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What do you pay for all you can eat? Pricing practices and strategies in streaming media services

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ABSTRACT

The role that prices play for streaming media services is yet to be comprehensively and comparatively analysed with an international outlook. In this paper, we present results on music and video streaming prices, based on analysis of a data set of prices and information on pricing models and price developments. The data set spans 2008 to 2019, five streaming services, and nine countries across four continents. We provide comparative overviews of real prices and developments over the years studied and purchasing power-adjusted pricing across countries, as well as country-by-country assessments. Finally, our results show significant divergences in the pricing practices and strategies of Spotify and Netflix. The access-based pricing structure of streaming comes forth as highly contingent on demand-side factors and competitive structures.

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Streaming; price; access-based pricing; Spotify; Netflix

Introduction

Distribution and business models that we can characterise as *streaming media services* have been launched in all the major culture industries. Across all of these, streaming has made an impact, although in different ways and to different degrees (Herbert et al., 2018). In streaming media services, we argue, pricing is an important part of the value proposition to users and the overall business model. For the consumer, a price represents a proposition that can be accepted or rejected. Unlike digital media models where the price is determined at the level of discrete items, in streaming, the price represents an offer at the level of the bundle. Essentially, you pay for all or nothing at all. For businesses relying on streaming models, pricing is a central part of value creation, influencing competitiveness and profitability. Understanding streaming pricing models is thus central to an understanding of the significance of the bundled offers provided by services such as Spotify and Netflix.

While media industry and business model studies have focussed on individual streaming services or single industries, e.g. music (Arditi, 2018; Eriksson et al., 2019; Marshall, 2015; Thomes, 2013; Vonderau, 2017; Wikström, 2013; Wlömert & Papies, 2016) or television (Fagerjord & Kueng, 2019; Hiller, 2017; Holt & Sanson, 2013; Lobato, 2019, 2018; Lotz, 2018, 2017; Tryon, 2015), few have attempted to analyse streaming models

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comparatively and comprehensively across industries (for exceptions, see Arditi, 2021; Colbjørnsen, 2020; Herbert et al., 2018; Lüders et al., 2021; Spilker & Colbjørnsen, 2020).

In this paper, we provide data on streaming prices as they are applied in nine different markets across the globe between 2008 and 2019. While our study collected data across a total of seven streaming services (including digital book streaming), we focus here on five music and video streaming services, specifically examining Spotify and Netflix in some detail.

Overall, we aim to answer two research questions:

(1) How do the prices for music and video streaming services compare between 2008–2019?
(2) What insights does this comparison give us into pricing strategies in music and video streaming?

The article focusses on the prices to consumers, but we wish to acknowledge that streaming business models also have other important economic characteristics such as specific royalty and licencing rates, streaming calculation schemes ("pages read", "minutes played") and models for the distribution of revenues across the value chains of streaming media.

The empirical analysis on prices and business models provides detail as well as historical and cross-media perspectives on a crucial aspect of the streaming model. While media industry analysts outside of academia have made analyses of pricing in single industries, for a select service or in a limited time period (See for instance, Moody, 2019), we believe this is the first comprehensive historical overview of prices across markets for music and video streaming. Besides helping to build empirical insights on streaming prices, the authors hope to provide a platform for more critical and in-depth examinations of the streaming model and its sustainability, especially concerning the flows of capital and data in the networks enabled by streaming media (See for instance, Colbjørnsen, 2020; Fagerjord & Kueng, 2019; Vonderau, 2017).

Theory

The theory section first presents perspectives on the subscription model and on the shift towards streaming before moving on to a presentation of relevant academic literature on prices and pricing.

From transactions to subscriptions in streaming

Music is perhaps the best-known example of an industry where streaming has taken hold, with streaming now the single largest revenue source, accounting for 62.1% of global revenues in 2020 (IFPI, 2021). In film and television, streaming providers have shifted consumer habits and challenged national industry models by seeking to distribute to audiences across the globe (Lobato, 2019). While audio and video are considered as separate industries, typically also with separate sales channels, some streaming providers cannot be placed in a single culture industry, but are influential across several (music, television, film, video games). YouTube is probably the best example of such an industry-

transgressing actor, but the tendency for some streaming providers to branch out – such as music streaming providers moving into podcasting and audio books – provides another example (see also Spilker & Colbjørnsen, 2020).

The technological fundament of streaming media can be described as customers requesting content from a streaming provider, which in turn sends data packets to the consumer's internet-connected device where files are unpacked and deleted after consumption (Küng, 2017, p. 34). In this streaming model, a principal feature is that users do not own the content but access it over a set period of time. Access is compensated in two ways: In the free-of-charge model, the user is exposed to advertising. In the paid streaming model, which we focus mostly on here, the user pays a fee, typically monthly, to gain access. This shift from ownership to rent-based or subscription-based options (Arditi, 2018; Lotz, 2017; Sinclair & Tinson, 2017) is not entirely new, nor is it unique to streaming (Allen-Robertson, 2013; Perzanowski & Schultz, 2016).

The features of the streaming business model are reminiscent of subscription models generally, i.e. arrangements to receive something regularly by paying in advance. In general, economists see several reasons why vendors may opt for a subscriber solution over a transaction model: Subscriptions may reduce "transaction costs" (i.e. expenses incurred when buying or selling a good or service), enable a direct link between the company and the customer, and provide predictable up-front income streams in unpredictable contexts such as culture and sports (Glazer & Hassin, 1982; Picard, 2011). Subscription models have been and are still widely used for media, such as for newspapers or cable television (Picard, 2011). Indeed, Netflix, one of the main reference points in the streaming discourse, started out as a DVD by mail subscription service, before introducing streaming options in 2007 (Robinson & Oltersdorf, 2013).

