
Value of YouTube to the music industry - Annex

December 2017

1 Introduction

1.1 Scope of the work

RBB Economics (“RBB”) has been retained by YouTube to assess the value of YouTube to the music industry. This report presents a summary of the analysis undertaken by RBB, explaining the methodology and the main results.

1.2 Structure of the report

The report is structured as follows:

- Section 2 provides an overview of the data sources used in this analysis. In summary, we used two main types of data in this analysis:
 - o historical data, from third party sources and from YouTube; and
 - o survey data.
- Sections 3 to 5 show the analyses based on historical data from third parties and YouTube. In particular:
 - o Section 3 details the evolution of YouTube views and streams over time, and shows that streams grow at a higher or equal rate than YouTube views.
 - o Section 4 breaks down the distribution of songs by age and popularity, and shows that YouTube extensively covers the tracks that are less popular on streaming platforms.
 - o Section 5 describes the results from the analysis of the relation between YouTube views and audio streams.
 - Subsection 5.1 shows that YouTube views are positively correlated with streams.
 - Subsection 5.2 analyses the effect of blocking YouTube on streams, and shows that YouTube blocking does not have a statistically significant impact on streams.
 - Subsection 5.3 examines the effects of YouTube exposure on streams. This section shows that tracks with high initial exposure on YouTube have higher streams in subsequent months compared to tracks with low initial exposure on YouTube.
- Section 6 present the analysis of survey results and shows that:
 - o YouTube plays an important role in the discovery of new music.
 - o YouTube users pose a larger value per user to the music industry and YouTube music users spend more money on live music events than non-YouTube users. The value to the music industry per user as well as the spend on live events generally increase in the consumption of music on YouTube by YouTube user type.

- o If YouTube was no longer able to offer music, almost half of that time would be lost, while another one-third of time would divert to lower or similar value platforms as YouTube.
- o The monetary aggregate effect is ambiguous and largely depends on the likelihood of YouTube users to subscribe to an audio streaming service if YouTube was no longer to offer music. But there is no compelling evidence to suggest that the industry would be better off without YouTube, negating the previous analyses suggesting promotional value of YouTube.

2 Data sources

RBB has used two main types of data in this analysis:

- Historical data, from third party sources and from YouTube;
- Survey data.

The first type of data, which is described in this subsection, were used in the historical data analysis, presented in Sections 3 to 5. The survey data is described in section 6.1.

2.1 Historical streaming data

RBB received Historical data from GFK for France, Germany and Italy; and from OCC for the United Kingdom. The data consist of weekly volumes of audio streaming, and downloads for a picklist of tracks. The picklist in the United Kingdom, France and Italy consisted of the top 3,500 tracks by streaming volumes in a specific week ("reference week"), which was the first week of March 2016.¹ For Germany, the distribution of streaming volumes across tracks was more uniform than the other countries, with significant volumes in the tail of the distribution. Hence, the picklist for Germany included the top 2,000 tracks by streaming volumes in the reference week and 1,500 additional tracks from the tail of the distribution; so as to also study the behaviour of songs in the tail. Table 1 provides an overview of these data.

Table 1: Historical Streaming Data Overview

Country	Source of Data	Data start date	Data end date	Picklist of tracks
United Kingdom	OCC	2014 w1	2016 w35	Top 3,500
France	GFK	2015 w1	2016 w30	Top 3,500
Germany	GFK	2014 w1	2016 w30	Top 2,000 + 1,500
Italy	GFK	2014 w1	2016 w30	Top 3,500

Source: RBB.

¹ The top 3,500 tracks included in the picklist cover between 32% (Germany) and 46% (United Kingdom) of total streaming volumes in the reference week.

2.2 YouTube internal data in relation to historic data

RBB also received internal data from YouTube for the United Kingdom, France, Germany and Italy. The YouTube internal data was queried for the same tracks as those in the picklists for each country as described above. For the purpose of identifying and matching tracks from the picklist to YouTube's internal database, RBB used the tracks' ISRCs provided by GFK or OCC and the ISRCs contained in soundexchange.com. Since it is possible for a track to have multiple ISRCs, the matching process did not match all the tracks in the picklist to YouTube's database. Table 2 outlines the number of tracks matched in each country.

Table 2: Number of Picklist tracks matched to YouTube

Country	Number of Tracks in Picklist	Number of Tracks Matched
United Kingdom	3,500	3,327
France	3,500	3,076
Germany	3,500	3,050
Italy	3,500	2,800

Source: RBB.

For all countries, the data for the matched tracks included weekly YouTube views from 2014w1 up to 2016w32. YouTube views were further broken down by type of video:

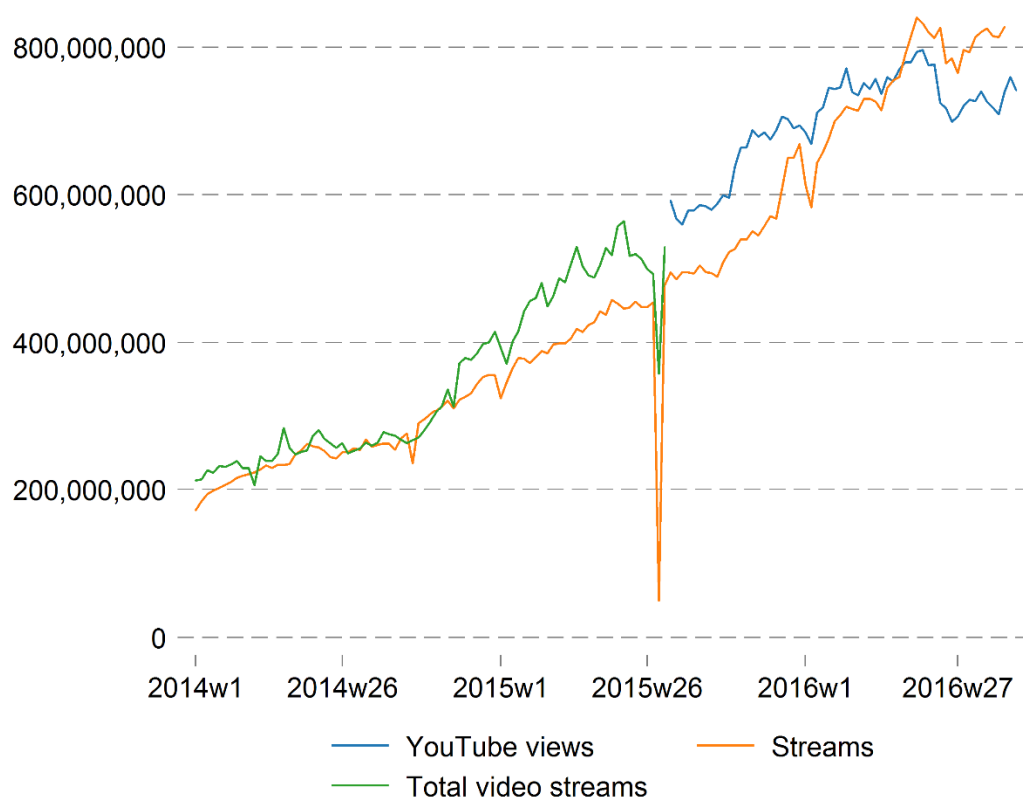
- Premium Music Video or PMV: Videos provided directly by a music partner;
- Song User Generated Content ("UGC"): UGC video meeting the 90% match criteria for both audio and metadata and with a music claim. A label music claim implies that although the video is provided by a third-party uploader all revenue generated by the video is accrued to the claim-holder - in general, the music industry;
- Non-Song UGC: UGC video with a music claim but not meeting the Song-UGC match criteria; again, a label claim implies revenue accruing to the claim holder - in general, the music industry

3 Evolution of YouTube views and streams

In this section we present our analysis on the evolution of YouTube views and streams in the four countries analysed.

Streams have been growing at least as fast as YouTube views of music content: In all four countries, YouTube music views have grown significantly, by 220 - 343%.² Streams have grown at a higher rate, by 429 - 977%.

Figure 1: Total platform YouTube views vs Streams in the United Kingdom

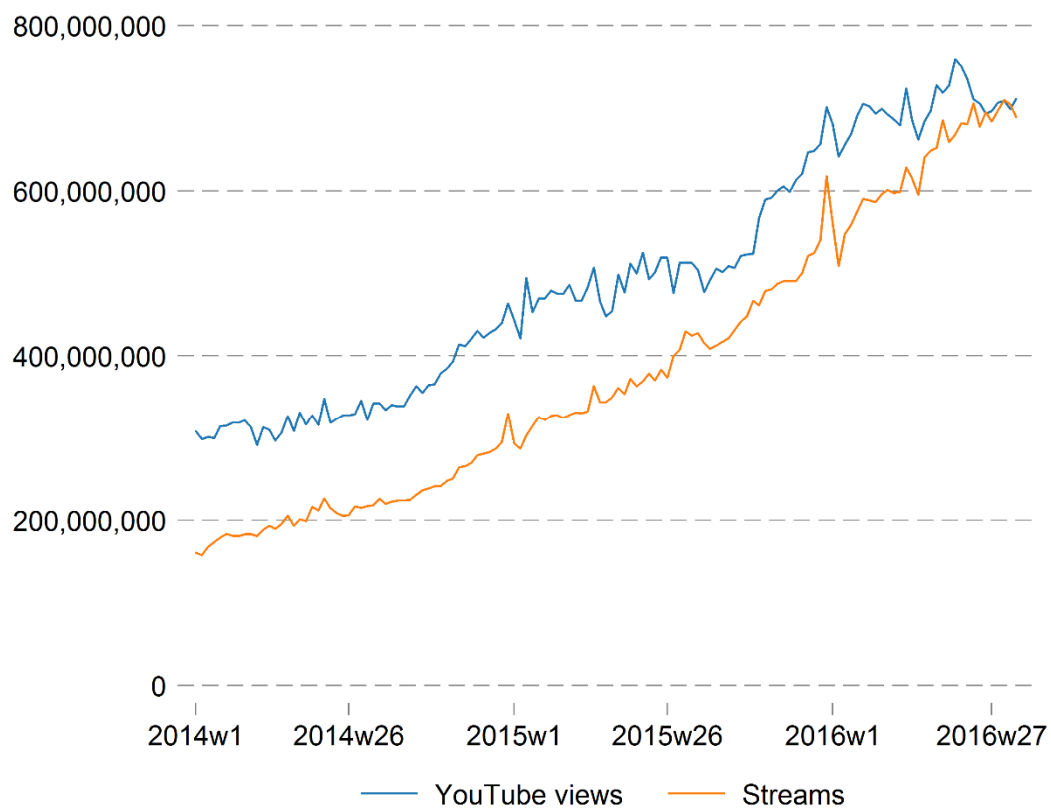


Source: RBB analysis of OCC data and YouTube internal data.³

² This growth is observed over the time period of the data, from the first week of 2014 to week 30-32 of 2016

³ YouTube views data were only available from 2015w30. The data have been extended to prior years using OCC data on total video streams.

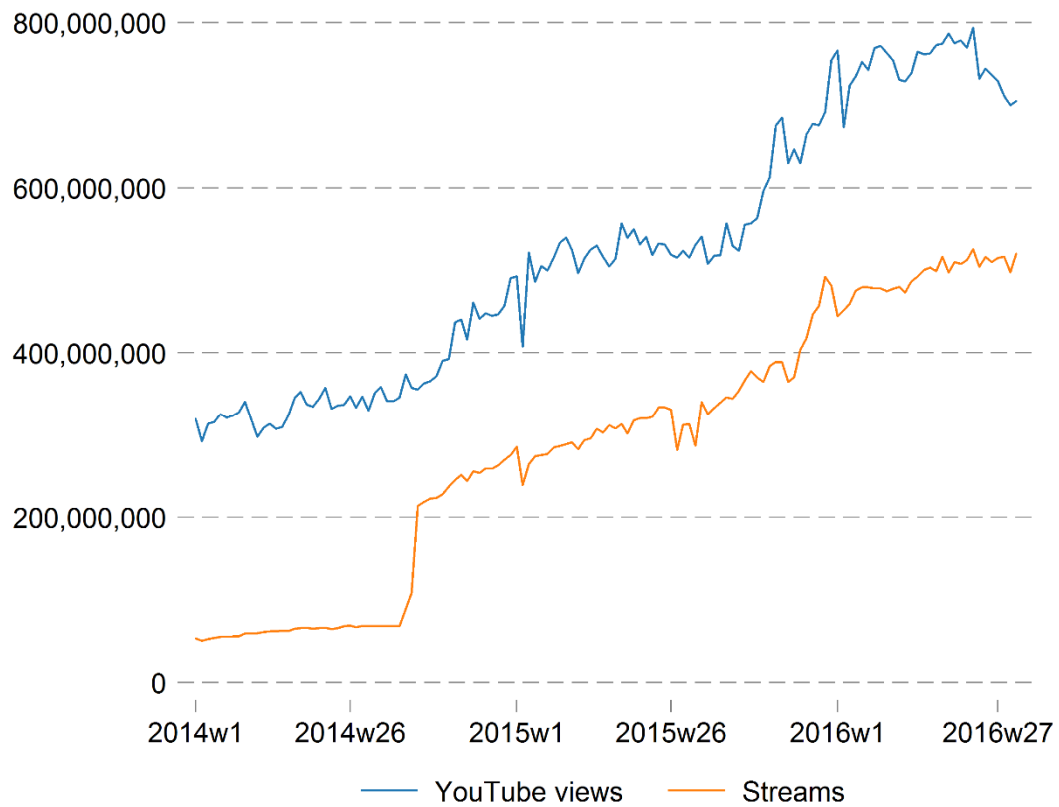
Figure 2: Total platform YouTube views vs Streams in Germany



Source: RBB analysis of GFK data and YouTube internal data.

In France, streams and YouTube views have continued to grow at similar rates, though YouTube views remained higher than streams, as shown in Figure 3.

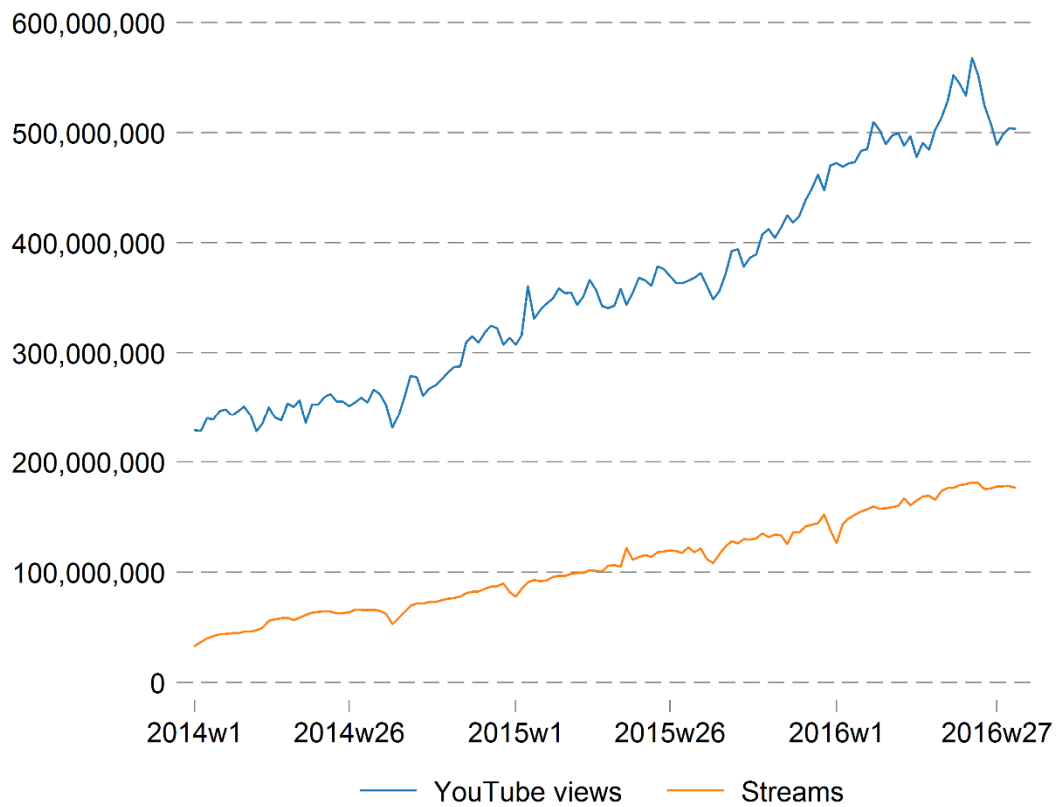
Figure 3: Total platform YouTube views vs Streams in France



Source: RBB analysis of GFK data and YouTube internal data.

Figure 4 shows that in Italy, YouTube views were much higher than streams through the period; even though streams showed a higher growth rate.

Figure 4: Total platform YouTube views vs Streams in Italy



Source: RBB analysis of GFK data and YouTube internal data.

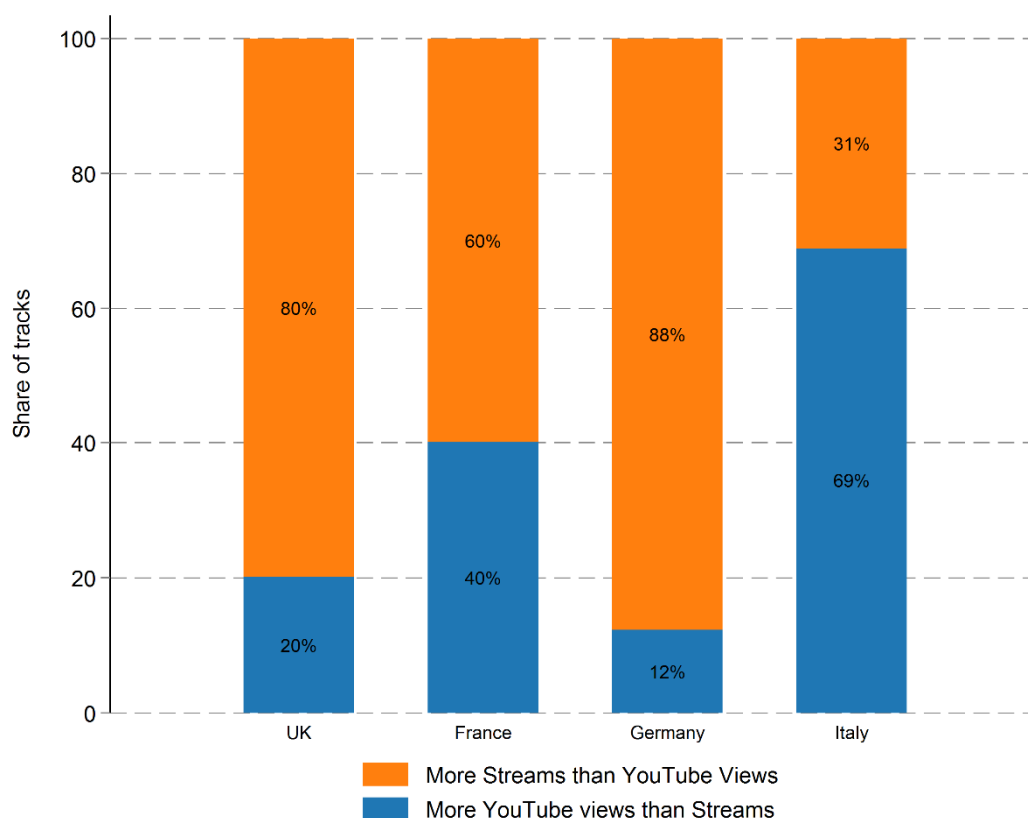
4 Distribution of songs on each platform

In this section we present our analysis on the comparison between YouTube and Streaming for how songs are distributed in terms of popularity, age and video type (e.g. PMV). We find that users tend to use audio streaming platforms and YouTube differently.

