attractive. If the number of users is reduced (and the network effects are weakened), less content is available on such platforms and download speeds are slower, as there are fewer or no ‘seeders’.<sup>14</sup> As a result, the growth of streaming could cause illegal peer-to-peer music-sharing sites to shrink or even disappear. This in turn could have a powerful positive effect on the profitability of record labels.

## Full stream ahead?

Music streaming is used by millions of people around the world to access music content. The recent growth

of streaming services has been substantial—for example, in 2014 Spotify recorded a year-on-year revenue growth of 45%, and it currently has over 75m active users.<sup>15</sup>

While music piracy continues to fall, record labels are likely to support streaming platforms, even if their presence may be revenue-neutral in the short term due to cannibalisation of music sales.

Although a new chapter of the music industry might have started a few years ago, a lot has changed since the first streaming platforms became available. Notably, large multinationals such as Apple, Amazon and Google have expanded into music streaming platforms.<sup>16</sup> By leveraging their success from other markets (e.g. smartphone devices or online shopping), they could challenge some of the established brands, for example by offering streaming as part of a software and/or hardware bundle. If those new models prove to be popular, the way consumers pay for and enjoy their favourite music may change once again.

<sup>1</sup> Zentner, A. (2005), ‘File Sharing and International Sales of Copyrighted Music: An Empirical Analysis with a Panel of Countries’, *Topics in Economic Analysis and Policy*, 5:1, pp. 1–15.

<sup>2</sup> See, for example, Oberholzer-Gee, F. and Strumpf, K. (2010), ‘File-Sharing and Copyright’, National Bureau of Economic Research.

<sup>3</sup> *Arista Records LLC v Lime Group LLC*, No. 06 CV 5936 (KMW) (S.D.N.Y. May 11th, 2010).

<sup>4</sup> Intellectual Property Office (2015), ‘Online Copyright Infringement Tracker: Wave 5 (Covering period Mar 15 – May 15): Overview and key findings’, 10 July, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/449592/new\\_OCI\\_doc\\_290715.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/449592/new_OCI_doc_290715.pdf).

<sup>5</sup> See Sherwin, A. (2013), ‘Music and film industries winning war on piracy, says report’, *The Independent*, 17 July, <http://www.independent.co.uk/arts-entertainment/music/news/music-and-film-industries-winning-war-on-piracy-says-report-8714499.html>.

<sup>6</sup> Some websites may offer music illegally, while charging a fraction of the actual cost.

<sup>7</sup> Geo-blocking constitutes the denial of access to online products in specific countries. It typically exists for commercial reasons.

<sup>8</sup> See, for example, Bachmann, M. (2007), ‘Lesson Spurned? Reactions of Online Music Pirates to Legal Prosecutions by the RIAA’, *International Journal of Cyber Criminology*, 1:2, pp. 213–27.

<sup>9</sup> See, for example, Curtis, S. (2014), ‘UK High Court adds 53 websites to piracy blacklist’, *The Telegraph*, 28 November, <http://www.telegraph.co.uk/technology/news/11260782/UK-High-Court-adds-53-websites-to-piracy-blacklist.html>.

<sup>10</sup> Source: Ek, D. (2014), ‘\$2 Billion and Counting’, *Spotify News*, <https://news.spotify.com/us/2014/11/11/2-billion-and-counting/>.

<sup>11</sup> Thomes, T.P. (2013), ‘An economic analysis of online streaming music services’, *Information Economics and Policy*, 25:2, pp. 81–91.

<sup>12</sup> Aguiar, L. and Waldfogel, J. (2015), ‘Streaming reaches flood stage: Does Spotify stimulate or depress music sales?’, European Commission: Institute for Prospective Technologies Studies, May.

<sup>13</sup> Peer-to-peer platforms are not necessarily illegal; they can also provide an efficient and legal way of sharing files.

<sup>14</sup> A user that holds the complete copy of a file and shares it with others is often called a ‘seeder’.

<sup>15</sup> Statista (2016), ‘Spotify’s revenue and net income/loss from 2009 to 2014 (in million euros)’, <http://www.statista.com/statistics/244990/spotify-revenue-and-net-income/>. Spotify, ‘What is Spotify?’, <https://press.spotify.com/uk/information/>.

<sup>16</sup> Apple launched Apple Music in June 2015. Google launched Play Music All Access in May 2013, and launched YouTube Red in the USA in October 2015. Amazon launched its Prime Music service in the UK in July 2015.