In the light of new digital models, specifically for internet-distributed television, Lotz has proposed "a subscriber model of cultural production":

> At its most basic, the subscriber model is characterized by a user paying a fee for access to a collection of cultural goods. The subscriber, generally either an individual or household, typically enjoys unlimited access to the collection of goods held in the library for the duration of the subscription. Media operating within this model curate a collection of cultural goods according to a strategy based on providing a particular value proposition to subscribers. (Lotz, 2017, p. 39)

The streaming "value proposition" (Osterwalder et al., 2014) which Lotz hints at is perhaps best captured in the phrase "all you can eat", implying that the consumer can choose freely from a wide selection and that consumption is not tied to the price paid.

A common aspect of the business model is that streaming services "build and sell access to a library" (Herbert et al., 2018, p. 8). While large content catalogues are a feature of both audio and video streaming services, there is considerable variation in the approach to building and maintaining a content offering (Herbert et al., 2018; Spilker & Colbjørnsen, 2020). Music services such as Spotify, Apple Music, Tidal and Deezer tend to offer content from most distributors; video services tend to offer content from select distributors, with little overlap between e.g. Netflix, HBO or Amazon Prime Video. So-called exclusive or original content plays a major part in the value proposition of video services, but audio is also moving in this direction, for instance, with Spotify

committing resources to podcasts and audio books. Editorial and automated recommendations are other ways of creating distinctions between services

From the consumer's point of view, streaming offers are attractive for the convenience of access to vast content catalogues available on multiple platforms at a price point comparatively low to other digital and physical models (Herbert et al., 2018; Im & Jung, 2016; Lüders, 2020; Oyedele & Simpson, 2017).

Perspectives on prices and pricing

(Neo)Classical economic theory would say that price formation is the result of forces of supply and demand, resulting in the assigning of a fixed value, a state of equilibrium (A. Smith, 2018; Walras, 2013). In this "traditional" economics perspective, prices result from negotiations in a marketplace. The price set by a vendor is dependent on factors such as competition in the market and cost of production and distribution. Changing the price may gain or lose customers, depending on whether demand is elastic or inelastic, and to what extent customers respond to price adjustments. Pricing strategy relies on the ability to determine users' willingness to pay (or acceptance of price) and perceptions of value. In Porter's (1985) well-used strategic management typology, competitors will typically seek to differentiate themselves by taking a position as price leader (offering the lowest price), by targeting either a specific group or by presenting a slightly modified offer.

There is a vast literature on price theory (Weyl, 2019) and applied prices, most of which is based on classical economic principles. The pricing literature also includes media industry research on issues such as discounting (Gong et al., 2015), bundling and ancillary services (Hiller, 2017; Nalebuff, 2004; Wang et al., 2019), the economics of "free" (Lamour & Lorentz, 2019; Shampanier et al., 2007), ad pricing (Knuth et al., 2013; Ting, 2010), as well as subscription pricing (Lewis, 1995; Waldfogel, 2020).

In this article, we mostly rely on these traditional perspectives. However, prices can also carry symbolic, social and cultural connotations, as social scientific approaches to markets will argue (Fligstein, 1996; Swedberg, 1994; Wherry, 2012). Sanz (2014) has brought this discussion into contact with the markets for digital goods, relevant for streaming services. In his account, prices have two sides and carry "a moral message that has, nonetheless, economic consequences" (Sanz, 2014, p. 133).

For digital services, several pricing options exists, including the choice between free (ad-funded) or paid models and the decision whether to sell or to rent (Lambrecht, 2018). One way of determining a price is to use assessments of costs per unit as the basis, but this is made more difficult with digital information goods sold in bundles (Bakos & Brynjolfsson, 2000; Choi, 2012) and copyright goods where costs concentrate in the first unit. According to Shapiro and Varian (1998), the feasible approach in these circumstances is to determine prices as per the customer's perceived value.

A common solution in the culture industries has been to apply "price discrimination", i.e. selling the same or a similar commodity at different prices to different consumer groups (M. D. Smith & Telang, 2016; Stole, 2007; Varian, 1989). Price discrimination can take place at several levels (Pigou, 1932; M. D. Smith & Telang, 2016). As an aspect of pricing strategy, the key point of price discrimination is to maximise profit over the lifespan of a product. Often, a film or a TV show will be released to streaming services in

one of its final "windows" of availability (M. D. Smith & Telang, 2016), though some, such as Netflix, are notably using streaming as a first window.

Whether the product is part of a larger set-up of products and services (content, hardware and software) will also affect price strategies: A corporation with multiple stakes and broad operations can take a loss on one of its services if it drives customers and profit in a different part of the business. Alphabet's ventures into non-advertising-based operations such as YouTube Premium can serve as an example.[1]

Large content bundles provide an appealing value proposition to the user, but pricing by the bundle also offers an advantage from the point of view of the seller: It means streaming providers do not have to estimate precisely the user's perceived value of every single item, but can predict average value across consumers (M. D. Bates & Albright, 2006; Lotz, 2017; Smith & Telang, 2016). In this light, catalogue size is an economy of scale-benefit. Netflix continuously considers shifting items in the catalogue to keep the database fresh and relevant, what Hiller (2017) calls "dynamic strategic bundling".

As mentioned, the streaming subscription fee provides access, not ownership. As such, the central term applied here is "access-based pricing" (also known as buffet pricing), understood as offers where the price charged to a consumer is independent of the quantity consumed (Bates & Albright, 2006; Just & Wansink, 2010; Nahata et al., 1999).