4.1 Popularity

For the top tracks on streaming platforms, there are typically more streams than YouTube views in the United Kingdom, France and Germany. Figure 5 below shows the share of top streaming tracks which have higher streams than YouTube views.

Figure 5: Distribution of ratio of streams to views by track

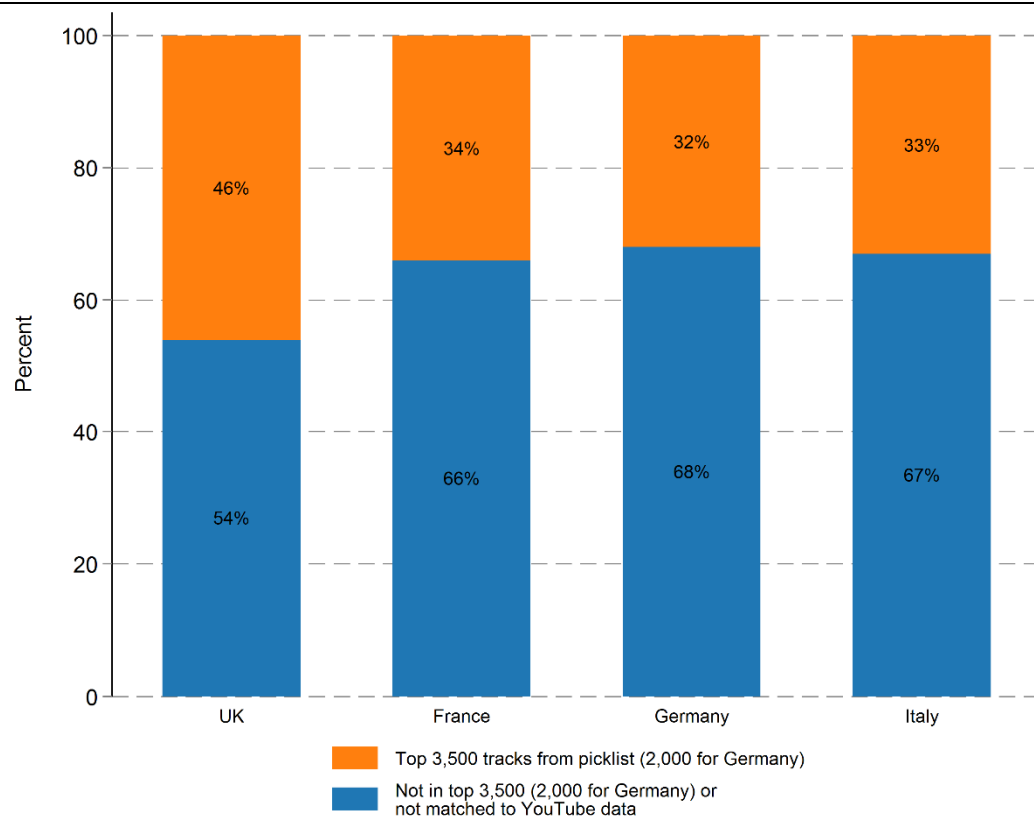


Source: RBB analysis of GFK data, OCC data and YouTube internal data. The tracks included are the picklist tracks.

Users tend to use audio streaming platforms primarily for top songs, whereas YouTube is more likely chosen for songs in the tail of popularity. Indeed, less popular tracks are better represented on YouTube. Comparing Figure 6 and Figure 7 below shows that the top popular songs represent a much larger share of streaming platforms than on YouTube.

Figure 6 shows the distribution of streaming volumes between the top streaming tracks and the non-picklist tracks.

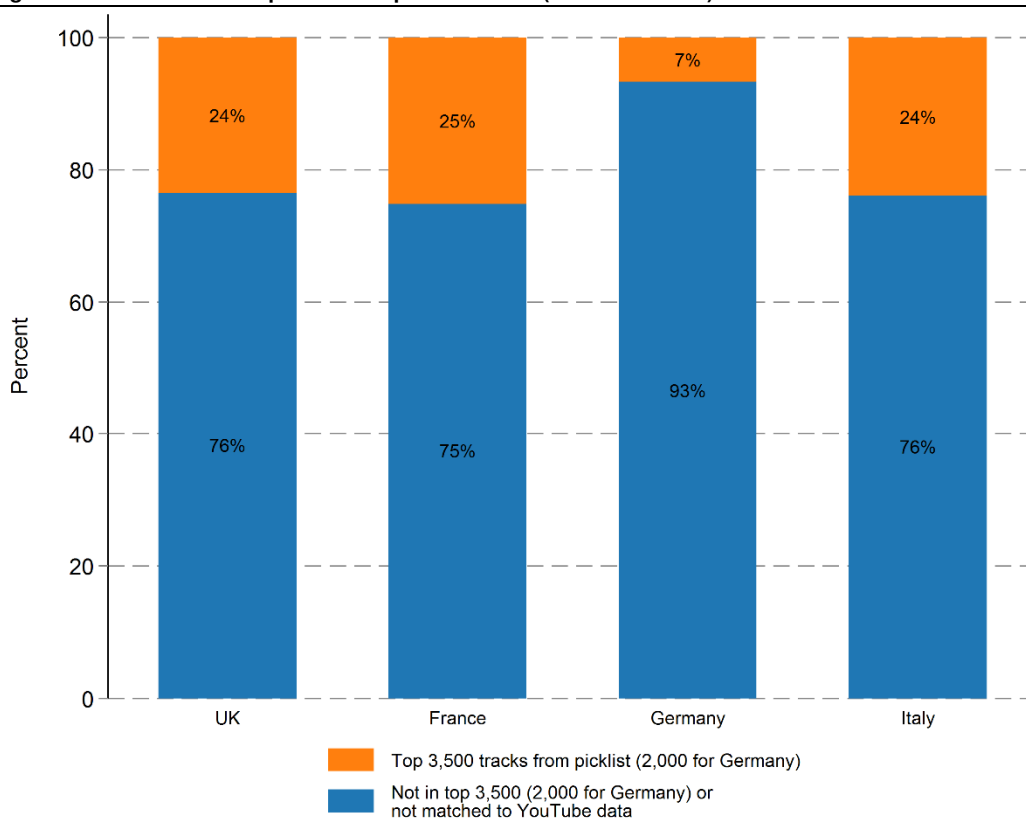
Figure 6: Platform shares of picklist/non-picklist tracks (Streaming Platforms)



Source: RBB analysis of GFK data, OCC data and YouTube internal data. The tracks included are the picklist tracks.

Similarly, Figure 7 shows the distribution of total YouTube views between the top streaming tracks and the non-picklist tracks. The top streaming tracks make up 32% to 46% of total streaming volumes, but only 7% to 24% of total YouTube views. The less popular, non-picklist tracks make up only 54% to 68% of total streaming volumes, but as much as 76% to 93% of total YouTube views.

Figure 7: Platform share of picklist/non-picklist tracks (YouTube Views)



Source: RBB analysis of GfK data, OCC data and YouTube internal data. The tracks included are the picklist tracks.

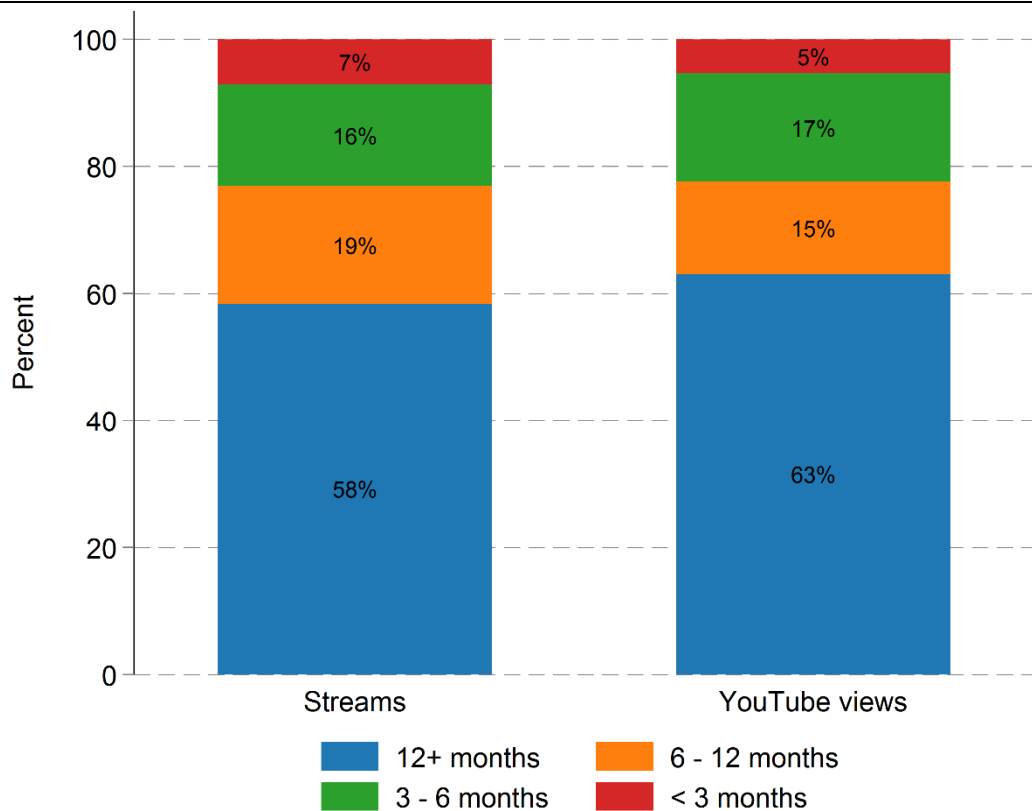
This trend is consistent across all four countries, being more pronounced in the United Kingdom and in Germany. In the United Kingdom, the tracks outside the top 3,500 streaming tracks constitute only 54% of total streaming volumes, but constitute 76% of total YouTube views. In Germany, the tracks outside the top 2,000 constitute only 68% of total streaming volumes, but 93% of total YouTube views.

4.2 Age

Users do not seem to differentiate streaming and YouTube when it comes to the songs' age. We compare the age of tracks between streaming platforms and YouTube. The age of a track was defined at the reference week, the week in which the top streaming tracks were chosen to construct the picklist of tracks. The tracks were then divided into different buckets based on their age, and for each bucket the share of total platform consumption was calculated. The distribution of platform shares in the different buckets was then compared across YouTube and streaming platforms.

Figure 8 shows that YouTube views and streams have a similar age distribution in the United Kingdom. This is also observed in France; however in Germany and Italy, the tracks which are more than 12 months old constitute a larger share of total YouTube views than they do for total streams.⁴

Figure 8: Share of Platform Consumption, by Song Age in the United Kingdom



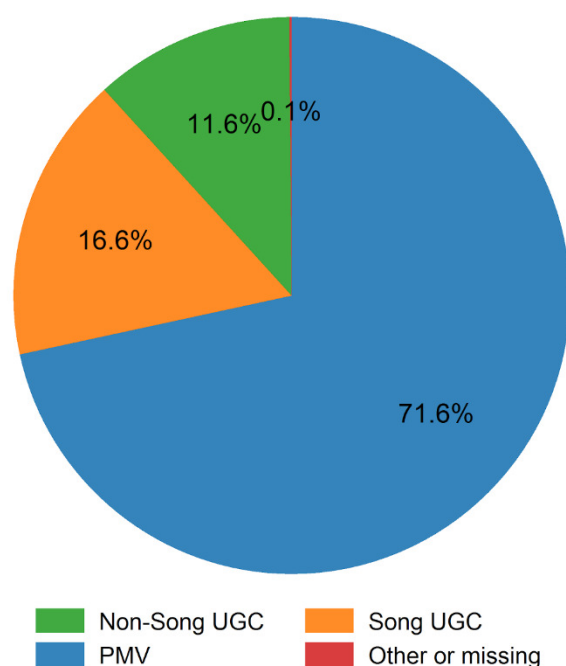
Source: RBB analysis of OCC data and YouTube internal data. The figure shows the volume share for each age category out of the total volumes for the picklist in the reference week. Age is defined in terms of age at the reference week.

⁴ Similar figures for France, Germany and Italy are included in Annex A.

4.3 PMVs

For tracks that are important to streaming, PMVs constitute the largest share of YouTube views of music content. Figure 9 below shows that PMVs account for over two thirds of YouTube views of music content in the United Kingdom. Likewise, PMVs constitute more than two thirds of YouTube views in Italy and France and more than half of the total YouTube views in Germany.⁵

Figure 9: Breakdown of songs by type of views (United Kingdom)

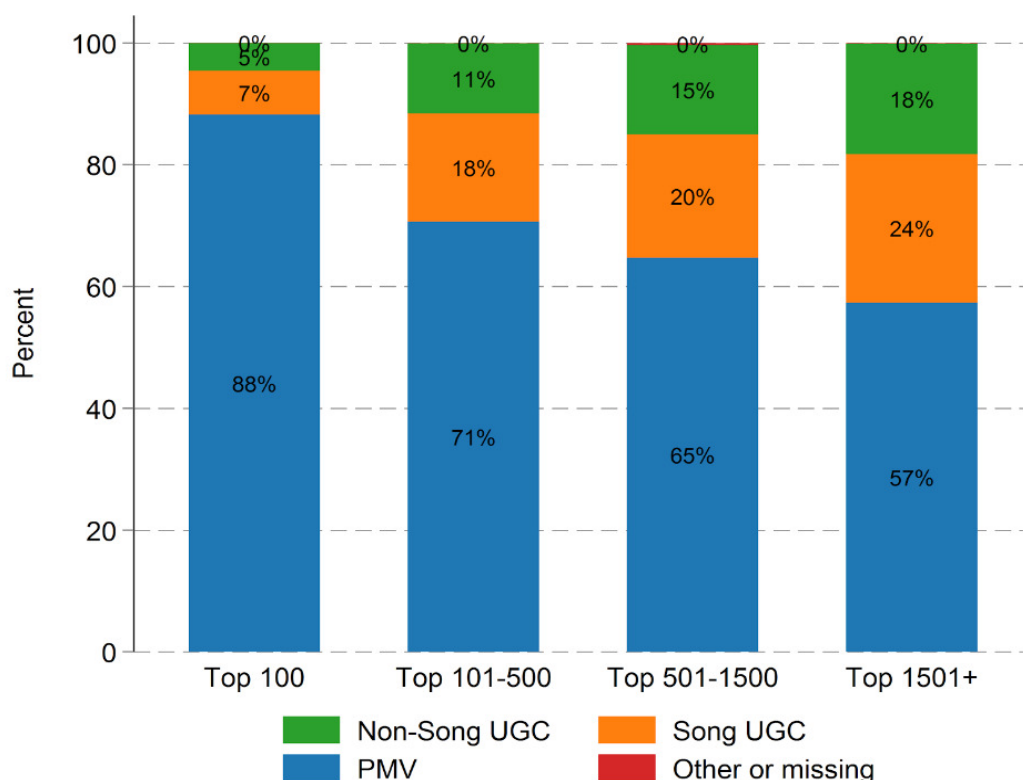


Source: RBB analysis of OCC data and YouTube internal data. The figure shows the distribution of YouTube views by content type for all tracks in the picklist in the reference week.

⁵ Similar figures for France, Germany and Italy are included in Annex B.

PMVs constitute the largest share of YouTube views for more popular tracks within the picklist. Figure 10 illustrates that for the top 100 tracks in the United Kingdom, 88% of all YouTube views consist of PMVs, and that the share of PMVs progressively decreases with decreasing popularity. Likewise, for France, the proportion of PMVs views within YouTube views in the top 100 tracks is 94%, whereas for Italy the proportion is 93% and for Germany it is 71%, with the proportion of PMVs decreasing in all countries for less popular songs.⁶

Figure 10: Breakdown of songs by type of views, and by popularity (United Kingdom)

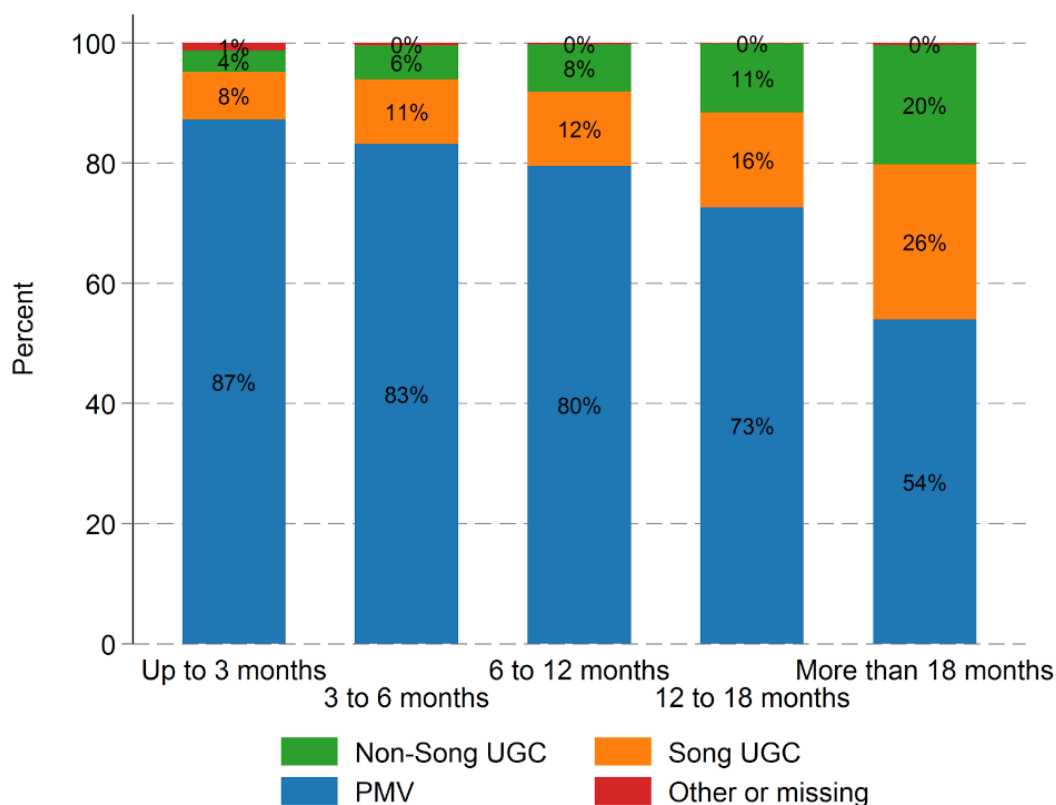


Source: RBB analysis of OCC data and YouTube internal data. The figure shows the distribution of YouTube views by content type for tracks in the picklist based on their popularity in the reference week.