Economic theory suggests access-based pricing can be a preferable option over other solutions such as single transactions or two-part tariffs when consumers are homogeneous in preferences (Nahata et al., 1999). From a diverse target group, more value will typically be extracted with price discrimination of some sort, because willingness to pay will vary between "high value" and "low value" users (M. D. Smith & Telang, 2016). With a flat rate, the vendor risks charging less than she could from high value users, or conversely, charging too much to attract low value users. In a media economics context, access-based pricing has been assessed to be "most effective when exclusivity is hard to enforce, when transaction costs are high, and when there is uncertainty about the value of specific network products" (Bates & Albright, 2006, p. 438). The access-based pricing strategy can also be beneficial in the early phases of developing a product or building a network (ibid.). The widespread use of free and discounted introduction periods indicates that building a user-base is also crucial to streaming services' access-based pricing models.

International streaming services need to determine reasonable, profitable and competitive pricing levels across multiple markets, approaching 200 in the case of Netflix and Spotify. These international providers do not merely convert prices from one currency to another, but set them at what they consider to be a competitive price in the local market. Market conditions, including consumer spending and competition, is likely to influence price strategy. Hence, comparisons of pricing internationally can indicate variations depending on currency rate fluctuations, but may also illustrate pricing strategies applied marketwise, with consequences for profits: Waldfogel (2020) in a study of Spotify's pricing strategy found that country-specific pricing increases revenue by 5.9% relative to uniform world pricing, while simultaneously decreasing world consumer surplus by 1.0%.

Materials and methods

While there are clearly differences between the services examined here, all share some characteristics: They can be defined as streaming services, differing from rental services

or single-item purchase services. They all have month-to-month prices, distinct from services which have fixed-term contracts (such as broadcast or satellite subscription services). The customers for these services are mainly individuals procuring for private use. All the services have international operations.

In this article, we focus on five streaming providers: Spotify, Tidal, Netflix, HBO and YouTube. Swedish Spotify is the world's leading pure music streaming service, with 100 million paying subscribers and 217 million monthly active users (Spotify Technology, 2019). Spotify is available in 92 countries worldwide.[2] Competing for a share of the music streaming market is Tidal. With approximately 3 million monthly active users in 2016, Tidal has far fewer users than competitors Spotify and Apple Music. Tidal is currently available in 56 countries.[3]

In the audio-visual sector, streaming services typically offer a combination of TV shows and films. US-based Netflix provides on-demand streaming of TV series and films to viewers in 190 countries (excepting only China, North Korea and Syria). Worldwide, Netflix has more than 200 million paying subscribers (Netflix, Inc, 2021). HBO, also US-based, offers audio-visual content by way of streaming with an array of localised or regional offers, for instance, HBO Now (USA) with around 5 million paying subscribers. Finally, YouTube, famous for its advertising-financed streaming service, also runs a set of paid streaming options, from 2018, called YouTube Premium and YouTube Music. The paid options are now spreading fast. When we started data collection, the paid offer were only available in a handful of countries; now, Google reports availability in more than a hundred different countries.[4] As of 2019, the two paid services have a combined 22 million users, according to parent company Alphabet (Spangler, 2020).

The five services were strategically selected based both on presumed similarities and variances: To allow for comparisons and to get a reasonably broad outlook on streaming, three of the traditional media and culture industries are represented (music, TV and film). The audio-visual services Netflix and HBO cut across the film/television divide. The same is true for YouTube, which also works as a *de facto* music streaming service. To examine variances, we selected cases that allowed for comparisons between different providers (e.g. two music services) and between different models from the same provider (e.g. Spotify Premium and Spotify Free).[5] Including insurgents such as Tidal, HBO and YouTube meant that we could examine pricing developments in services with a markedly different value proposal than market leaders like Spotify and Netflix.

The country sample strategy was influenced by where the select services are available. We initially collected data on pricing for ten countries across the globe. We wanted to ensure that we have data on some of the most important markets, as well as some diversity with regards to economic status and purchasing power. Finding prices to compare in African and Asian markets proved particularly challenging, and ultimately, we abandoned the attempt at gathering reliable price information for African markets. The data set for analysis thus comprises nine countries across four continents in total: USA, United Kingdom, Sweden, Norway, Germany, Australia, Mexico, Japan, and India.

The empirical analysis of pricing and business models is based on relevant data and statistics provided by the streaming providers or their parent companies, mostly by way of web pages and press releases. Stock market information and reporting by industry organisations, trade journals and other online sources provide additional information.

We collected the data on 2019 prices in March until 30. April 2019, and double-checked all the sources on 30 April.[6] Data gathering on historical prices took place in May and June 2019. The historical data was more difficult to collect than current price data, since the streaming services' websites are continuously updated.[7] Hence, we had to rely on secondary sources here as well. The quality of secondary sources was assessed based on who published the content and by cross-checking. For this, we have mainly relied on news articles, statistical information and the services' own publications.

We chose the Standard subscriptions as the basis for historical oversight, since these subscriptions have existed the longest and can serve as points of comparison. Moreover, we collected historical data for each country and available streaming services to investigate price and tendencies over time. The tier structure of each service was mapped. If a streaming service changed prices in a particular year, we chose the maximum price for that year, regardless of when the price changed during that year. The price data was collected in local currency. Although we have collected some data on discounted prices, bundled prices and data zero-rating (the practice of exempting streaming services from mobile data usage, which functions as a discount for streaming prices), we have excluded these from our analysis.

To compare prices in different countries and currencies, we converted local currency prices to US Dollars (USD) using Purchasing Power Parity (PPP). We chose to compare prices using PPP, rather than market exchange rates, to provide a better proxy for what consumers actually pay for streaming services. Although it is possible to use PPP in combination with a range of currencies, we combine it with USD as a common currency used in price studies. Where available, we used World Bank Global Economic Monitor calculations for PPP, using period averages to reflect full years (as opposed to point averages, which would reflect a particular point in a year).[8] In a limited number of cases where World Bank calculations did not exist for a year, we used International Monetary Fund projections for PPP to estimate the figure for that year from the most recent year of World Bank data.[9]

In order to compare real prices with a country across years, we adjusted for inflation using consumer price indices, using World Bank World Development Indicators annual consumer price index (CPI).[10]

All calculations and analysis were done with Microsoft Excel.

Results

Focussing first on 2019 prices, we observe a wide spread across different countries, as Table 1 shows. Generally, music streaming prices were the cheapest with the lowest mean and minimum prices across the countries we studied. Video services tended to be more expensive with the highest mean and maximum prices.[11]

Focussing on 2019 service offerings, we can observe varying tiers across the services. What the streaming services have in common is that all tiers feature the entire content catalogue and access is provided without significant impediments or restrictions. Typically, different tiers corresponded with different prices, a different number of permitted users, and conditions for use (such as a need to be a current student). Tidal and YouTube offer the most tiers, commonly with six tiers each in the markets we

Table 1. Mean, maximum and minimum 2019 prices (USD PPP).

Service	Mean across countries	Maximum	Minimum across countries
Spotify Premium	$9,85	$12,71 (United Kingdom)	$5,70 (India)
Tidal Premium	$10,24	$12,71 (UK)	$7,75 (Australia)
YouTube Premium	$11,54	$15,26 (UK)	$6,18 (India)
Netflix Standard	$14,12	$31,14 (India)	$9,04 (Australia)
HBO[12]	$12,11	$14,99 (United States)	$8,91 (Norway)

studied. By contrast, HBO tended to offer a single standalone tier in the markets we studied.[13] Spotify and Netflix occupy the middle, with three tiers each.

More tiers afford a service more scope for price differentiation, customer acquisition and market entry. Nowhere is this more obvious than in student plans, which typically come with a 50% (or greater) discount on subscription tiers, bridge the gap from freemium or advertising-supported tiers, help to acquire students (who are younger than subscribers generally), and encourage younger users under family plans to transition into being standalone subscribers. Student tiers are offered by Tidal, YouTube and Spotify. The same three offer family plans. Prevalent in our sample is also the offering of free introductory periods, ranging from 7 days for HBO in the USA to Spotify's 90 days across all countries (90 days also for YouTube Premium in Japan).In audio, Tidal and Spotify compete for many of the same users, with similar catalogues (underpinned by licences with Sony, Warner, Universal and independent labels) but still slightly different value propositions. Tidal's HiFi tier is an example of a premium offer at a comparatively high price rate, using lossless audio as a selling point to hifi-enthusiasts. Spotify's venture into podcasting has added to their offering, but the tier structure remains the same. In video, Netflix and HBO are close competitors, but have little overlap in catalogues. Original content seems to be the main differentiator, before we take pricing into account.

Pricing developments

Looking at prices for our baseline single-user plans, the general trend is falling real (i.e. adjusted the figures to remove the impact of inflation) prices over a number of a years. Figures 1and 2 indicate this trend for music services Spotify and Tidal. In the case of Spotify Premium, prices typically dropped between one and three per cent each year, whereas annual price drops were one to two per cent for Tidal Premium.

The situation is rather different for video streaming, especially if we focus on Netflix. As Figure 3 indicates, the PPP adjusted prices for Netflix Standard subscriptions have increased over the years since 2011.

Zooming in on Spotify and Netflix, we can observe several differences between the prices of these two service provider's prices. As mentioned above, Spotify prices generally fell in real terms, even though nominal prices stayed level across the years studied. By contrast, Netflix prices generally rose. Netflix Standard prices consistently rose between one and three per cent each year after introduction. Only India had a trend of falling Netflix Standard prices.

We can also comment on correlation between prices of rival services in music and video streaming. Remarkably, Tidal and Spotify prices were identical in all countries with

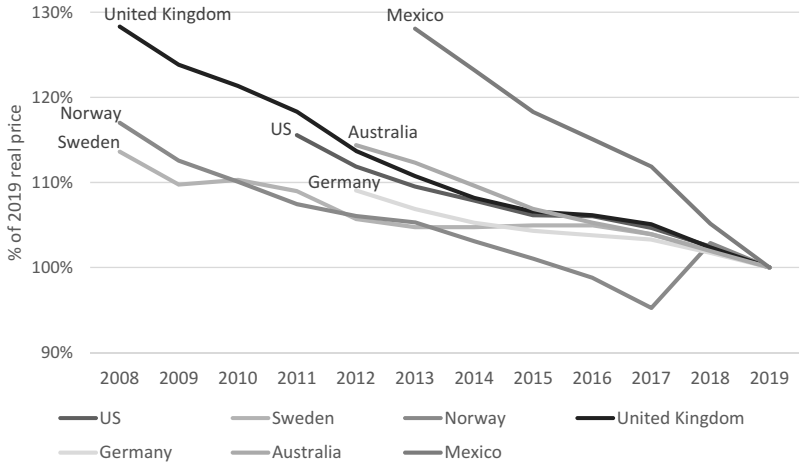

Figure 1. Spotify premium prices falling over time.