⁶ Similar figures for France, Germany and Italy are included in Annex C.

PMVs also constitute the largest share of YouTube views for newer tracks. Figure 11 illustrates that, in the United Kingdom, PMVs account for 87% of the total views of tracks that are less than 3 months old, and that this share progressively decreases with the age of tracks.⁷

Figure 11: Breakdown of songs by type of views, across different song ages (United Kingdom)

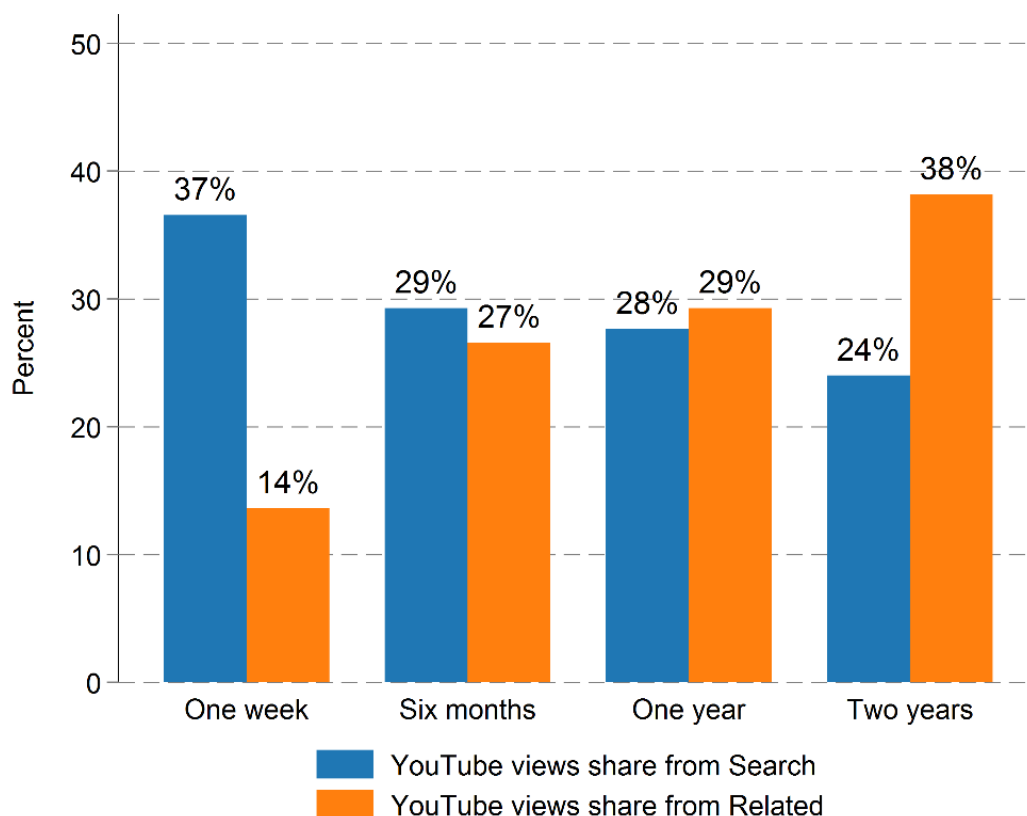


Source: RBB analysis of OCC data and YouTube internal data. The figure shows the distribution of YouTube views by content type for tracks in the picklist based on their age in the reference week.

⁷ Similar figures for France, Germany and Italy are included in Annex D.

Older tracks are more likely to be viewed on YouTube as a consequence of a recommendation, as shown in Figure 12 below. In addition, as shown in Figure 11 above, views at the tail of songs' life cycles are increasingly made on UGC videos.

Figure 12: Share of YouTube views by search or related, by age of track (United Kingdom)



Source: RBB analysis of OCC data and YouTube internal data.

5 The relationship between YouTube views and streams

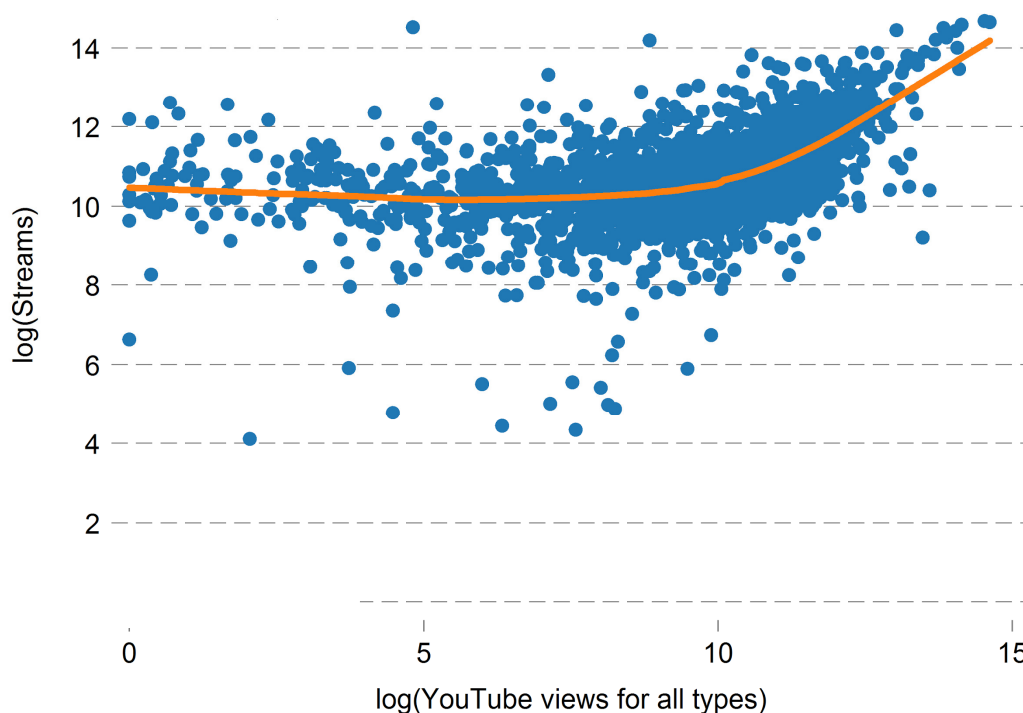
In this section we present our analysis of the relationship between YouTube views and audio streams.

5.1 Correlation between YouTube views and streams

5.1.1 Correlation

YouTube views are positively correlated with streams in all countries. Figure 13 below shows the log of YouTube views vs the log of streams in the United Kingdom.⁸⁹

Figure 13: Correlation between Streams and YouTube views, United Kingdom



Source: RBB analysis of OCC data and YouTube internal data. Correlations are calculated across all track observations, i.e. for all the weeks in the dataset.

Panel regressions on the data also indicate that an increase in YouTube views is associated with an increase in streams. The panel regression consists of a log-log regression that tests whether there is any association between streams and YouTube views when other factors are

⁸ Logs are used to smooth out the big outliers and allow a percentage interpretation in the regressions below. Conclusions in this report do not depend on this technical choice.

⁹ Similar figures for France, Germany and Italy are included in Annex E.

taken into account. The model includes a specification that allows each track to be uniquely identified over time (so-called 'fixed effects'), to control for time-invariant characteristics of each song. This base model (1) was expanded by including monthly dummies in order to control for the growth in streams over time (2). Table 3 below shows the results of panel regressions for the base model as well as the expanded model in the United Kingdom.¹⁰

Table 3: Panel Regression results of YouTube Views on Streams in the United Kingdom

	Interpretation of results	Model specification	Interpretation of results	Model specification
		(1)		(2)
log(YouTube views)	Statistically significant and positive - higher YouTube views are associated with higher streams	log(streams) 0.366*** (7.69)	Statistically significant and positive - higher YouTube views are associated with higher streams	log(streams) 0.327*** (21.73)
February_2014	Controls		Controls	0.0693*** (5.72)
March_2014	Controls		Controls	0.110*** (7.61)
April_2014	Controls		Controls	0.158*** (11.87)
May_2014	Controls		Controls	0.218*** (17.12)
July_2016	Controls		Controls	1.011*** (39.53)
August_2016	Controls		Controls	1.670*** (59.00)
Constant		7.037*** (14.47)		6.834*** (51.20)
N		340003		340003
N_g		3217		3217

Source: RBB analysis of OCC data and YouTube internal data. The numbers in parentheses indicate the t-statistics.
* - $p < 0.05$; ** - $p < 0.01$; *** - $p < 0.001$

The results show that a 1% increase in YouTube views is associated with a 0.33% - 0.37% increase in streams in the United Kingdom. For the other countries, a 1% increase in YouTube views is associated with an increase in streams ranging from 0.1% - 0.34%.

¹⁰ Similar figures for France, Germany and Italy are included in Annex F.

5.1.2 Granger Causality and song life cycle

Granger causality allows the estimation of “statistical causality”, i.e. whether YouTube views are a statistically leading indicator of streams.

The econometric analysis indicates that variations of YouTube views also occur, later, on streams. Table 4 below shows that YouTube views (variable “log (YouTube views) at w-1”) have a positive and significant explanatory power over streams in the following week in the United Kingdom.¹¹ Similar results are found in Germany, France and Italy.¹²

Table 4: Results of Granger Causality for streams, United Kingdom

	Interpretation of results	Model specification (1)	Interpretation of results	Model specification (2)
log(YouTube views) at week-1	Statistically significant and positive - YouTube leads streams	0.0583* (0.0252)	Statistically significant and positive - YouTube leads streams	0.0682* (0.0326)
July_2014	Controls		Controls	-0.0381 (0.0609)
August_2014	Controls		Controls	-0.0404 (0.0584)
...				
July_2016	Controls		Controls	0.0842 (0.0647)
log(streams) at week-1	Controls	0.404*** (0.112)	Controls	0.362** (0.136)
log(streams) at week-2	Controls	0.212*** (0.0288)	Controls	0.174** (0.0541)
log(streams) at week-3	Controls	0.123*** (0.0217)	Controls	0.0709* (0.0338)
log(streams) at week-4	Controls	0.0551* (0.0224)	Controls	0.101 (0.0561)
log(streams) at week-5	Controls	0.0383* (0.0189)	Controls	0.0692 (0.0449)
...				
log(streams) at week-24	Controls	0.00538*** (0.00122)	Controls	-0.000315 (0.00318)
Constant	Controls	0.593* (0.270)	Controls	1.081* (0.424)
N		265,743		265,743
N_g		3,100		3,100

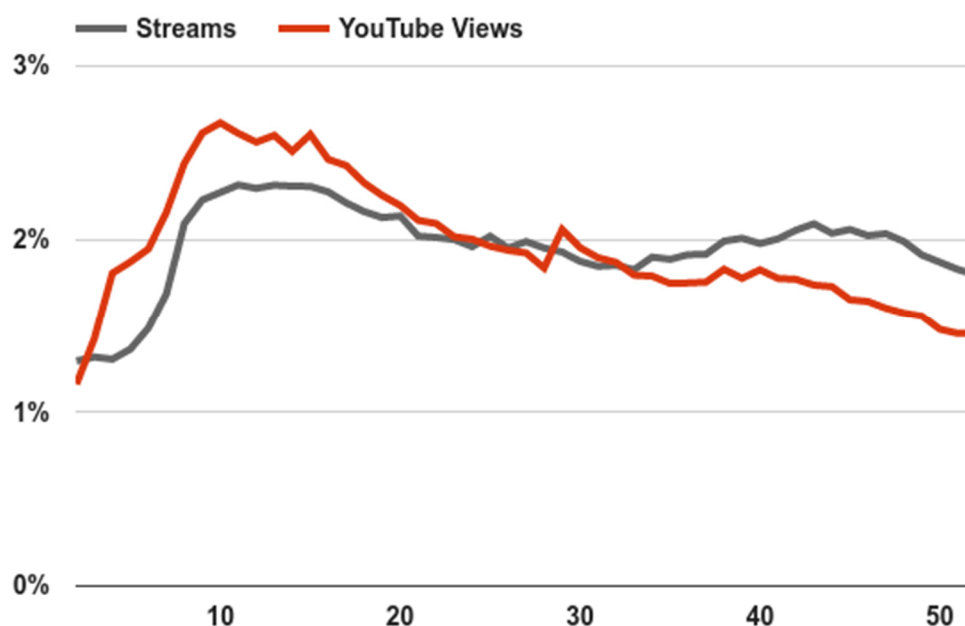
*Standard errors in parentheses. Time dummies correspond to a specific month and year. Some of the coefficients for the time dummies and the lagged logarithms of streams have not been displayed for brevity. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

¹¹ The coefficient of the variable “log (YouTube views) at w-1” is positive and significant after controlling for the movement of past streams. This indicates that, in addition to the complete history of a song’s streams, the song’s number of YouTube views in the previous week helps predicting the contemporaneous week’s number of streams for that song. Moreover, statistically, an increase in the number of YouTube views leads to an increase in the number of streams in the following week.

¹² Figures for France, Germany and Italy are included in Annex G.

Figure 14 illustrates the life cycle of tracks over the first year of their release in the United Kingdom. The figure shows that YouTube views take off and grow more rapidly in the initial weeks as compared to streams. A similar result is found in Germany; however there was no graphical evidence for YouTube views leading streams in France or Italy.

Figure 14: Share of streams vs. YouTube views over first year of tracks, United Kingdom



Source: RBB analysis of OCC data and YouTube internal data. The sample includes the 426 tracks for which the first year after release is observed in the data (i.e. tracks released between 2014w1 and 2015w31). The volumes have been normalised by the first year total for each platform, so that the area under both charts is equal to one. The first two weeks of the lifecycle are excluded since streaming data is often missing for these weeks. Tracks where further streaming data was missing have been excluded from the analysis.

5.2 Exposure on YouTube and its effect on streams

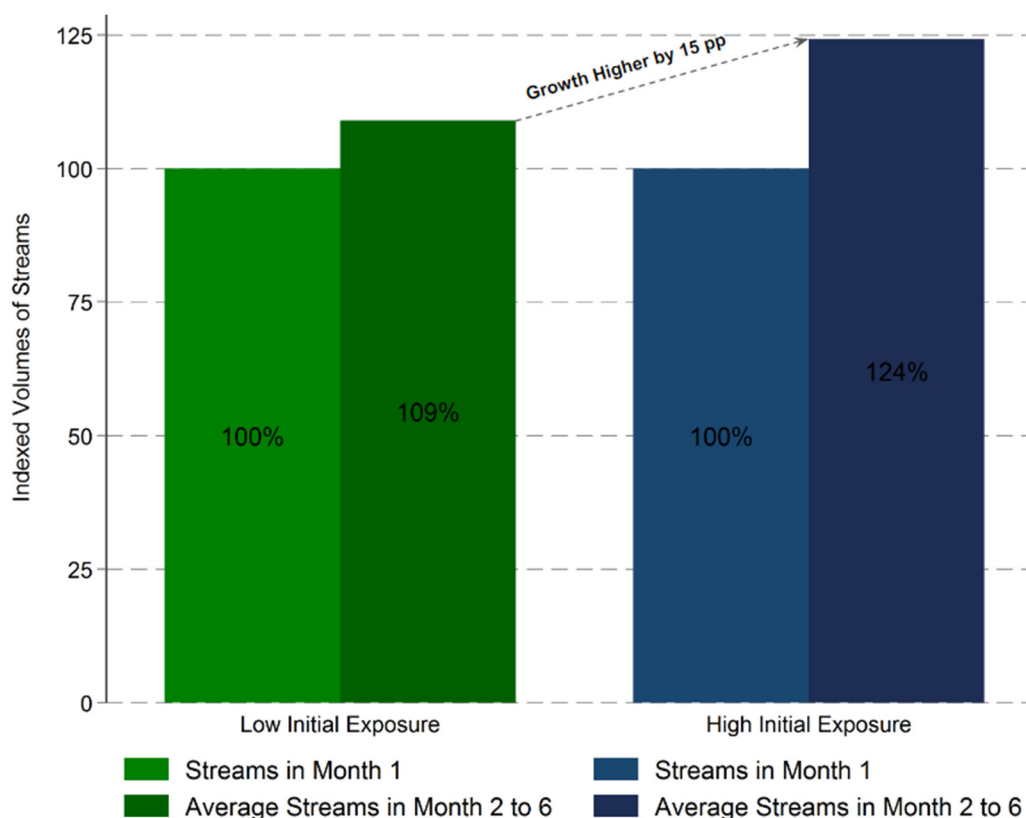
RBB investigated the different levels of exposure on YouTube in the initial months for tracks, and then considered the effects that this had on streaming volumes in subsequent months.

For the purpose of this exercise, the sample of tracks was restricted to those tracks for which data was available for the 6 months following the release of a track, i.e. tracks released in 2014 and 2015. Further, the data had some tracks which recorded 0 streams or YouTube views in the first week of release; these tracks were dropped to avoid biases in the calculation of initial exposure to YouTube. The initial exposure to YouTube was derived from the ratio of streams to YouTube views in the first month of the track's release. A high ratio of streams to YouTube views indicates low exposure to YouTube, while a low ratio indicates high exposure to YouTube. Tracks were then ranked on the basis of this ratio, with the top third of tracks

classified as high initial exposure, and the bottom third of tracks classified as low initial exposure.

In all four countries, tracks with high initial exposure had more streams in months 2-6 as compared to tracks with low initial exposure. Figure 15 below displays the results for the United Kingdom.

Figure 15: Average monthly streams in months 2–6 compared to month 1, United Kingdom



Source: RBB analysis of OCC data and YouTube internal data. Sample of 227 tracks released from 2014-2015 across the four countries. Restricted to tracks which have non-zero streams and YouTube views in the first week.

The light green and light blue bars show the streams in the first month for low exposure and high exposure tracks respectively. These streams have been indexed to 100 in month 1. The dark green and dark blue bars show the average for streams in months 2-6 for these tracks. The tracks with high exposure in month 1 (blue) grew more in months 2-6 as compared to the tracks with low exposure. This difference in growth amounts to 15 percentage points. Table 5 below summarises the results for other countries. The magnitude of this observed effect was the highest in Germany, with 142% higher growth for high exposure tracks.

Table 5: Average Monthly Streams in Months 2-6 after Release vs. Month 1, all tracks

Country	With Low Month 1 YouTube Exposure	With High Month 1 YouTube Exposure	Delta
United Kingdom	+ 9%	+ 24%	+15%
Germany	+ 27%	+ 169%	+142%
France	- 18%	- 6%	+12%
Italy	- 26%	+ 9%	+35%

Source: RBB analysis of GfK data, OCC data and YouTube internal data. Sample of 1114 tracks released from 2014-2015 across the four countries. Restricted to tracks which have non-zero streams and YouTube views in the first week.