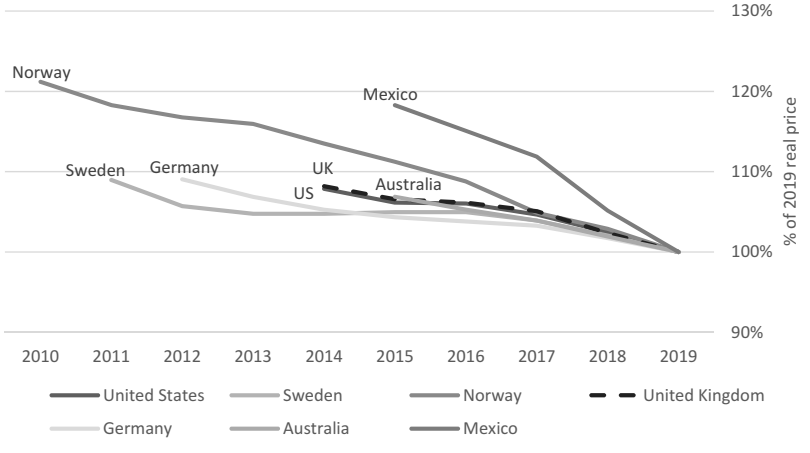

Figure 2. Tidal premium prices falling over time.

only one exception for Norway as a result of a Spotify price increase in 2018 which was retained in 2019 (Table 2).[14]

Table 2. Correlation between Tidal Premium and Spotify Premium prices over time.

	Correlation coefficient[15]
United States	1,00
Sweden	1,00
Norway	0,80
United Kingdom	1,00
Germany	1,00
Australia	1,00
Mexico	1,00

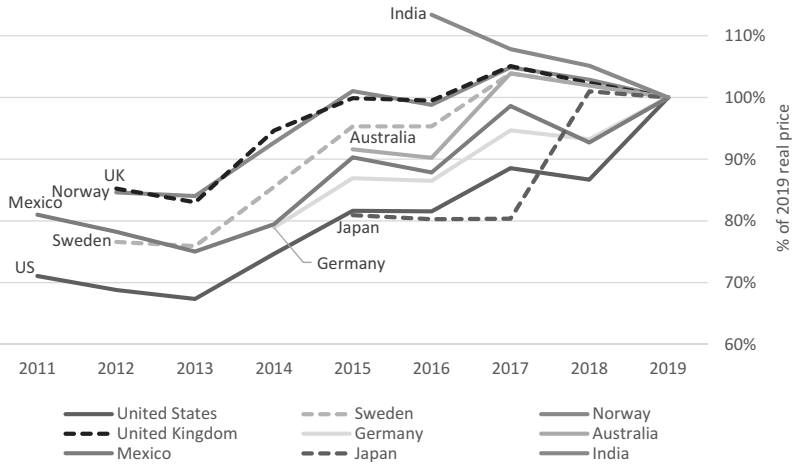

Figure 3. Netflix standard prices rising over time.

By contrast, we see no such clear pattern in video streaming markets (Table 3). In Norway and Mexico, there is only weak correlation between prices. In Sweden, prices for rival services tended to move together. Perhaps most interestingly, United States rival service prices tend to move against one another (Figure 4). While Netflix Standard price

Table 3. Correlation between Netflix standard and HBO prices over time.

	Correlation coefficient
United States	−0,92
Sweden	0,69
Norway	0,36
Mexico	−0,20

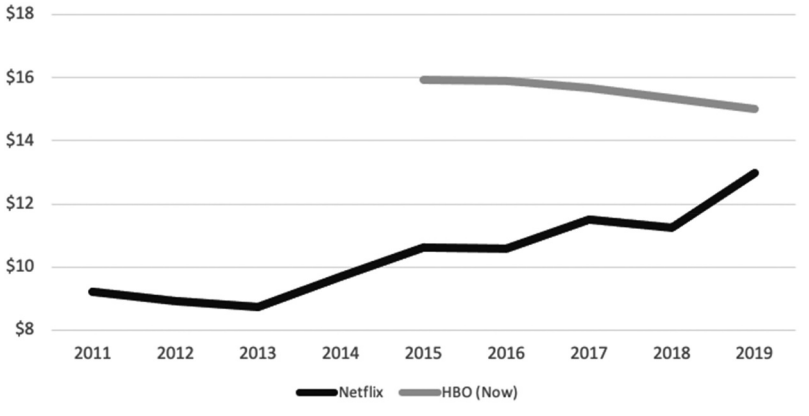

Figure 4. USA video streaming prices over time.

increased in real terms almost every year from 2011 onwards, HBO Now prices decreased every year.

Country-by-country comparison

Comparing pricing in different countries, we find that Germany and Mexico have the highest prices generally, followed by the UK and USA. This may be counter to expectations that the highest prices are to be found in the high income and high cost Scandinavian countries, which is only true on a pure currency conversion basis but not when purchasing power is considered. This is clear from looking at both a heatmap of USD Purchasing Power Parity prices across the music and video streaming markets (Tables 4, and 5), and a hypothetical bundle of the one service from each market (Table 6).

The different streaming providers have relatively similar price structures. Looking at

Table 4. Map of 2019 music streaming prices (USD PPP)

		US	Sweden	Norway	UK	Germany	Australia	Mexico	Japan	India
Spotify	Premium	9.99	10.55	9.81	12.71	12.46	7.75	9.30	9.36	5.70
	Family	14.99	15.87	15.20	19.08	18.70	11.62	14.00	14.13	-
	Student	4.99	5.22	4.86	6.35	6.22	3.87	4.61	4.58	2.83
Tidal	Premium	9.99	10.55	8.91	12.71	12.46	7.75	9.30	-	-
	HiFi	19.99	21.20	17.90	25.44	24.93	15.50	18.70	-	-
	Family (Premium)	14.99	15.87	13.40	19.08	18.70	11.62	14.00	-	-
	Family (HiFi)	29.99	31.85	26.90	38.17	37.41	23.25	28.10	-	-
	Student (Premium)	4.99	-	4.41	6.35	6.22	3.87	-	-	-
	Student (HiFi)	9.99	-	8.91	12.71	12.46	7.75	-	-	-

Tables 4 and 5 below, it is clear that UK and Germany have the most expensive Spotify,

Table 5. Map of 2019 video streaming prices (USD PPP)

		US	Sweden	Norway	UK	Germany	Australia	Mexico	Japan	India
Netflix	Basic	8.99	9.48	8.01	7.62	9.97	6.45	12.12	7.64	23.96
	Standard	12.99	11.61	9.81	10.17	14.96	9.04	15.88	11.46	31.14
	Premium	15.99	14.81	12.50	12.71	19.94	11.62	21.52	17.18	38.33
HBO		14.99	10.55	8.91	-	-	-	14.00	-	-
YouTube	YouTube Premium	11.99	12.68	10.71	15.26	14.96	9.69	11.18	11.27	6.18
	Family (Premium)	17.99	19.07	16.10	22.89	22.44	14.85	-	16.99	-
	Student (Premium)	6.99	-	-	8.90	-	5.81	-	6.49	-
	YouTube Music	9.99	10.55	8.91	12.71	12.46	7.75	9.30	9.36	4.74
	Family (Music)	14.99	15.87	13.40	19.08	18.70	11.62	-	14.13	-
	Student (Music)	4.99	-	-	6.35	-	3.87	-	4.58	-

Tidal and YouTube services, across all the tiers. Likewise, Australia, Norway and the UK have the cheapest Netflix services, regardless of the tier.

There also appears to be a pattern across the prices of Netflix and Spotify. In all markets but the United Kingdom and Norway, the (USD PPP) price for Netflix Standard was higher than for Spotify Premium.

Table 6. Map of selected 2019 streaming prices (USD PPP)

	Spotify Premium	Netflix Standard
US	9.99	12.99
Sweden	10.55	11.61
Norway	9.81	9.81
UK	12.71	10.17
Germany	12.46	14.96
Australia	7.75	9.04
Mexico	9.30	15.88
Japan	9.36	11.46
India	5.70	31.14

If we consider only Spotify and Netflix (Table 6), the UK and Germany (both high income countries) have the highest prices. Mexico (upper middle income) has some of the highest video streaming prices. The USA (high income) has generally medium-high prices across both markets.

Despite the fact that India (lower-middle income) has a conspicuously high price for Netflix Standard, the Indian Netflix pricing is more complex: In fact, it seems reasonable to suggest that Netflix's mobile-only service at 199 Rupees (less than one-third of the 650 Rupees for Netflix Standard) is a more relevant tier in India.[16] The Standard subscription is likely more tailored to "a small base of English-speaking people", as a spokesperson stated when the service launched in 2016 (Lobato, 2019, p. 122). The mobile-only service is not only more affordable, but also more available. Unlike the Standard service, the mobile-only service does not rely on a fixed broadband connection. This means the mobile-only service is much more available, given there are 34.3 mobile broadband subscriptions (but only 1.4 fixed broadband subscriptions) per 100 Indian people.[17] Once we substitute this mobile-only Netflix service, India is the country with the lowest prices on the whole.

When considering the prices for a hypothetical bundle of Spotify Premium and Netflix Standard, Germany ($27 USD PPP), Mexico ($25 USD PPP), the USA and the UK (both 23 USD USD PPP) stand out as markets with comparatively high prices. Sweden ($22 USD PPP) and Norway ($20 USD PPP) fall outside of the group of countries with higher prices. Australia ($17 USD PPP) is another standout market here, with the second lowest prices of the countries studied. Finally, Japan ($21 USD PPP) stands out amongst all countries studied for having the most stable prices. After their introduction, prices for services studied barely varied, with the sole exception of a one-off price increase for Netflix in 2018.

Discussion

The general streaming value proposition, captured in the phrase *all you can eat*, implies a vast offering at a flat rate to customers, regardless of willingness or ability to pay. We have found that the mean price in 2019 for the standard subscription tier across the services we have examined is 11.21 USD (USD PPP). However, this average price betrays the more complex picture of various tiers and options available for each service. These range from 2.83 USD (USD PPP) for Spotify Student in India to 38.33 USD (USD PPP) for Netflix Premium in India. Services such as Netflix and Spotify offer multiple pricing

options, both single payer and family options, as well as discounts and rebates for specific groups. Both lower-priced tiers and free introductory periods indicate how subscription offers are designed to attract new users into binding (higher) paid deals (Bates & Albright, 2006). A different strategy is exemplified by Tidal with its high-priced hifi tier, setting it apart from competitors like Spotify and Apple Music. Further, HBO stands out as a rare example of a single-tier service with comparatively high prices. HBO's high and only reluctantly declining prices are likely connected with the fact that they are tied to the price of HBO's cable/HBO Go package. Lowering the HBO Now streaming price could cannibalise the far more profitable cable revenues.

While the market structures of competing services and an array of tiers is similar across the two industries, we also found significant differences in terms of pricing tendencies. In our comparative overview, we identified a general trend towards declining real prices, particularly in music streaming. However, Netflix is the exception to the rule. Netflix has bucked the general trend in streaming towards decreasing real prices, indicating strong market positions and a value proposition that is hard to copy.