This result was further investigated on sub-samples of tracks based on their popularity, and based on their age.

5.2.1 Exposure on YouTube by popularity

The analysis was repeated for a subsample of more popular tracks and less popular tracks and showed the same results: Higher initial exposure on YouTube leads to higher streams in the subsequent months. The effect is, in general, largest for less popular tracks which are typically more represented on YouTube. Popularity of tracks was defined by their share of total streaming platform volumes in the first month. The top one third of tracks in terms of highest platform share were classified as more popular tracks, while the bottom one third of tracks were classified as less popular tracks. Table 6 details the results of the analysis for the two subsamples in each country.

Table 6: Average Monthly Streams in Months 2-6 after Release vs. Month 1

More popular tracks				Less popular tracks		
Country	Low month 1 YouTube exposure	High month 1 YouTube exposure	Delta	Low month 1 YouTube exposure	High month 1 YouTube exposure	Delta
United Kingdom	- 22%	- 13%	+ 9%	+ 227%	+ 659%	+ 432%
Germany	+ 2%	+ 124%	+ 122%	+ 120%	+ 1,231%	+ 1,111%
France	- 36%	- 16%	+ 20%	+ 10%	+ 194%	+ 184%
Italy	- 30%	+ 3%	+ 33%	+ 89%	+ 87%	- 2%

Source: RBB analysis of GfK data, OCC data and YouTube internal data. Sample of 1,114 tracks released from 2014-2015 across the four countries. Restricted to tracks which have non-zero streams and YouTube views in the first week.

The exposure analysis on these subsamples provides the same result as above. For example, in Germany, popular tracks with low initial YouTube exposure increased their streams by 2% in the subsequent months, while those with high initial YouTube exposure increased their streams by 124%, a 122% delta favouring higher exposure on YouTube. Likewise, for less popular tracks in Germany, tracks with low initial YouTube exposure increased streams by 120% in the subsequent months, while tracks with high initial YouTube exposure increased their streams by 1,231%. This result is consistent across all countries and all subsamples, except for less popular tracks in Italy, for which high exposure tracks experienced marginally lower growth.

5.2.2 Exposure on YouTube by age

The analysis for an older sample of tracks shows that higher exposure to YouTube in months 12 to 18 of a tracks life cycle is associated with higher streams in months 18 to 24 in all countries, except in Germany. This analysis was repeated for a different sample of tracks which were further ahead in their life cycle, i.e. beyond the first six months of release. For the purpose of the analysis, it was necessary to restrict the sample to the set of tracks which were released in the first half of 2014 (to guarantee data for 24 months). For this sample of tracks, RBB analysed how different exposure levels to YouTube in the second half of 2015 (i.e. 12 to 18 months after release) impacted the growth of streams in the first half of 2016 (i.e. 18 to 24 months after release). Table 7 shows that in all countries, except Germany, tracks with high exposure to YouTube in the second half of 2015 have higher streams in the first half of 2016.

Table 7: Growth in streams, 18-24 months post release compared to 12-18 months post release

Country	Low YouTube exposure (months 12-18 post release)	High YouTube exposure (months 12-18 post release)	Delta
United Kingdom	+ 10%	+ 19%	+ 9%
Germany	- 12%	- 23%	- 11%
France	+ 8%	+ 14%	+ 6%
Italy	- 29%	-25%	+ 4%

Source: RBB analysis of GfK data, OCC data and YouTube internal data. Sample of 710 tracks released in the first half of 2014 across the four countries. Restricted to tracks which have non-zero streams and YouTube views in the first week.

5.3 Blocking on streams

To analyse the effect of blocking of tracks on YouTube on streams, RBB used YouTube data showing blocking of specific song UGCs between March 2016 and July 2016 in each of the four countries.

Blocking policy in Germany provides a natural experiment that is strong enough to allow an analysis of the effect of blocking songs on YouTube. In particular, as a result of the GEMA / YouTube dispute, blocking in Germany is many times directed at all videos associated to a song (not just to one particular video), implying that a block results in the non-availability of the song on YouTube.

The effect of blocking tracks was studied in detail using two different approaches:

- Before-after analysis: results indicate that there is no consistent effect of blocking YouTube on streams.
- Differences-in-Differences (“diff-in-diff”) method: results confirm that there is no impact of blocking YouTube on streams.

There are multiple econometric techniques that can be used to estimate the results for the methods above. For both the before-after analysis and the diff-in-diff method, RBB applied two different regression specifications:

- i. A Poisson Model: The Poisson model allows the regression without transforming the variables. The coefficients can be transformed and then interpreted as percentage changes.¹³
- ii. A Logarithmic Model: The Logarithmic model transforms all the variables of interest to their natural logarithms. The coefficients can be interpreted directly as percentage changes.

Using two different specifications for each method also serves as a robustness check for the results. For both the models in the before-after as well as the diff-in-diff methods, RBB included controls for the following factors:

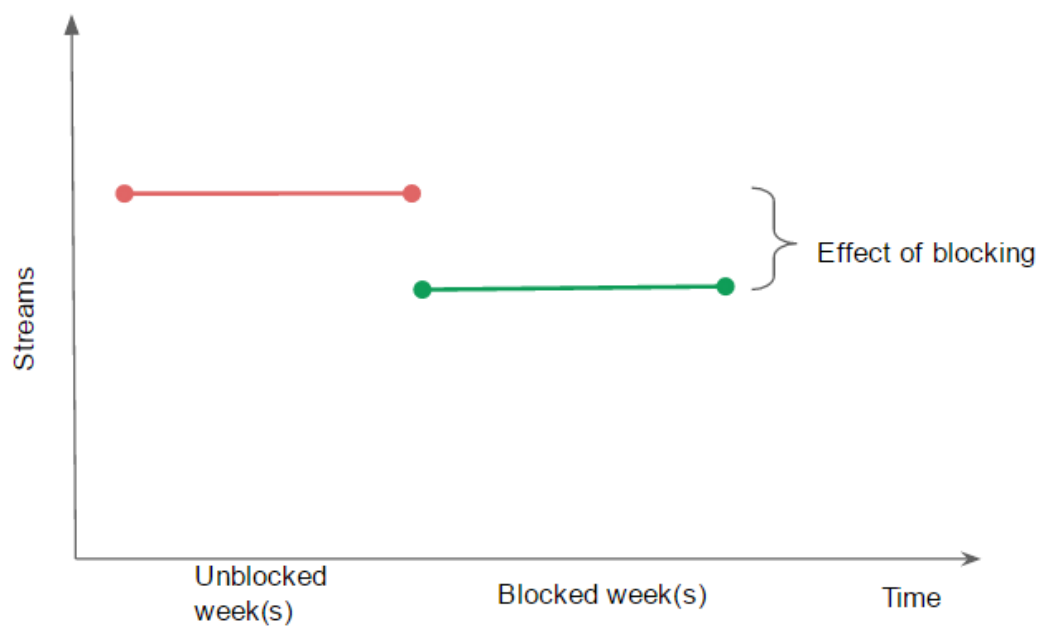
- Country specific characteristics;
- Track specific characteristics;
- Overall time trends.

¹³ The relevant transformation is %change= $(e^{\beta}-1)$ where β is the coefficient of the regression.

5.3.1 Before-after analysis

A before-after analysis compares the evolution of blocked tracks within a single country. Figure 16 below illustrates the principle behind the before-after analysis.

Figure 16: Illustration of before-after methodology



The solid red line represents the streams for a particular track in weeks where it was not blocked on YouTube, while the solid green line represents the number of streams for the same track in weeks where it was not blocked on YouTube. The difference between the two is estimated by the before-after analysis.

Table 8 below outlines the results of the before-after analysis in Germany. The table shows the results for the general sample, and also for subsamples of tracks based on different song age and popularity.

Table 8: Before-after Analysis in Germany based on song age and popularity

		Model type	Interpretation of results	Coefficient	t-statistic	N Groups
All songs		Poisson Model	Non different from zero	0.115	1.5	3493
		Log Model	Statistically significant and positive - songs have more streams if blocked on YouTube	0.0509*	2.26	3497
Song age	0-3 months	Poisson Model	Non different from zero	0.305	1.5	394
	0-3 months	Log Model	Non different from zero	0.173	1.65	396
	3-18 months	Poisson Model	Non different from zero	0.125	1.07	1214
	3-18 months	Log Model	Non different from zero	0.049	1.2	1215
	18+ months	Poisson Model	Statistically significant and negative - old songs have less streams if blocked on YouTube	-0.0230*	-2.02	1885
	18+ months	Log Model	Non different from zero	0.00728	0.46	1886
Song rank	1-200	Poisson Model	Non different from zero	-0.0446	-0.54	200
	1-200	Log Model	Non different from zero	-0.00103	-0.02	200
	201-2000	Poisson Model	Statistically significant and positive - songs of medium popularity have more streams if blocked on YouTube	0.213*	2.47	1800
	201-2000	Log Model	Statistically significant and positive - songs of medium popularity have more streams if blocked on YouTube	0.0634*	2.08	1800
	2001+	Poisson Model	Non different from zero	0.0174	0.47	1493
	2001+	Log Model	Non different from zero	0.0132	0.38	1497

Note: * indicates statistical significance with 95% confidence.

For the general sample, using the Poisson regression model, the before-after analysis in Germany shows that blocking on YouTube does not have a statistically significant impact on streams. The results of the log regression model suggest that blocking on YouTube is associated with a 5% increase in streams.

For the age subsamples, the before-after analysis shows that there is no consistent and statistically significant effect of YouTube blocking on streams in different age brackets. Indeed, the Poisson model showed a negative impact of blocking on streams for tracks older than 18 months, while the other results were not statistically significant. The tracks in the data were divided into three subsamples, on the basis of their age at the reference week:

- 0 - 3 months old;
- 3 - 18 months old;
- Older than 18 months.

For the popularity subsamples, the before-after analysis shows that YouTube blocking has no effect on streams of tracks with high or low popularity, but is associated with an increase in streams of tracks with medium popularity, ranging from 6% to 21%. It should be noted that while these results suggest cannibalisation, they only apply to the smallest of the three subsamples, as it is between the highly viewed top tracks and the tail end which includes the most significant volumes. The tracks in the data were classified into three subsamples on the basis of their streaming rank in the reference week:

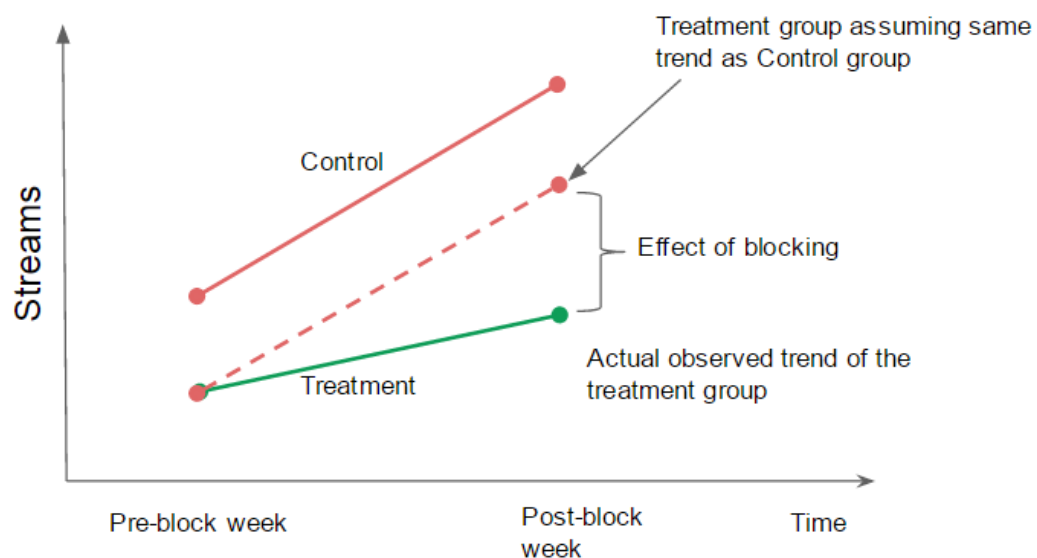
- Songs ranked 1 - 200;
- Songs ranked 201 - 2000;
- Songs ranked outside the top 2000.

5.3.2 Differences-in-Differences analysis

RBB also conducted a diff-in-diff analysis of the data. The diff-in-diff analysis is an econometric method, which comes closest to an approximation of a natural experiment, which studies the differential effect of a “treatment” on a “treatment group” versus a “control group”. This method uses Germany as the “treatment group”, as the blocking of tracks within Germany is determined “exogenously”, i.e. outside of the scope of other factors that are a normal part of the operation of that market.

Figure 17 below illustrates the principle behind the diff-in-diff method.

Figure 17: Illustration of Differences-in-Differences methodology



The “Control” country is defined as the country where the tracks are not blocked, shown by

the solid red line. The “Treatment” country is defined as the country where the tracks are blocked, shown by the solid green line. The time period for which the track changes from being unblocked to being blocked is called the “treatment period”. The dotted red line shows the “counterfactual”, the trend the Treatment country would have followed, had it not been affected by the “treatment”, in this case blocking. The key assumption of the diff-in-diff method is that the counterfactual for the treatment country has the same trend as the control group. The effect of blocking is estimated by taking the incremental difference between the counterfactual and the observed trend of the Treatment country.

For the diff-in-diff analysis, RBB constructed a list of tracks in Germany which form the treatment group, i.e. the tracks which were blocked in the treatment period and unblocked outside the treatment period. These tracks were further restricted to those tracks for which controls were available, i.e. the tracks for which data were available in at least one control country, either France, United Kingdom or Italy, and which were unblocked in these countries during the treatment period.

Table 9 below describes the regression results of the diff-in-diff analysis for Germany using two model specifications – the Poisson model and the Log model. The coefficient that measures the impact of blocking on streams is statistically insignificant in both models.

Table 9: Differences-in-Differences Analysis for Germany

Model type	Interpretation of results	Coefficient	t-statistic	N Groups
Poisson Model	Non different from zero	0.0694	1.62	108
Log Model	Non different from zero	0.066	0.98	108

*Note: * indicates statistical significance with 95% confidence.*

The coefficient that measures the effect of blocking on streams is not statistically significant in either model. This indicates that blocking on YouTube has no impact on streaming volumes.

6 Survey

YouTube commissioned SurveyMonkey to conduct online surveys of music listeners in the United Kingdom, France, Germany and Italy. The goal of the survey was to estimate, based on user responses, what the aggregate effect on the music industry would be if YouTube could no longer offer music videos. This involves balancing two effects – a potential promotional effect, and a potential cannibalisation effect. First, estimating how much additional music YouTube users consume on other platforms and services as a consequence of watching music videos on YouTube. Second, estimating how much of the time that YouTube users currently spend watching music videos on YouTube would be spent consuming music on other platforms or services if YouTube could not offer music videos.

RBB gave input into the survey design, and analysed the results obtained by SurveyMonkey in each of the four countries. The following sections present the data which was used for the analysis, the results of the analysis and the underlying methodology. Estimating the aggregate effect of YouTube not being able to offer music anymore posed some conceptual difficulties as it requires to make assumptions about the likelihood of users taking out a paid audio subscription as a consequence, based on users' responses to a qualitative question.

6.1 Data used in the survey analysis

The survey was undertaken in 2016 and is, attached as Annex K.¹⁴ RBB had access to the survey data as well as internal YouTube data used to weight the survey results and to convert results into monetary values. The following subsections describe the different types of questions asked in the survey, the survey methodology and data limitations. Following this is a description of YouTube's internal data on the value of different platforms and services to the music industry and the population distribution of YouTube user types, which were used in the analysis.

6.1.1 Description of the survey data

6.1.1.1 Demographics

Respondents were asked multiple choice questions to establish age, gender and income, across eight different age bands, five to eight country-specific income bands and three gender options.¹⁵ SurveyMonkey used the information on demographics during the sampling process in order to construct a representative sample of the population.

¹⁴ The survey in Annex K is the survey as run in the United Kingdom. Respondents were presented with the same set of questions in each of the four countries.

¹⁵ See Annex K, Q 1-3. Respondents in Germany, France and Italy were asked to state their level of income by choosing one of four country-specific income bands. In the United Kingdom eight different income bands were presented.

6.1.1.2 Overall music consumption and consumption by service

Respondents were asked to indicate the total number of hours they spend listening to music in a week.¹⁶ Respondents were then asked to allocate their music consumption time across one or more services on different platforms, to best reflect the distribution of their music consumption over the past 30 days.¹⁷ The number of hours each respondent spent listening to each platform was calculated by multiplying these two variables with one another. This was also the primary method of calculating the number of hours each respondent spent watching music videos on YouTube.

A later question in the survey asked respondents who had previously indicated that they use YouTube for music consumption to select the level of YouTube video streaming usage that best describes their monthly viewing hours between these three options: less than 3 hours; between 3 and 10 hours; and, greater than 10 hours.¹⁸ However the responses to this later question were not used in the analysis.

6.1.1.3 Discovery effect (Promotion)

Respondents were asked to allocate a total of 100 percentage points to one or more platforms and services which best reflect the services they use to discover new music.¹⁹ In addition, respondents were asked to indicate the share of time spent listening to newly discovered music on each platform.²⁰ The discovery share attributed to YouTube multiplied by the time spent on each platform or service listening to newly discovered music constitutes the estimated promotional (time) effect of YouTube to each other platform or service.²¹ The (monetary) promotional value of YouTube is therefore the product of the promotional time and the value per hour of each service.²²

6.1.1.4 Cannibalisation

Respondents were asked what percent of time they spend listening to music on YouTube they would shift to other platforms if YouTube was no longer able to offer music video content. This was asked in order to estimate how much time YouTube might be cannibalising from other

¹⁶ See Annex K, Q6. Respondents distributed their music consumption time on a percentage (rather than absolute) basis.

¹⁷ See Annex K, Q12-15. The platforms are "Online Video Services", "Online Audio Streaming Services", "Internet radio", "Digital Downloads" and "Other". The platform category "Online Video Services" includes "Dailymotion", "Vevo.com/ Vevo App", "Vimeo" and "YouTube". The platform category "Online Audio Streaming Services" includes "Apple Music", "Deezer", "Google Play Music", "SoundCloud", "Spotify" and "Tidal". The platform category "Internet radio" includes "Radio station's website(s)" and "TuneIn Radio". The platform category "Digital Downloads" includes "Amazon Music", "Apple iTunes" and "Google Play Store". The platform category "Other" includes "Other method not listed", "File sharing services (e.g. torrents, P2P, The Pirate Bay, etc.)", "Physical Media (CDs, vinyl, cassette tapes, etc.)", "AM / FM Radio" and "Television (e.g. MTV, VH1, etc.)".

¹⁸ See Annex K, Q8, Q25.

¹⁹ See Annex K, Q 48-52.

²⁰ See Annex K, Q 53-57.

²¹ This constitutes the upper limit for the promotional effect of YouTube, i.e. it assumes that the share of music which was discovered on YouTube is consumed according to the overall share of newly discovered on other platforms.