Moreover, while prices tend to correlate between rival services in music, this tendency is not present in video streaming services. Our data cannot speak directly to the reasons for the correlations, but we can make some informed speculations. Music service price correlations may reflect consumer willingness to pay for the similar offerings of music streaming services with the Sony, Warner, Universal and Merlin music conglomerates licencing to most major services. By contrast, Netflix and HBO prices may reflect their vastly different offerings and the more varied libraries video streaming services have been able to access, which affects underlying costs over time. In the case of HBO, as a part of the Warner film and television conglomerate, costs may have stayed steady as the service continued to focus mainly on content within the Warner catalogue and avoided the need for content dedicated to its streaming service. By contrast, Netflix has had to invest increasingly in Netflix-produced content (or exclusive licencing deals), which has added additional costs into its business model. Only recently, as per the Q4 2020 financial statements from Netflix, has the company turned a negative free cash flow from 2011 to positive free cash flow in calendar year 2020 (Netflix, Inc, 2021).

Comparing Spotify and Netflix, we have found similar value propositions, but rather dissimilar pricing strategies. Where Spotify has kept prices stable over time, Netflix has increased prices at rather predictable intervals. Historically, Netflix has tended to increase subscription prices in most markets every few years, typically with 10–20% price hikes. When entering a new market, Spotify tends to price the service according to market and competition, typically lowering the price point in low-income countries.

While a full discussion of market conditions is out of the scope of this article, India can stand as an interesting example of the challenges international streaming providers face. India is the only country in our study with stable Netflix subscription fees (since 2016). The introduction by Netflix of a reasonably priced mobile tier highlights a pricing strategy that is sensible to specific market conditions (see also Lobato, 2019). Spotify's India strategy is also worth noting: The music service keeps prices down in India, and also launched its Premium Mini tier of one-day and one-week subscriptions for India in late 2020.[18] With a large population, India is an attractive market, but willingness and ability to pay for access remains a challenge. Cultural and technological market characteristics add to the strategic challenges (for expositions of similar issues, see Wayne

(2020) on video streaming in Israel, Simon (2021) on video streaming in Nigeria, and Lobato (2019) on Netflix' global strategies, as well as the research network Global Internet Television Consortium[19]).

The Netflix and Spotify approaches to streaming prices have significant divergences, likely connected to the ways that the TV/film and music industries are structured, the so-called "logics" of each culture industry (Herbert et al., 2018). Television and film streaming is a fragmented field, with multiple providers offering unique catalogues. Competition is thus largely on content differentiation, and to some extent on convenience and features. Music streaming takes place in a field where the big providers have largely similar catalogues. The result is price competition, but also a drive towards broadening the value proposition by including new forms of (exclusive) non-music content.

In our country-by-country assessment, we looked at how streaming prices at the consumer level compare and found some unanticipated results. The UK and Germany have the highest streaming prices. Scandinavian countries Norway and Sweden do not have significantly high prices, contrary to expectations based on pure currency conversion basis. Mexico has some of the highest video streaming prices. The US has generally medium-high prices across all markets. These differences are examples of the insights of taking into account purchasing power in price analyses.

Australia is another surprising result here, a high-income country with the second lowest prices of the countries studied. This result stands in contrast to a 2013 Parliamentary inquiry in the prices of online services in Australia, which found Australian consumers pay high, discriminatory prices for digital music, games, e-books and other online services.[20] Finally, Japan stands out amongst all countries studied for having the most stable prices, perhaps reflecting the stagflation in the Japanese economy.

Conclusion

All in all, while the streaming price is independent of consumption, it springs forth as highly contingent on other demand-side factors such as country of residence, family status, purchasing power, currency fluctuations, as well as competition from rival services and with content providers and other suppliers. What we have done here is to map out what consumers in different markets actually need to pay and how prices have developed over the years 2008–2019. While access-based pricing of large content bundles exists in all the markets we have studied, there is considerable variation in *what you pay* and *what you get*. Overall business models are quite similar, at least on the surface, but pricing strategies differ, as is particularly evident when comparing Spotify and Netflix.

Several aspects we have not looked at should be examined in the future, though we recognise data collection may remain challenging. Firstly, comparing price levels to size of content catalogue may provide insights beyond access-based pricing. Future research should also couple the pricing and other streaming revenue inputs with attention to streaming expenditure and value distribution (e.g. royalty rates) to explain the financial sustainability of streaming services and their financial

contribution to the culture industries. Research on discounts and bundling would also be of value, especially to shed light on short-term pricing tactics and overlapping services, and pricing tactics that straddle streaming and other service markets, such as telecommunications.

One way for us to suggest a way forward for future research, is to go back to the idea that the streaming price carries meaning. In other words, what do prices like *gratis* or 9.99 USD signal to various stakeholders? We hold that the streaming business model, based on the all you can eat-logic, detaches value from the work of art and reattaches it to the bundle offered by the streaming provider. Interpretations of the meaning of the price, then, vary based on the perspective and position of stakeholders. As the bundle is controlled by the streaming provider, and varies constantly in ways not apparent to customers, the value is only clearly seen from the provider's perspective. Control over database and user data means streaming providers have the advantage of overview. This helps service providers establish precise value assessments across their vast bundles, while obscuring for both content producers and users the monetary and cultural value of cultural products and works of art. If we take music streaming as an example: For users, the worth attached to the audio streamed is lumped into a single flat fee whose obfuscation of value is enhanced by compensation models (such as the pro-rata model) where all your subscription fees are joined together with everyone else's before royalties or licencing fees are distributed. Content producers, i.e. artists, only ever see royalty payments from song plays, a very partial view of the streaming business model. They remain (perhaps painfully) aware of the cultural economic consequences of the streaming model at the individual level but are not privy to the insights of the full data stream, the power of metrics and data analytics. While video streaming works by a different set of logics, where royalties are substituted for up-front licencing agreements, the asymmetrical relationship between creators and distributors is similar.