²² The exception to this is if the respondent already has a paid audio streaming service, then any promoted time is valued at zero because it does not create incremental value to the music industry.

platforms.²³

6.1.2 Description of the survey collection methodology

We understand that when analysing consumers' music usage and behaviour, YouTube and other stakeholders in the music industry typically segment YouTube users into three user segments, based on their levels of consumption: Light, Medium and Heavy. Light YouTube users spend up to 3 hours viewing music videos on YouTube per month, Medium YouTube users between 3 and 20 hours, and Heavy YouTube users greater than 20 hours. However, as Heavy YouTube users only make up a small proportion of the population of YouTube music users per country, it was expected that obtaining the target 300 responses from Heavy YouTube users (see below) would require a sizeable total number of survey responses. Therefore, it was ultimately decided to sample based on a 10 hours per month cut off between Medium and Heavy YouTube users.

YouTube internal data showed that Heavy YouTube users account for a small proportion of its total users. Thus, in order to ensure sufficiently large samples for each YouTube user segment, SurveyMonkey was given a target of 300 responses per YouTube user segment from a total number of 1,500 responses. These responses were then reweighted using YouTube's internal data on its total user population per country.

Light YouTube users constitute the vast majority of YouTube users in each country (see section 6.1.5). It directly follows, if the sampling was random, that Light YouTube constitute the largest group of respondents in the survey sample, followed by Medium and Heavy type users. Thus it was anticipated that Light YouTube users would pose the largest group of respondents, while Heavy and, to a lesser extent, Medium YouTube users would need to be oversampled. However, SurveyMonkey was only able to collect close to the targeted number of responses for each YouTube user segment in France, Italy and Germany. In the United Kingdom, SurveyMonkey was unable to collect the targeted number of Light YouTube users without screening for them, and thus after approximately 1,350 surveys were collected, set a screen to only collect responses from Light YouTube users. A possible explanation for the underrepresentation of Light users, particularly in the United Kingdom, that arose during the sampling process is that there may be over reporting of YouTube usage by respondents. An alternative explanation is that there is a relationship between an individual's propensity to participate in online surveys and their usage of YouTube to watch music videos.²⁴

²³ See Annex K, Q 72-73.

²⁴ Although a sufficient sample size of light respondents was achieved in France, Germany and Italy, the oversampling on Medium and Heavy and undersampling of Light YouTube users is a peculiar result in itself and can potentially be explained by a combination of both biases.

6.1.3 Limitations of the survey data

6.1.3.1 Conflict between Q6 and Q25

As mentioned, there are two different ways to infer respondents' music usage on YouTube. Individuals' responses to the different questions can result in contradictory results, e.g. an individual could indicate that 10% of a total of 70 hours spent listening to music was spent on YouTube (i.e. 7 hours per month), and therefore be classified as a Medium type user, but then also respond to the later conditional question that total time spent only on YouTube was 3 hours per month, and therefore be classified as a Light type user. Firstly, the conditional question is not restricted to a specific period of time, whereas the question on the total music consumption is restricted to be representative of behaviour in the past 30 days. Secondly, as respondents may use heuristics to responding to questions and the total allocated percentage points had to add up to 100, there may have been a bias towards "easy calculations". Indeed, when looking at the distribution of responses, respondents predominantly responded in multiples of five, which may result in an oversampling of Medium and Heavy users as this can lead users to overestimate the proportion of time spent on less heavily used platforms (e.g. if a respondent rounds 2% up to 5%).

6.1.3.2 Sample sizes

The initial target sample collection was based on sampling sufficient responses of each of Light, Medium and Heavy YouTube users, using a cut-off of 10 hours per month as the boundary between Medium and Heavy users, and using responses to Q25. However, following further input from YouTube and in order to be consistent with other reports and analyses, the analysis presented in this report is based on a 20 hour cut-off between Medium and Heavy users, unless stated differently.²⁵

Sample sizes vary depending on the different assumptions applied, and according to the different ways to calculate YouTube usage, as described above. Table 10 displays the sample sizes for the two possible assumptions in the United Kingdom.²⁶

²⁵ The 20 hour cut-off was implemented by multiplying the total indicated hours of music consumption with the percentage which was attributed to YouTube (Q6 and Q12).

²⁶ Annex H contains the sample sizes for the full set of countries.

Table 10: Sample distribution of YouTube users in the United Kingdom

	Categorical question with a 10 hour per month cut off between Medium and Heavy YouTube users (Q25)	Open ended question with a 20 hour per month cut off between Medium and Heavy YouTube users (Q6, Q12)
Non-YouTube users	754	775
Light users	252	152
Medium users	285	451
Heavy users	242	155

Source: SurveyMonkey survey data, RBB analysis

Fewer respondents are classified as Light YouTube users when applying the open ended usage questions (Q6, Q12) to calculate the YouTube user segments. As this is the segmentation applied in the analysis, the open ended question samples are those which apply to all the survey results. Furthermore, the total number of responses per question and per segment may often be less than the total segment sample sizes where the analysis involves an interaction between different questions, e.g. of the 152 Light users, only 100 respondents may indicate that they would divert any time on YouTube to another platform (Q72) of which 50 answer in the follow-up question that they would divert any of that time to audio streaming. These 50 respondents will then be the subsample that is presented with the question asking for the likelihood that they would subscribe to a paid audio streaming service (Q74) to which only 20 might indicate a positive likelihood.²⁷ Results derived from smaller sub-samples are more heavily exposed to outliers and uncertainty and are likely to be less robust than those derived from larger samples.

6.1.4 YouTube internal data in relation to the Survey

6.1.4.1 The value to the music industry of various music channels

YouTube provided RBB with an estimate of the value that different music platforms provide to the music industry. Table 11 presents these values in USD cents per hour.²⁸ The value per hour of each outlet was calculated assuming an average duration of 3.5 minutes per track.²⁹

The value of paid subscription services, digital downloads and physical media to the music industry was assumed to exclude 30% of respondents' stated outlays which would be retained by the distribution channel. The value of new paid subscriptions to audio streaming services was assumed to be £10 per month in the U.K. and 10 € per month elsewhere.³⁰

²⁷ This is just a numerical example.

²⁸ The exchange rate which has been applied to convert USD into the local currencies was set at GBP:USD: 1.30:1 and EUR:USD: 1.12:1.

²⁹ AM/FM-radio was assumed to play 11 tracks per hour, while TV was assumed to air 48 minutes of music per hour. All other outlets were assumed to play a new song every 3.5 minutes.

³⁰ In each of the 4 countries the standard, non-discounted subscription costs 9.99 local currency units per month (last confirmed January 2017).

For other “Online Video Services”, it was assumed that Dailymotion and Vevo would yield a similar benefit to the music industry as YouTube while Vimeo was assumed to yield no direct monetary value to the music industry.

Table 11: Range of values of media outlets across countries to the music industry per hour in USD cents

	YouTube, Dailymotion, Vevo	Audio Streaming,* Unpaid	Deezer	Internet Radio**	AM/FM Radio	TV
[min;max]	[3;5]	[6.1]	[0.6]	[3.5]	[0.2;0.3]	[0.04]

*Source: YouTube internal data; conversion rate applied GBP: USD: 1.30; conversion rate EUR: USD: 1.12. *Includes Amazon Prime Music, Apple Music, Google Play Music, SoundCloud, Spotify and Tidal. **Includes iHeart, Pandora, radios' websites and TuneIn.*

Physical media, audio streaming services and digital downloads are also referred to as “high value platforms”; video streaming services, internet radio, AM/FM radio and TV as “lower or similar value platforms”; and, file sharing, other, and music which is already owned as “zero value platforms”.

6.1.5 Distribution of YouTube users

YouTube provided RBB with the population distribution of YouTube music users, which was used to weight the different YouTube user segments in the analysis. Across the four countries, Light type users pose the vast majority of all YouTube music users, while the number of Medium YouTube users outweighs the number of Heavy YouTube users.

6.2 Importance of YouTube for music discovery

The promotional effect of YouTube would be particularly large if YouTube was a significant driver in the discovery of new music and newly discovered music constituted a relatively large proportion of the total consumption of music.³¹ This is because new music might prompt more monetisable actions by consumers, such as the purchase of a new physical or digital download copy of the newly discovered music, or signing up for a new paid subscription service. The importance YouTube plays in the discovery of music by users is an important indication of YouTube’s promotional value to other forms of music consumption.

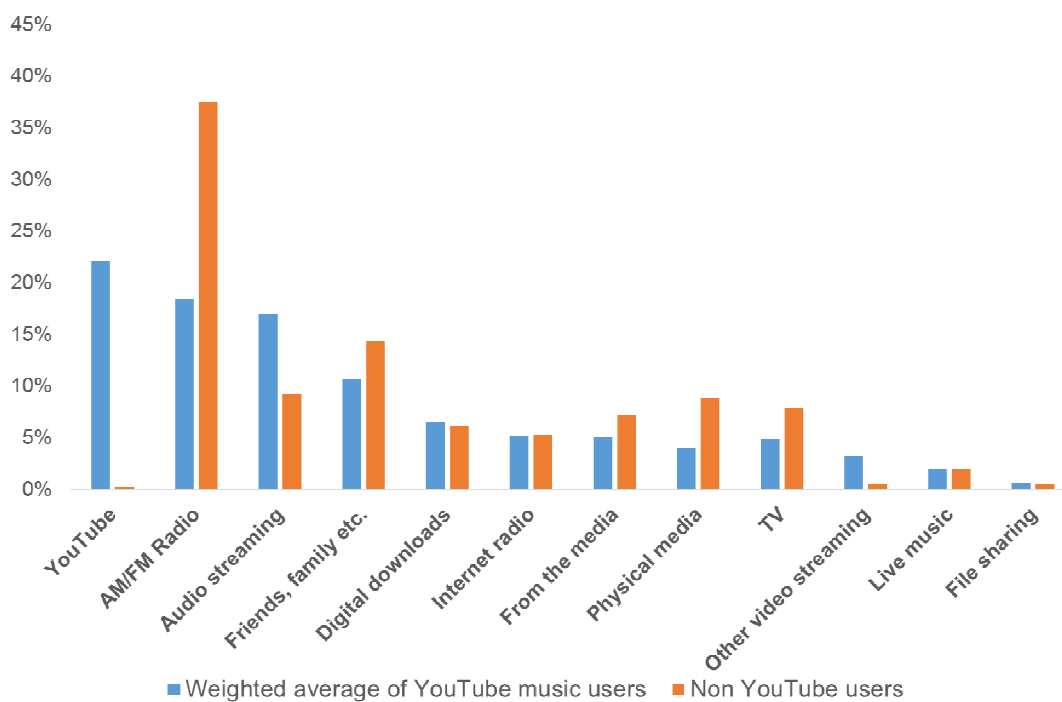
Figure 1 shows the population weighted average importance of YouTube in the discovery of new music by YouTube users and non-YouTube users.³² The results show that YouTube is the most important platform for discovering new music for YouTube music users in the United Kingdom. For respondents who do not listen to music on YouTube, AM/FM radio is the most important platform for new music discovery. These findings are similar across all four

³¹ New discovered music is either recently-released music or songs, albums and artists that are new to the respondent.

³² Relevant questions: Q48-Q52 for the importance of discovery, Q6 and Q12 for the YouTube user segments. Missing values were treated as zeros.

countries.³³ This is consistent with a conclusion that YouTube users potentially use YouTube as a substitute for AM/FM Radio for music discovery, however, there are alternative potential explanations. In addition given that YouTube monetises better than AM/FM Radio, a user that shifts discovery from AM/FM Radio to YouTube will be more valuable to the music industry for the time spent discovering music.

Figure 18: Average importance of channel for music discovery; graphic example: United Kingdom



Source: Survey Q12, Q48-52; Sample sizes: 155 Heavy users, 451 Medium users, 152 Light users, 775 Non YouTube music users.

³³ See Annex I for cross-country figures.

6.3 Current value of YouTube users to the music industry

The more time respondents spend listening to music on YouTube, the more time they spend listening to music off of YouTube as presented in Table 12.³⁴

Table 12: YouTube users' music listening hours off of YouTube in hours

	United Kingdom	France	Germany	Italy
Light users	24	16	24	16
Medium users	47	33	50	36
Heavy users	64	65	75	59

Source: Relevant questions: Q6-Q12; for sample sizes see Annex H.

The following two subsections convert the time spent by YouTube users on other platforms into monetary values to the music industry, money spent on users on concerts, merchandise, and fan clubs.

6.3.1 Value of YouTube users to the music industry

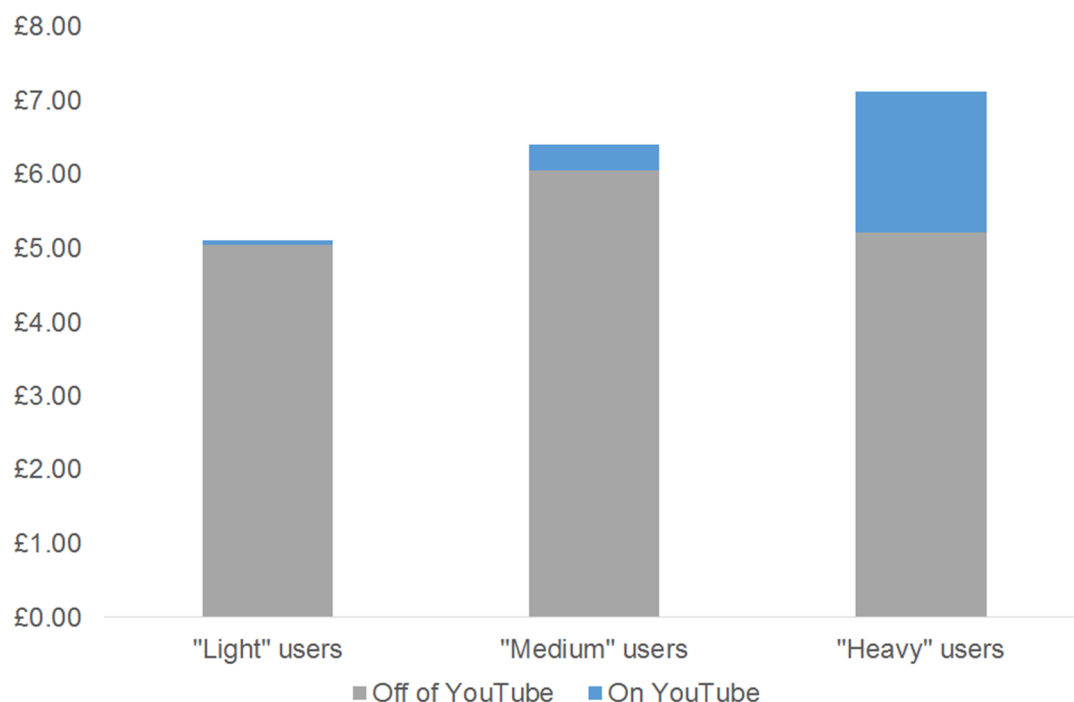
The value to the music industry was calculated by summing up the average value of each music channel, and was calculated separately for each YouTube user segment.³⁵ The value of each music channel was computed using time spent on each channel and the value assumptions from section 6.1.4.1.

Figure 19 shows the monthly value to the music industry per user, for each YouTube user segment, in the United Kingdom. The value that YouTube users present to the industry is increasing in their YouTube usage, but so too does YouTube's share of the total value.

³⁴ Figures are calculated as total listening time minus listening time on YouTube.

³⁵ The simple average values treat missing values as zeros.

Figure 19: Monthly Value per user to the music industry; graphic example United Kingdom



Source: Survey Q6, Q12, YouTube internal data on value assumptions; Sample sizes: 152 Light users, 451 Medium users, 155 Heavy users; Sample sizes by user type and platform are in most cases smaller than the sample size by user type.

However, this trend is not consistent across countries. Total value to the music industry does not increase between Medium and Heavy users in France and Germany.³⁶ This might indicate cannibalisation of Heavy YouTube use on other channels. However, the value derived from Heavy YouTube use might alternatively be lost or diverted to lower value channels if YouTube was unable to offer music – in that case Heavy YouTube use might not have cannibalised higher value channels.

6.3.2 Direct value to artists through concert tickets, merchandise and fan club memberships

Spend on concert tickets, merchandise and fan clubs is calculated as a rebased median, where the median was determined by only taking into account respondents with any positive spending in the respective categories (ignoring respondents who did not spend anything in a given category).^{37 38} The median was rebased by multiplying it by the percentage of positive

³⁶ See Annex J for cross-country results.

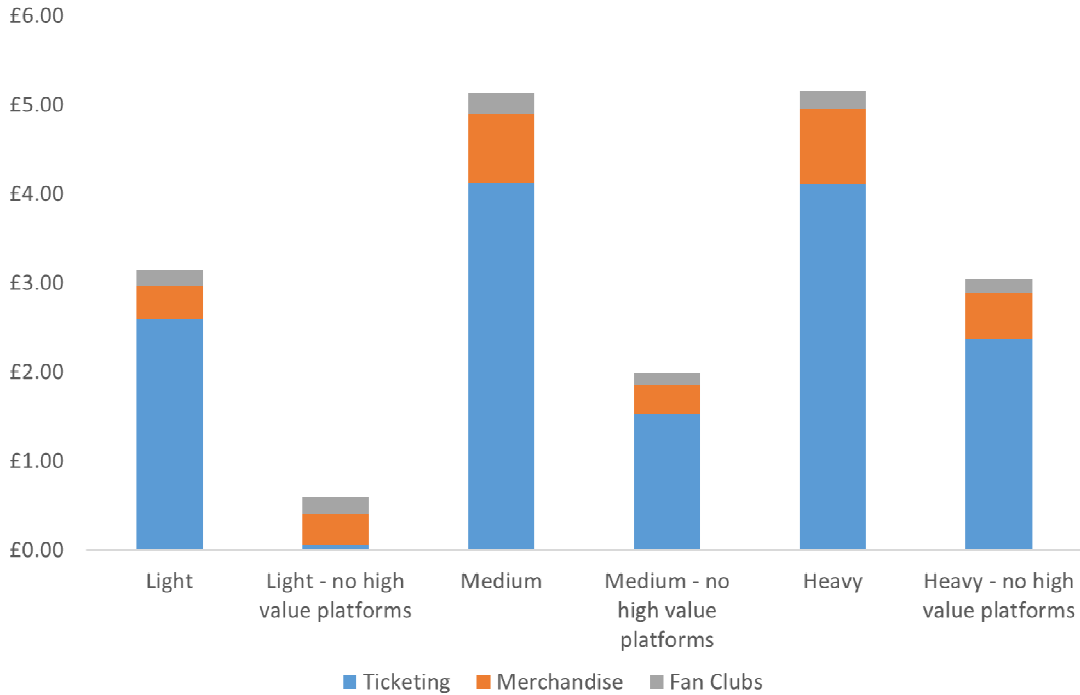
³⁷ Spend on merchandise is the sum of "Artist or band merchandise" and "Other merchandise not listed".

³⁸ Figures are calculated as adjusted median instead of simple averages to circumvent the issue of having to make subjective decisions on excluding seemingly wrong responses.

responses for the category in the YouTube user segment sample to derive sample averages for each segment of user types. The same methodology was used for YouTube users who do not use any high value platform.³⁹

There is indication that YouTube adds value to artists, as the monthly spend on concert tickets, merchandise and fan club memberships increases with increasing time spent on YouTube, although spend in these ancillary channels only increases marginally between Medium and Heavy YouTube users, in the United Kingdom.⁴⁰ For YouTube users that do not spend any positive amount on high value platforms, the relative increase between YouTube user segments is even larger. This trend is largely consistent across YouTube user segments in different countries.⁴¹

Figure 20: Per User Monthly Spend on Concert Tickets, Merchandise, and Fan Club Memberships; graphic example: United Kingdom



Source: Survey Q6,Q12,Q36, Q39, Q42-43, Q46-47; Sample sizes: All YouTube users (152 Light/ 451 Medium/155 Heavy); YouTube users who don't use high value platforms: (40L/ 148M/ 64H); There are 27L (3), 35M (6), 33H (16) YouTube users, which do (don't) use high value platforms and spent a positive amount of money on Fan Clubs, equally there are 19L (4), 121M (30), 45H (16) YouTube users which do (don't) use high value platforms and spent a positive amount of money on merchandise and 76L (3), 84M (18), 90H (14) YouTube users which do (don't) use high value platforms and spent a positive amount on tickets to live events.

³⁹ These YouTube users did not spend any positive amount on physical media, digital downloads and streaming.
⁴⁰ However, it should be noted that the correlation between spend and YouTube usage may be driven by underlying consumer preferences and that the sample sizes are relatively small.
⁴¹ See also Annex J.

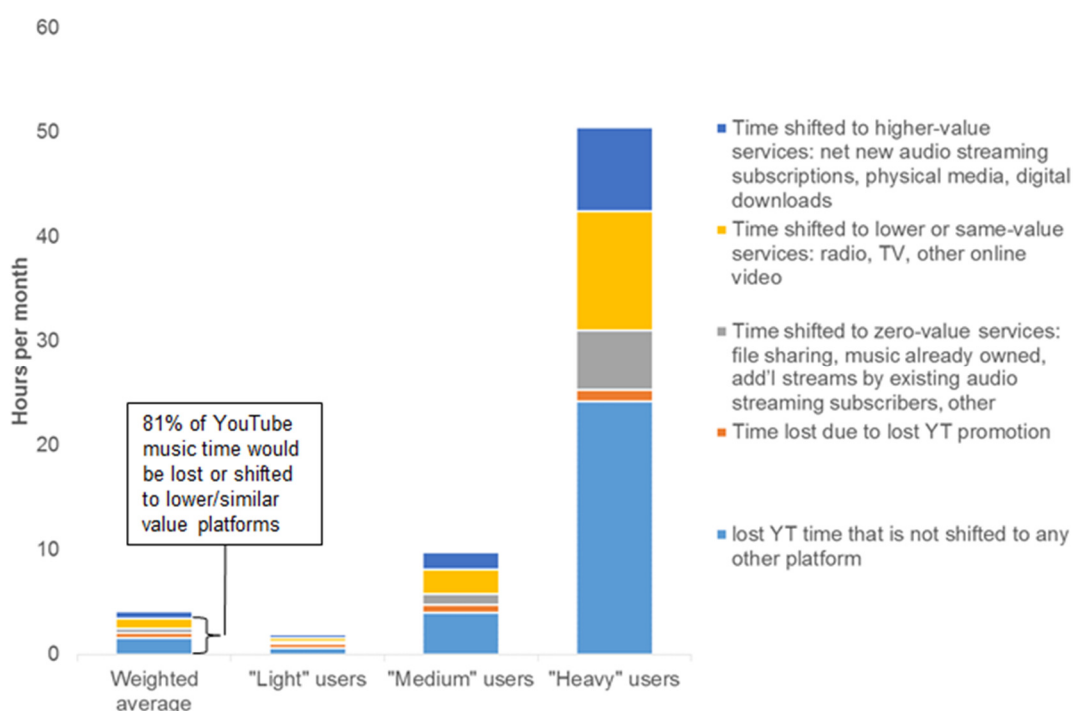
Overall value to the music industry from concerts, merchandise and fan club membership is generally increasing in YouTube usage, which is consistent with a potential promotional effect.

6.4 Promotion and cannibalisation effects – time spent

Section 6.1.1 describes the survey questions and calculation of the value of the promotion from YouTube and cannibalisation by YouTube of other music platforms and services. These are combined in Figure 21 which shows the lost promotion and cannibalisation time from each category of other channel for the United Kingdom.⁴²

Around half of the music listening time on YouTube would divert to non-music activities. Furthermore, a large portion of the cannibalised time would give zero, lower or equal value to the music industry. A portion of the time diverted to zero value platforms is to file sharing services (piracy), resulting in an average increase in the time spent listening to pirated music by YouTube users by 29%. A minority of cannibalised time is from higher value platforms.

Figure 21: Shift of monthly YouTube music hours if music was removed from YouTube, graphic example: United Kingdom



Source: Survey questions Q6, Q12-16, Q42-43, Q48-57 and Q72-74. YouTube promotion time is the 'upper limit' estimate: time spent listening to newly discovered music on a platform, multiplied by the importance of YouTube in new music discover.

⁴² The corresponding figure in Paper I shows the weighted average across the four countries (per Paper I, footnote 5) and not only the UK as stated in the corresponding text.

The summary results of cannibalised time for four countries analysed are presented in Table 13 below.⁴³

Table 13: Percentage of YouTube time shifted to different platforms if YouTube did not exist

	United Kingdom	France	Germany	Italy
Time lost	44%	53%	56%	54%
Shifted to zero value platforms	12%	11%	9%	10%
Shifted to lower or similar value	25%	25%	19%	23%
Shifted to higher value platforms	19%	12%	16%	13%

Source: Survey questions Q6, Q12-16, Q42-43, Q48-57 and Q72-74.

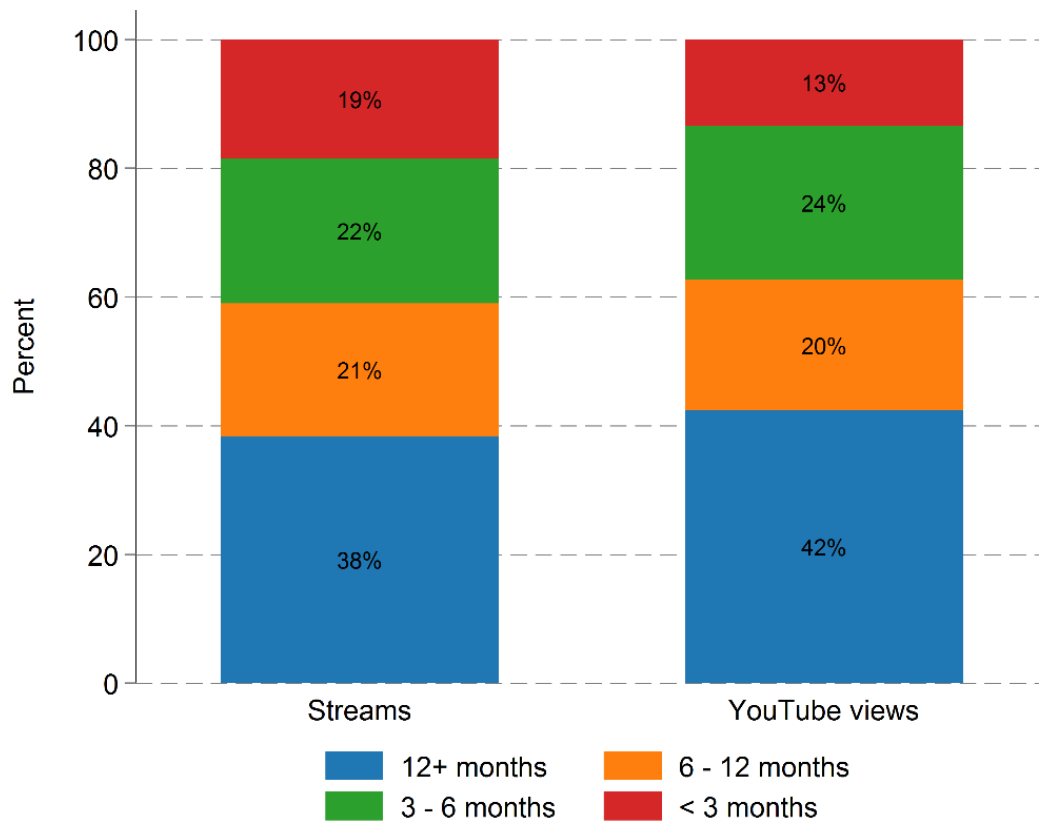
While it was possible to estimate the value of current YouTube music users to the music industry and the resulting diversion of time to other music outlets if YouTube was no longer able to offer music, estimating the monetary net effect to the music industry is heavily reliant on the assumptions about YouTube users' likelihood to subscribe to paid audio streaming services. Given the data, any analysis would require assumptions about the likelihood of respondents to subscribe based on qualitative responses and would be conceptually difficult. There is no strong evidence which would contradict the results on promotional value and cannibalisation. Time lost on YouTube would with most certainty be detrimental to the consumer.

⁴³ The results depend on the likelihood of respondents to subscribe to an audio streaming service and only change by decimals when considering a range of plausible assumptions about the likelihood to subscribe to an audio streaming service. These figures are for weighted average YouTube users.

Annexes

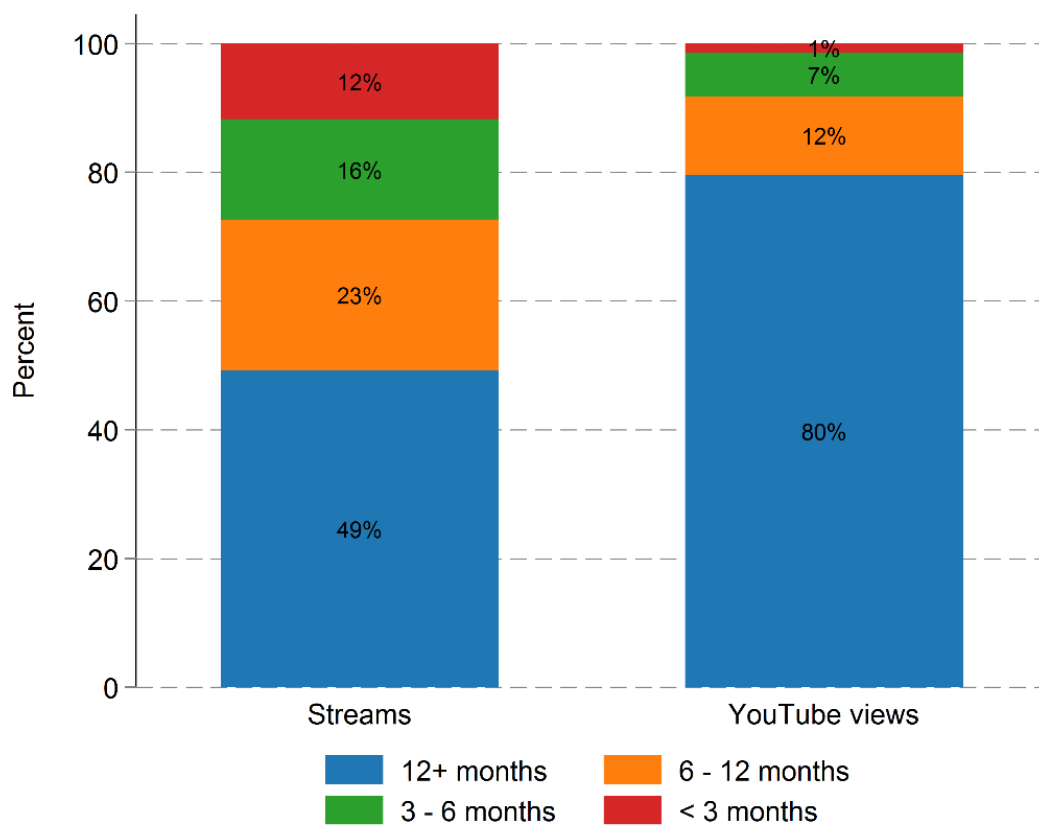
A Section 4.2: Distribution of songs in each platform by age

Figure 22: Share of Platform Consumption, by Song Age in France



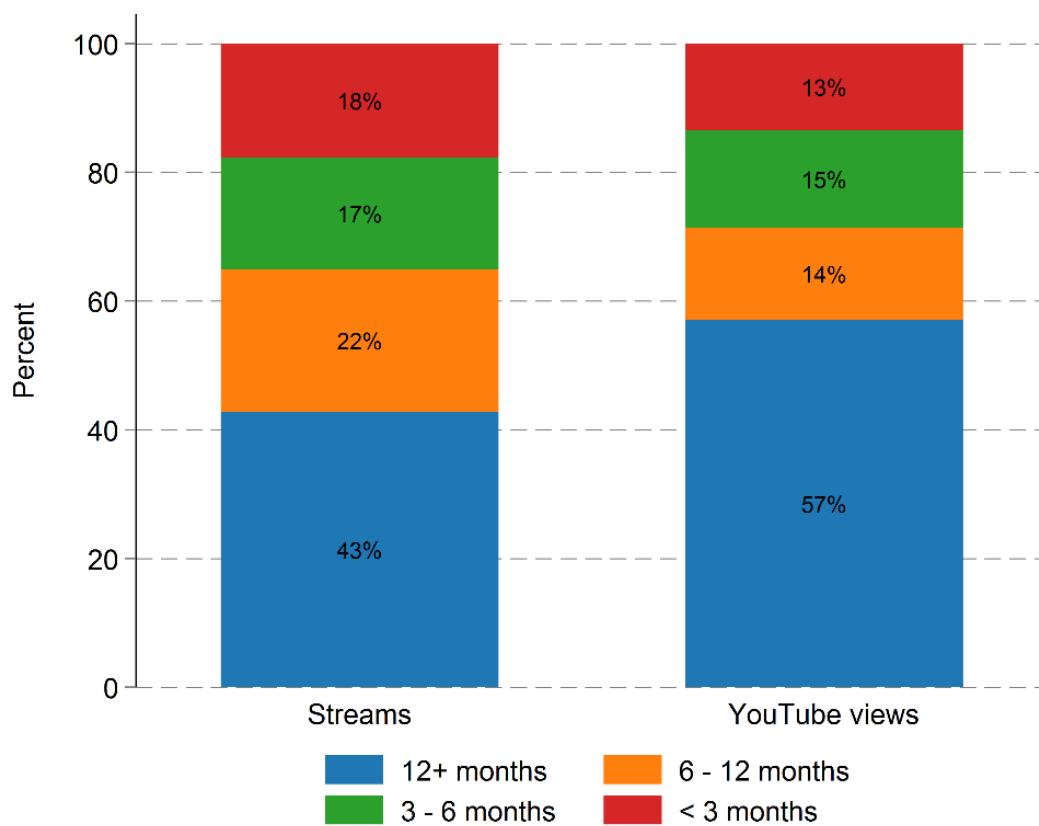
Source: RBB analysis of GFK data and YouTube internal data. The figure shows the volume share for each age category out of the total volumes for the picklist in the reference week. Age is defined in terms of age at the reference week

Figure 23: Share of Platform Consumption, by Song Age in Germany



Source: RBB analysis of GFK data and YouTube internal data. The figure shows the volume share for each age category out of the total volumes for the picklist in the reference week. Age is defined in terms of age at the reference week

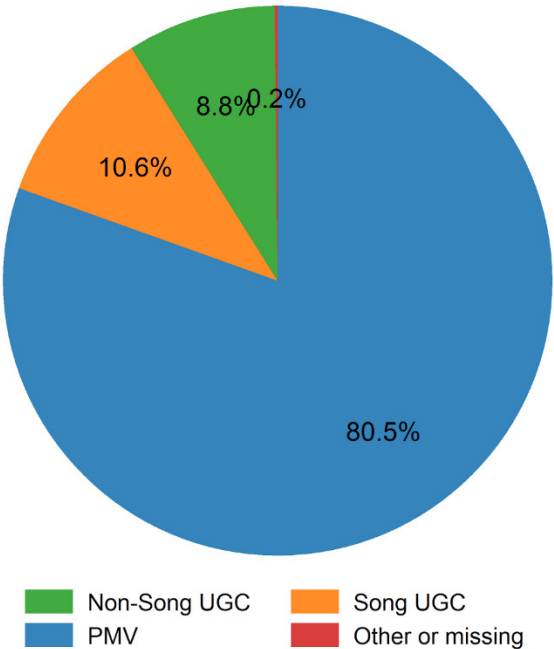
Figure 24: Share of Platform Consumption, by Song Age in Italy



Source: RBB analysis of GFK data and YouTube internal data. The figure shows the volume share for each age category out of the total volumes for the picklist in the reference week. Age is defined in terms of age at the reference week

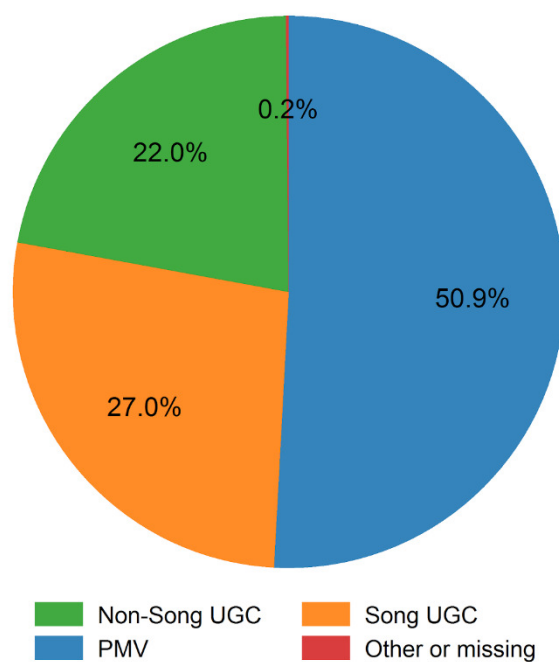
B Section 4.3: Distribution of songs by type of video

Figure 25: Breakdown of songs by type of views (France)



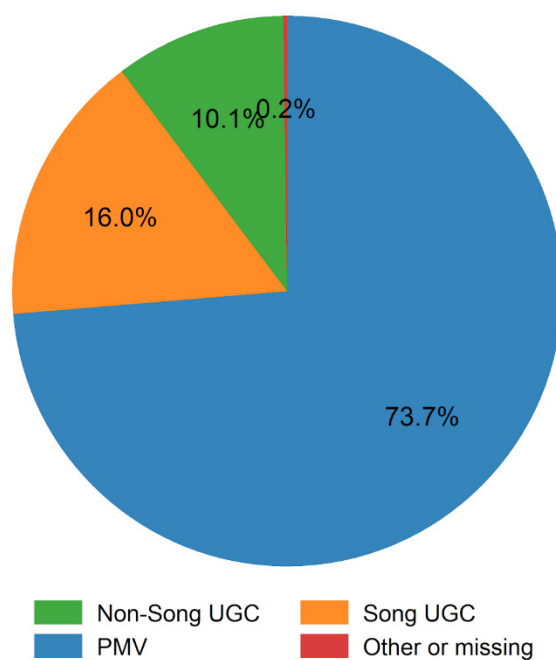
Source: RBB analysis of GFK data and YouTube internal data. The figure shows the distribution of YouTube views by content type for all tracks in the picklist in the reference week.