There also remain doubts about the overall sustainability of the streaming model. Netflix is currently doing well, adding millions of subscribers and attaining positive free cash flow during the Covid-19 pandemic. Nonetheless, the constant need to update the catalogue, coupled with the increased competition not only from HBO, but from Disney+, Amazon Prime, Apple TV+ and others, make for a challenging marketplace. Especially, the cost of original productions and licencing put a significant pressure on Netflix' profits. Other concerns are very much present in the music industry, where Spotify is the largest player. Despite the meagre royalties paid by Spotify to rightsholders (cf. Marshall, 2015), there is currently not much more room to increase payments on Spotify's budget, unless there is much more revenue, either from subscription or advertising.

YouTube, while still a smaller player in paid subscription streaming, remains the giant in ad-funded streaming. It remains to be seen whether YouTube can convince its free-of-charge users to become paid users over time, but future studies would be justified in focussing greater attention on YouTube's paid subscription prices. YouTube's ability to cross-subsidise from its ad-supported streaming, foray into live streaming of major events, and its important role in extending the reach of news and sports events, sets it apart from other video streaming services.

The questions over economic sustainability would seem to call for either higher subscription fees and advertising rates or a greater number of subscribers and advertisers. As we touched upon in the theory section, price discrimination of some sort may assist sustainability if the streaming provider sees large discrepancies between "high value" and "low value" users. Though price discrimination through tiers already exist, there may be scope to explore other price discrimination strategies, particularly second-degree price discrimination based on volume sold, such as lower and higher monthly prices for longer and shorter subscriptions. Streaming services are still in an emergent phase and finding a sustainable price for *all you can eat* remains elusive.

Notes

1. Apple's streaming service for music, not included in our sample, is another example of a service which is arguably an add-on to the hardware side of the business (cf. Colbjørnsen, 2020).
2. https://support.spotify.com/us/using_spotify/the_basics/full-list-of-territories-where-spotify-is-available/
3. Precise user numbers are hard to come by in Tidal's case. The company only rarely releases numbers or statistics. Also, information from Tidal should be examined with a critical eye, as the company is accused of data fraud (Keslassy, 2020). Country availability: https://support.tidal.com/hc/en-us/articles/202453191-TIDAL-Where-We-re-Available
4. https://support.google.com/youtube/answer/6,307,365?hl = en#zippy = %2Cpremium-memberships-available-locations
5. This article does not cover services that are sometimes referred to as streaming services, but lack on-demand and time-shifting functionalities, such as live online transmission of particular events (e.g. gaming sequences, sports and awards shows), often referred to as *live streaming*.
6. To access webpages in countries outside of Norway, the NordVPN tool was used. This enabled us to get pricing information in the local currency. NordVPN was used for all countries except Norway.
7. A different data collection strategy could be to harvest prices in real-time, but our project timeframe did not allow for such a strategy.
8. https://databank.worldbank.org/reports.aspx?source = 1179&series = DPANUSLCU#
9. https://www.imf.org/external/datamapper/PPPEX@WEO/OEMDC/ADVEC/WEOWORLD
10. https://databank.worldbank.org/reports.aspx?Code = FP.CPI.TOTL.ZG&id = 1ff4a498&report_name = Popular-Indicators&populartype = series&ispopular = y
11. While prices for digital book streaming were excluded from this paper, we noted that the digital book streaming service Storytel charged a significant premium above other services we studied.
12. In this article, we present prices for HBO's standalone streaming service (separate from their cable service) which has different names across the world, including HBO Now in the United States, HBO Go in Latin American countries such as Mexico and HBO Nordic in Nordic countries such as Sweden and Norway. We note HBO Max launched in the United States, operating in parallel with existing HBO services while offering a wider range of content at the same price point. See https://deadline.com/2019/10/hbo-max-pricing-launch-date-1202771551/. HBO has announced plans to launch HBO Max in 190 countries, including European and Latin American countries in the second of 2021. See https://www.prnewswire.com/news-releases/web-summit-hbo-max-to-expand-into-latin-america-and-europe-by-the-second-half-of-2021-301185785.html

13. HBO also offers a separate online streaming service tied to its offline subscription service in some markets.
14. While we have not systematically collected data for other music streaming services than Spotify and Tidal, we note here that the tendency towards converging prices is likely to be found across multiple music providers. Apple Music is currently at $10 per month in the US, pretty much identical to Tidal's, Spotify's and Deezer's $9.99 per month subscription prices. Divergences may occur, however, particularly in countries where a service is introduced according to specific market conditions.
15. Values can range from −1 to 1. A coefficient of 1 indicates perfect positive correlation; for example, if one service price increased by 10%, the other price also increased by 10%. A coefficient of −1 indicates perfect negative correlation; a 10% increase in one service price corresponds with a 10% decrease in the other. A coefficient of 0 indicates no correlation whatsoever.
16. https://media.netflix.com/en/press-releases/netflix-launches-mobile-plan-for-india.
17. See McKinsey Global Institute (2019), *Digital India*, p.37 at https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/McKinsey%20Digital/Our%20Insights/Digital%20India%20Technology%20to%20transform%20a%20connected%20nation/MGI-Digital-India-Report-April-2019.pdf
18. See https://musically.com/2020/12/16/spotify-india-launches-cheaper-premium-mini-subscription/
19. https://global-internet-tv.com/
20. https://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=ic/itpricing/report.htm

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