Figure 26: Breakdown of songs by type of views (Germany)



Source: RBB analysis of GFK data and YouTube internal data. The figure shows the distribution of YouTube views by content type for all tracks in the picklist in the reference week.

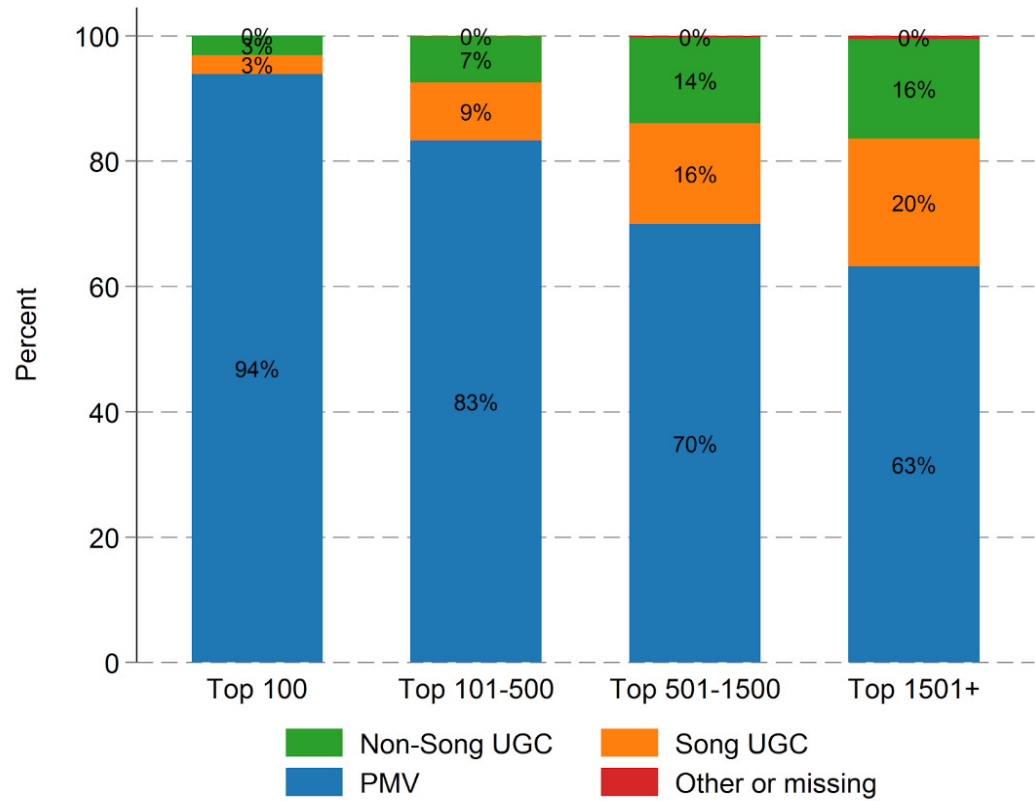
Figure 27: Breakdown of songs by type of views (Italy)



Source: RBB analysis of GFK data and YouTube internal data. The figure shows the distribution of YouTube views by content type for all tracks in the picklist in the reference week.

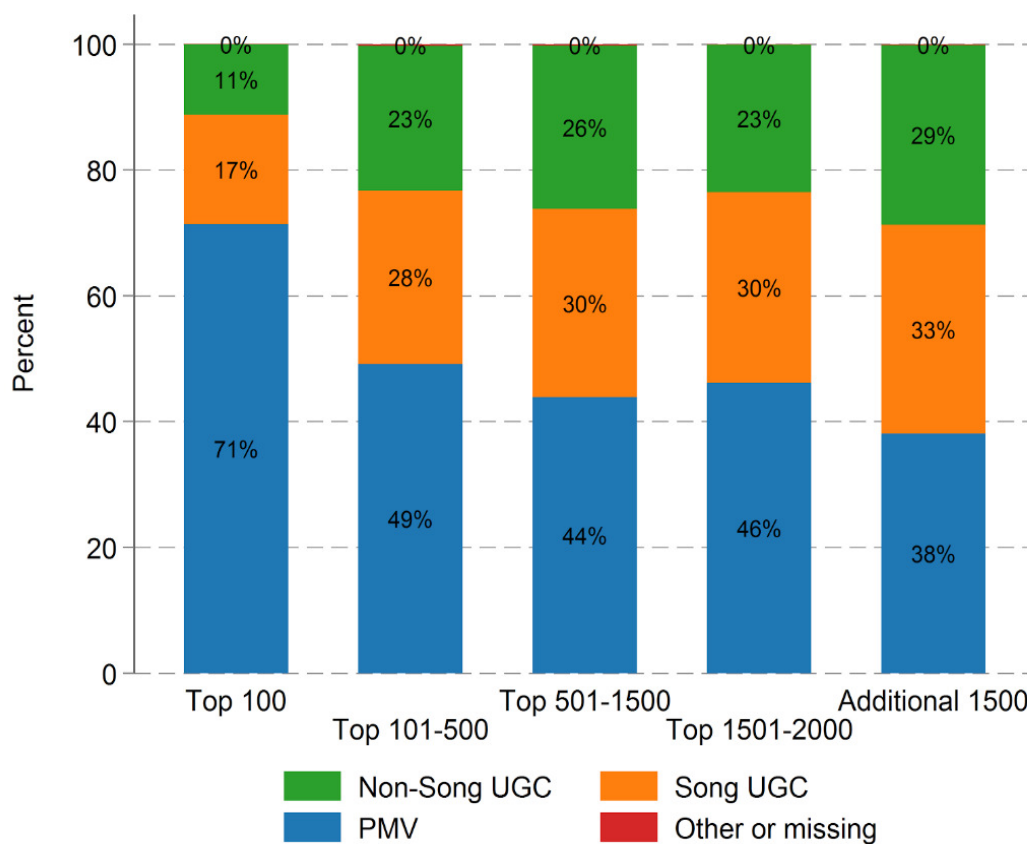
C Section 4.3: Distribution of songs by type of video, by popularity

Figure 28: Breakdown of songs by type of views, across different popularities (France)



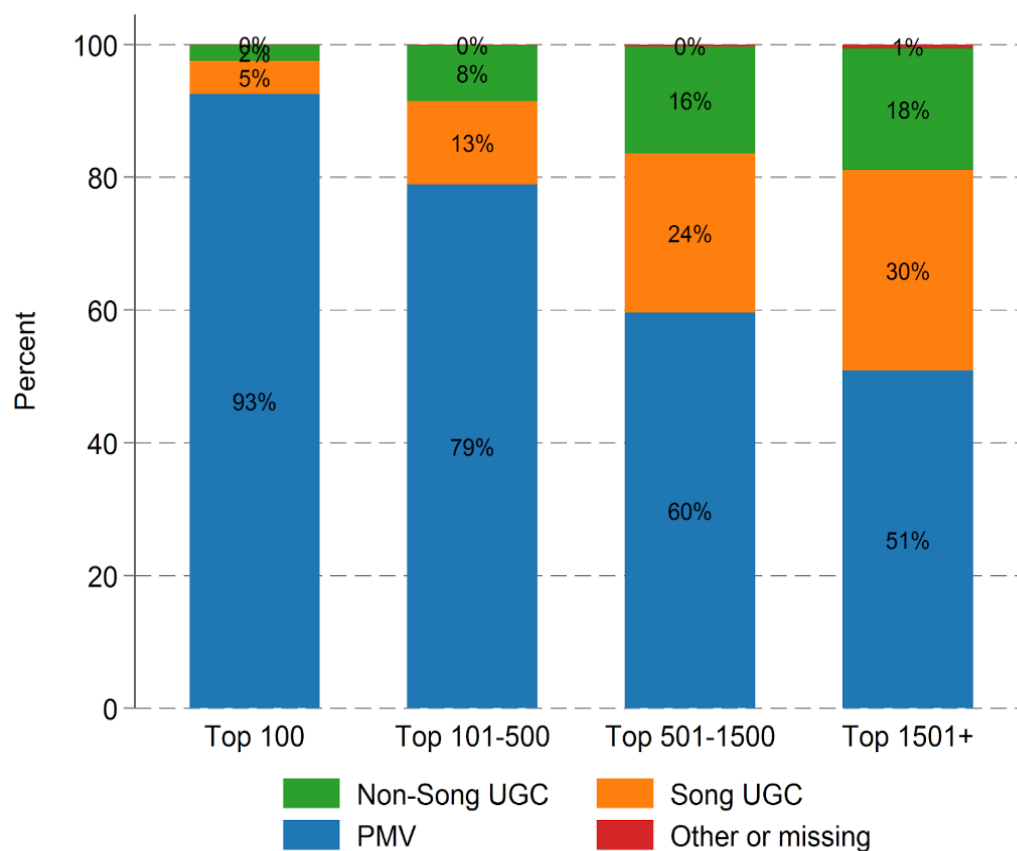
Source: RBB analysis of GFK data and YouTube internal data. The figure shows the distribution of YouTube views by content type for tracks in the picklist based on their popularity in the reference week.

Figure 29: Breakdown of songs by type of views, across different popularities (Germany)



Source: RBB analysis of GFK data and YouTube internal data. The figure shows the distribution of YouTube views by content type for tracks in the picklist based on their popularity in the reference week.

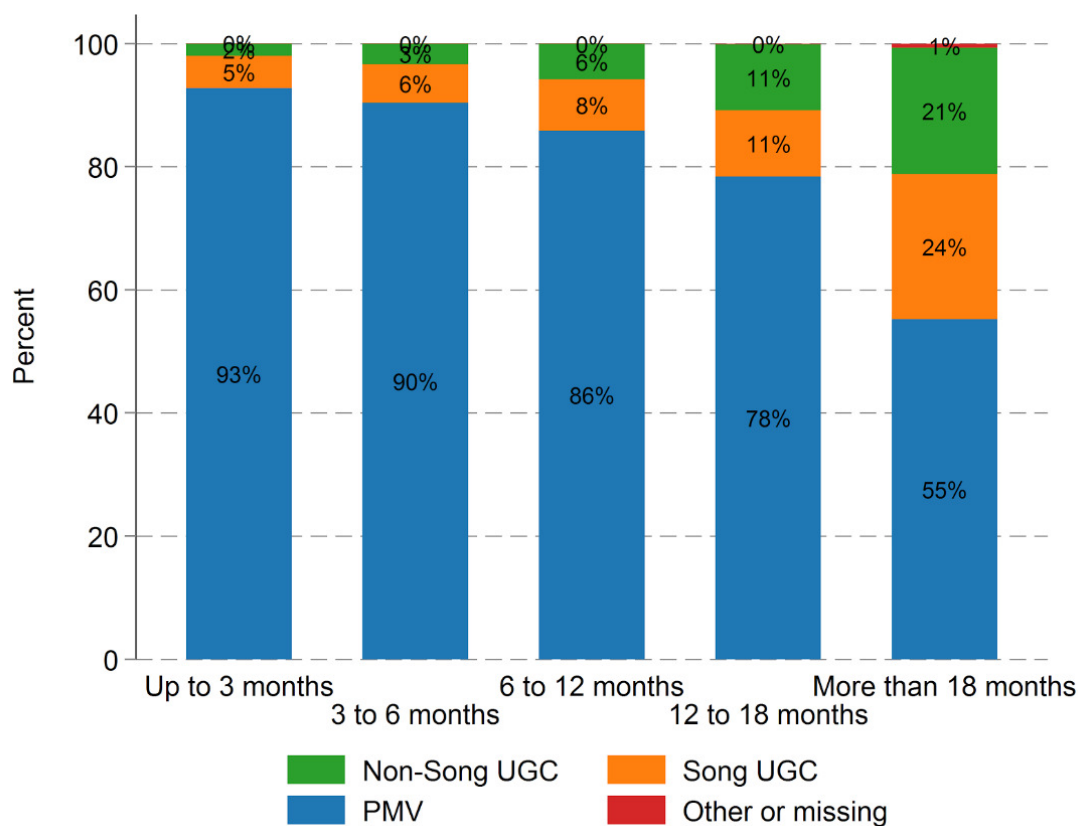
Figure 30: Breakdown of songs by type of views, across different popularities (Italy)



Source: RBB analysis of GFK data and YouTube internal data. The figure shows the distribution of YouTube views by content type for tracks in the picklist based on their popularity in the reference week.

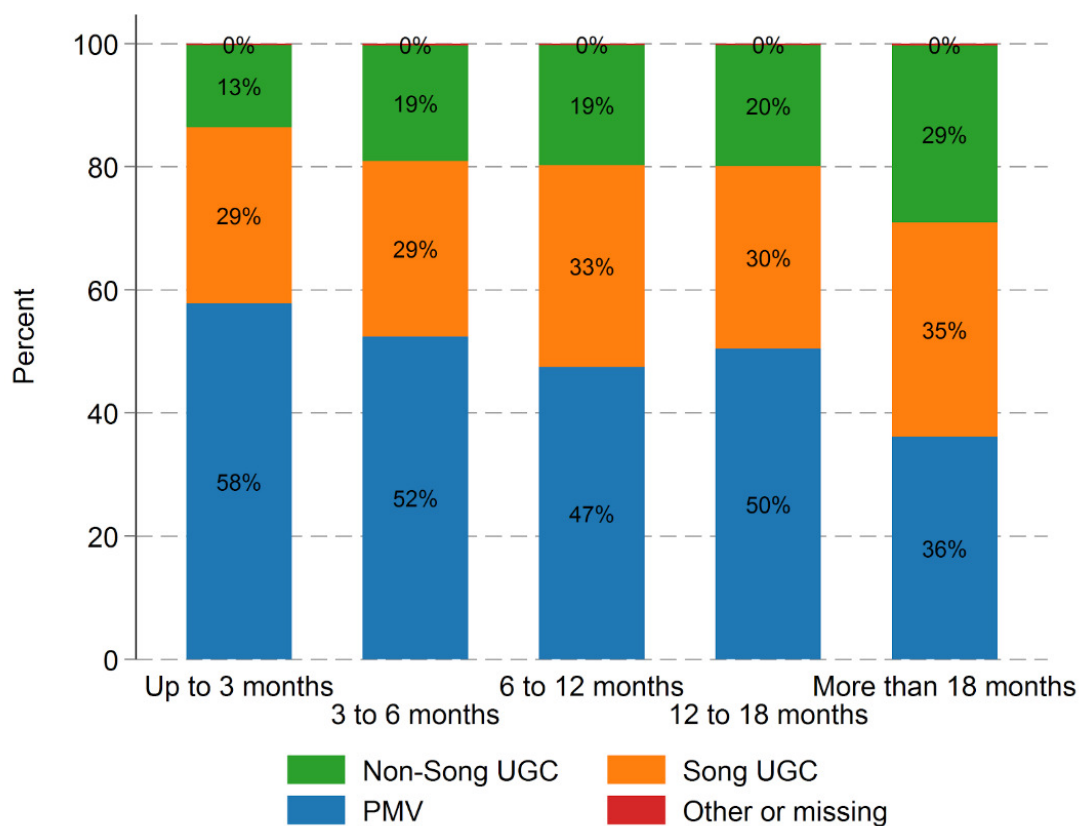
D Section 4.3: Distribution of songs by type of video, by age

Figure 31: Breakdown of songs by type of views, across different song ages (France)



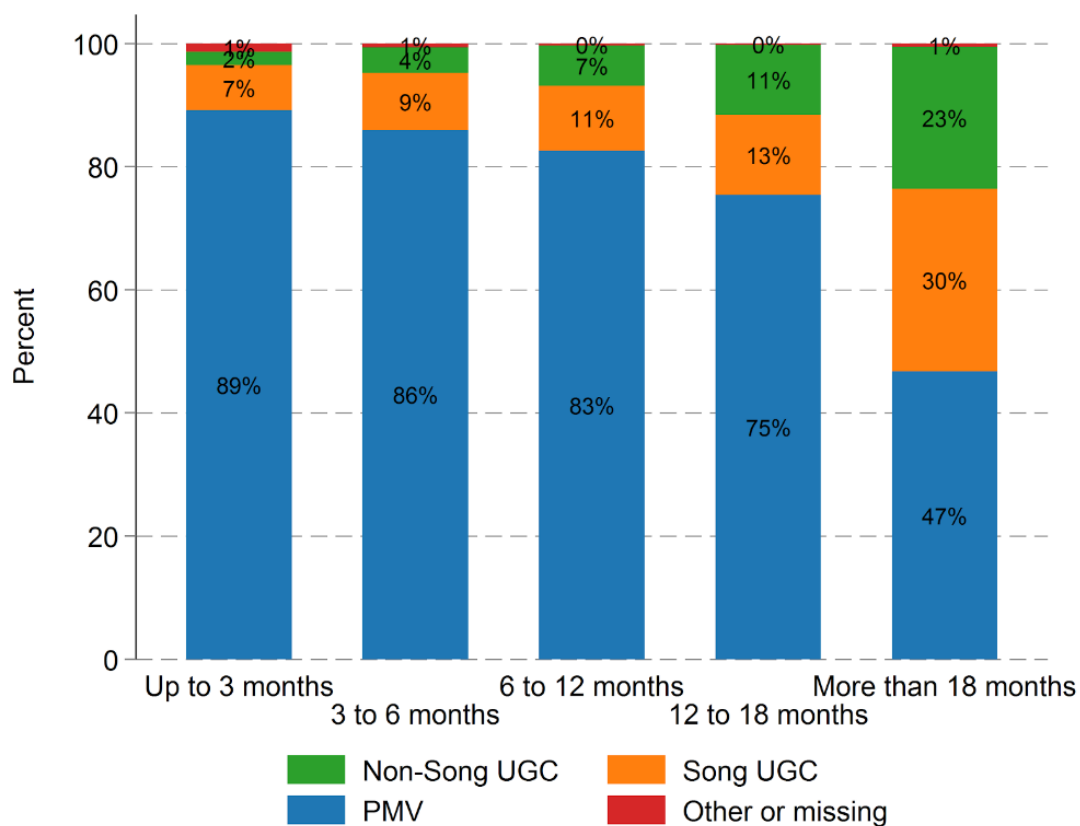
Source: RBB analysis of GFK data and YouTube internal data. The figure shows the distribution of YouTube views by content type for tracks in the picklist based on their age in the reference week.

Figure 32: Breakdown of songs by type of views, across different song ages (Germany)



Source: RBB analysis of GFK data and YouTube internal data. The figure shows the distribution of YouTube views by content type for tracks in the picklist based on their age in the reference week.

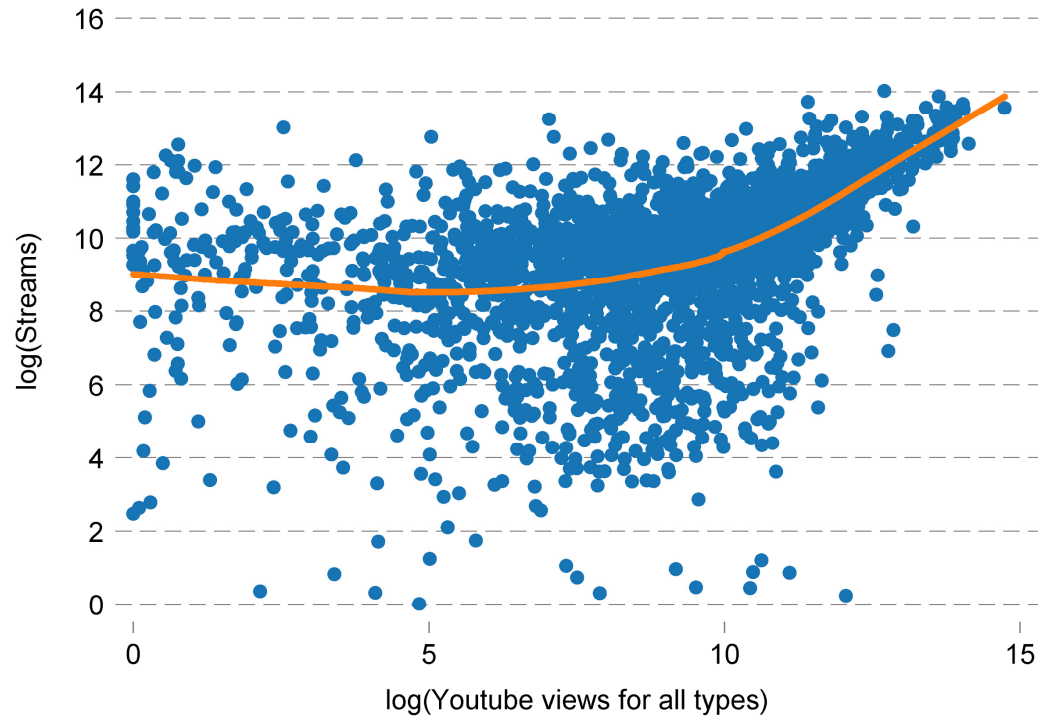
Figure 33: Breakdown of songs by type of views, across different song ages (Italy)



Source: RBB analysis of GFK data and YouTube internal data. The figure shows the distribution of YouTube views by content type for tracks in the picklist based on their age in the reference week.

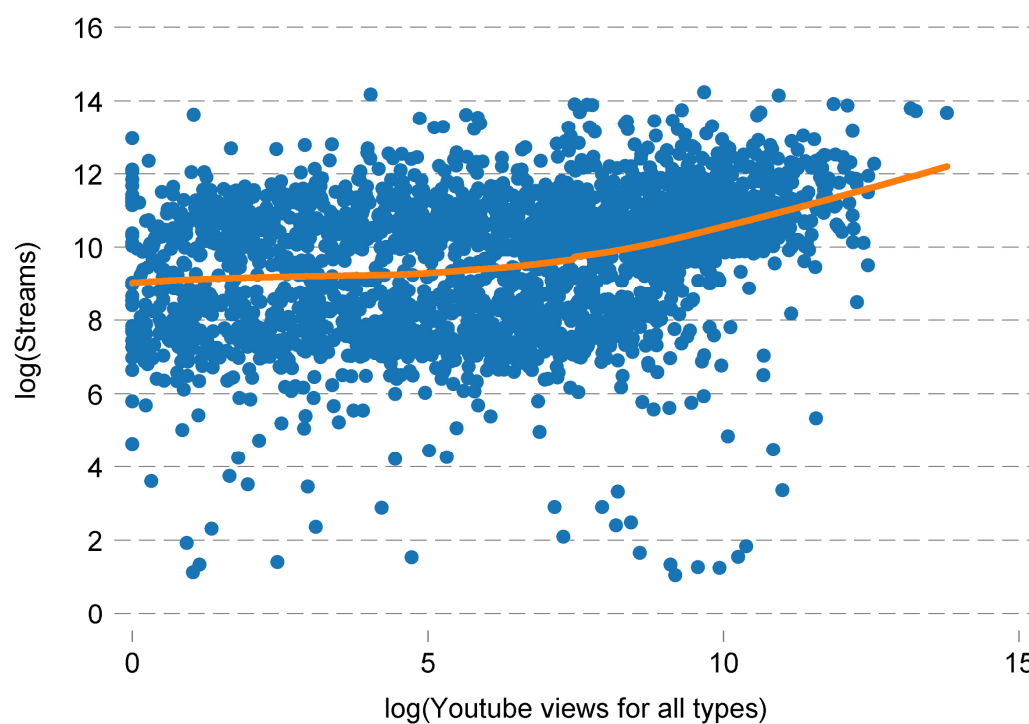
E Section 5.1.1: Correlation between Streams and YouTube views

Figure 34: Correlation between streams and YouTube views, France



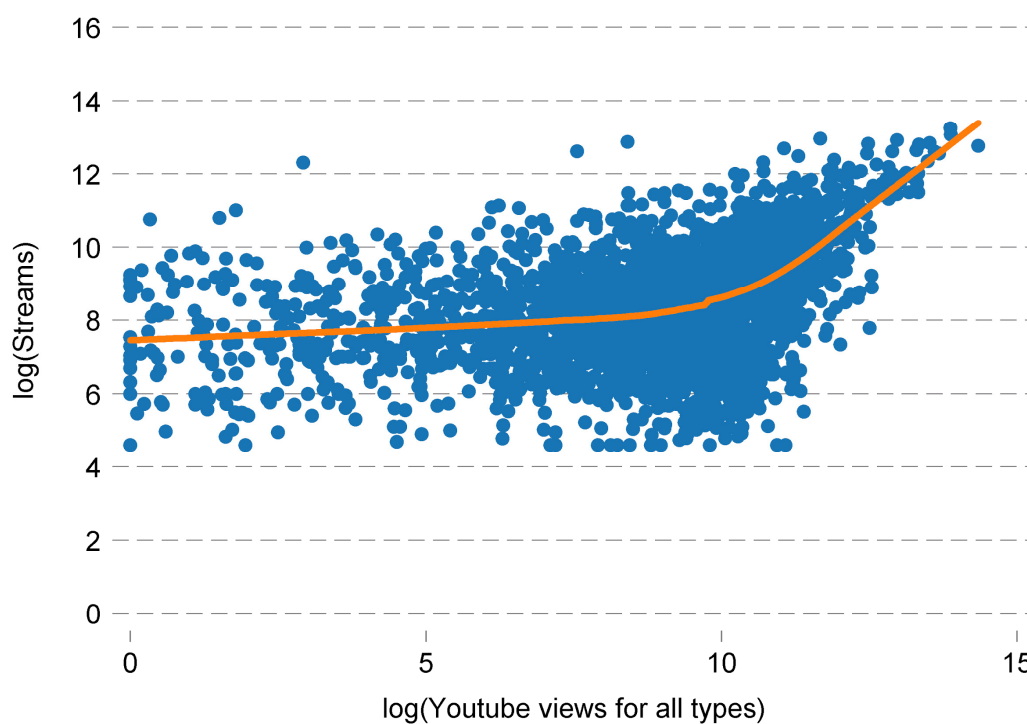
Source: RBB analysis of GFK data and YouTube internal data. Correlations are calculated across all track observations, i.e. for all the weeks in the dataset.

Figure 35: Correlation between streams and YouTube views, Germany



Source: RBB analysis of GFK data and YouTube internal data. Correlations are calculated across all track observations, i.e. for all the weeks in the dataset.

Figure 36: Correlation between streams and YouTube views, Italy



Source: RBB analysis of GFK data and YouTube internal data. Correlations are calculated across all track observations, i.e. for all the weeks in the dataset.

F Section 5.1.1: Panel Regression results:

Table 14: Panel Regression results of Streams on YouTube Views in France

	Interpretation of results	Model specification	Interpretation of results	Model specification
		(1)		(2)
		log(streams)		log(streams)
log(YouTube views)	Statistically significant and positive - higher YouTube views are associated with higher streams	0.348*** (16.50)	Statistically significant and positive - higher YouTube views are associated with higher streams	0.310*** (18.68)
fev2014	Controls		Controls	0.0489* (2.53)
mar2014	Controls		Controls	0.109*** (4.69)
apr2014	Controls		Controls	0.0776*** (3.70)
may2014	Controls		Controls	0.0299 (1.23)
jul2016	Controls		Controls	1.384*** (30.24)
Constant		6.197*** (29.53)		5.922*** (36.53)
N		172080		172080
N_g		2921		2921

Source: RBB analysis of GFK data and YouTube internal data. The numbers in parentheses indicate the t-statistics.
 * - $p < 0.05$; ** - $p < 0.01$; *** - $p < 0.001$

Table 15: Panel Regression results of Streams on YouTube Views in Germany

	Interpretation of results	Model specification	Interpretation of results	Model specification
		(1)		(2)
		log(streams)		log(streams)
log(YouTube views)	Statistically significant and positive - higher YouTube views are associated with higher streams	0.0989*** (9.12)	Statistically significant and positive - higher YouTube views are associated with higher streams	0.116*** (14.50)
fev2014	Controls		Controls	0.0744*** (6.16)
mar2014	Controls		Controls	0.0932*** (6.72)
apr2014	Controls		Controls	0.132*** (10.47)
may2014	Controls		Controls	0.220*** (12.05)
jul2016	Controls		Controls	0.925*** (46.25)
Constant		9.013*** (78.32)		8.249*** (142.0)
N		231019		231019
N_g		2746		2746

Source: RBB analysis of GFK data and YouTube internal data. The numbers in parentheses indicate the t-statistics.
 * - $p < 0.05$; ** - $p < 0.01$; *** - $p < 0.001$

Table 16: Panel Regression results of Streams on YouTube Views in Italy

	Interpretation of results	Model specification	Interpretation of results	Model specification
		(1)		(2)
		log(streams)		log(streams)
log(YouTube views)	Statistically significant and positive - higher YouTube views are associated with higher streams	0.346*** (17.94)	Statistically significant and positive - higher YouTube views are associated with higher streams	0.332*** (21.00)
fev2014	Controls		Controls	0.105*** (4.43)
mar2014	Controls		Controls	0.196*** (5.35)
apr2014	Controls		Controls	0.396*** (16.51)
may2014	Controls		Controls	0.496*** (21.08)
jul2016	Controls		Controls	0.185*** (3.97)
Constant		5.404*** (26.39)		5.067*** (31.06)
N		209552		209552
N_g		2936		2936

Source: RBB analysis of GFK data and YouTube internal data. The numbers in parentheses indicate the t-statistics. * - $p < 0.05$; ** - $p < 0.01$; *** - $p < 0.001$

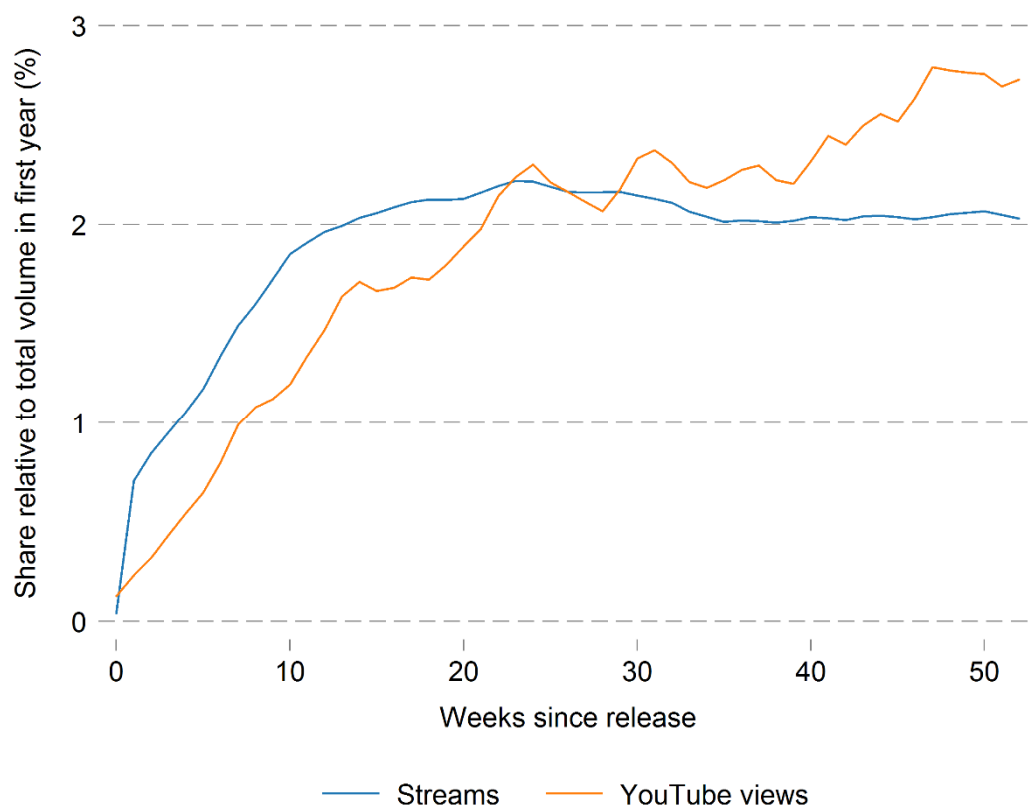
G Section 5.1.2: Granger Causality and song life cycle

Table 17: Results of Granger Causality for streams in the Germany

	(1)	(2)
	log(streams)	log(streams)
log(YouTube views) at w-1	0.00212*** (0.000365)	0.00286*** (0.000463)
jul2014		0.0399*** (0.00198)
aug2014		0.0133*** (0.00161)
...		
jul2016		0.0537*** (0.00358)
log(streams) at w-1	0.940*** (0.0192)	0.930*** (0.0196)
log(streams) at w-2	-0.0330* (0.0155)	-0.0334* (0.0153)
log(streams) at w-3	0.0423* (0.0163)	0.0444** (0.0168)
log(streams) at w-4	-0.00189 (0.0118)	-0.000908 (0.0115)
log(streams) at w-5	0.0122 (0.00959)	0.0136 (0.00920)
...		
log(streams) at w-24	-0.00335 (0.00183)	-0.00456** (0.00143)
Constant	0.435*** (0.0635)	0.483*** (0.0532)
N	174601	174601
N_g	2297	2297

Standard errors in parentheses. Time dummies correspond to a specific month and year. These and lagged logarithm of streams are not all displayed for clarity. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 37: Share of streams vs. YouTube views over first year of tracks, Germany



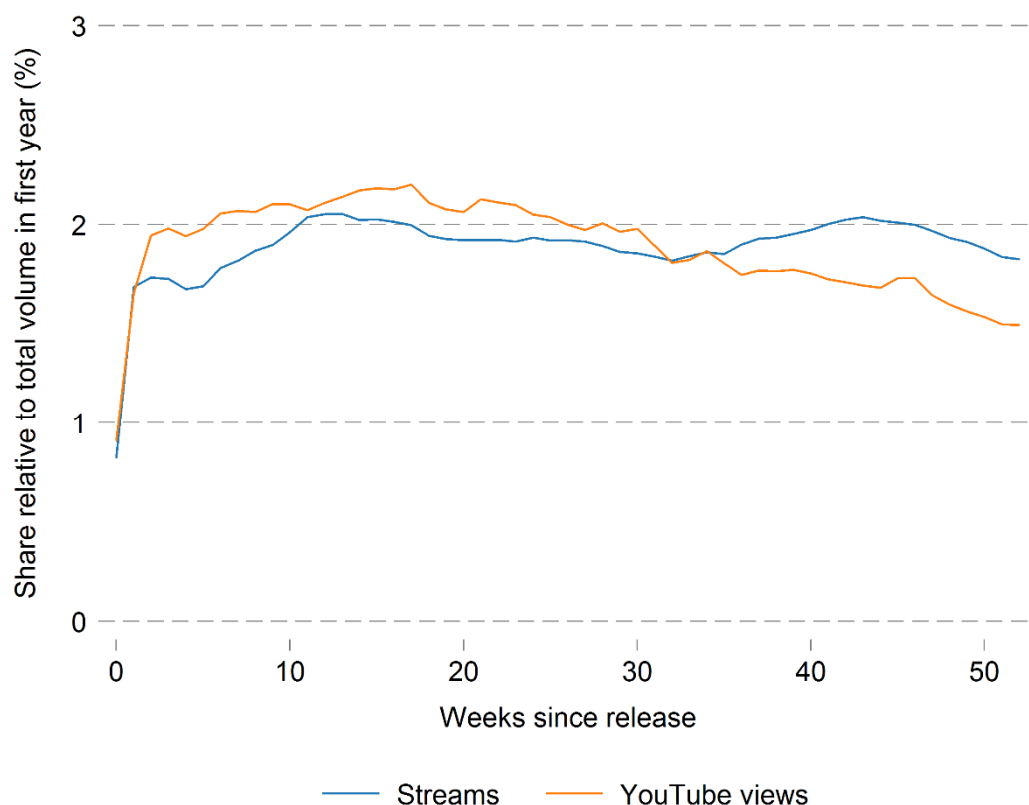
Source: RBB analysis of GfK data and YouTube internal data. The sample includes the 867 tracks for which the first year after release is observed in the data (i.e. tracks released between 2014w1 and 2015w31). The volumes have been normalised by the first year total for each platform, so that the area under both charts is equal to one. The first two weeks of the lifecycle are excluded since streaming data is often missing for these weeks. Tracks where further streaming data was missing have been excluded from the analysis.

Table 18: Results of Granger Causality for streams in France

	(1)	(2)
	log(streams)	log(streams)
log(YouTube views) at w-1	0.0252** (0.00779)	0.0236** (0.00817)
jul2015		0.0392* (0.0162)
aug2015		0.0510*** (0.00749)
sep2015		0.0459*** (0.00760)
...		
jul2016		0.170*** (0.0280)
log(streams) at w-1	0.727*** (0.0368)	0.701*** (0.0305)
log(streams) at w-2	0.0868*** (0.0193)	0.0811*** (0.0193)
log(streams) at w-3	0.0518*** (0.0109)	0.0509*** (0.00988)
log(streams) at w-4	0.0147 (0.00804)	0.0179* (0.00747)
log(streams) at w-5	0.00964 (0.00602)	0.0123 (0.00633)
...		
log(streams) at w-24	-0.00822** (0.00305)	-0.0115** (0.00375)
Constant	0.969*** (0.142)	1.122*** (0.167)
N	108932	108932
N_g	2612	2612

*Standard errors in parentheses. Time dummies correspond to a specific month and year. These and lagged logarithm of streams are not all displayed for clarity. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Figure 38: Share of streams vs. YouTube views over first year of tracks, France



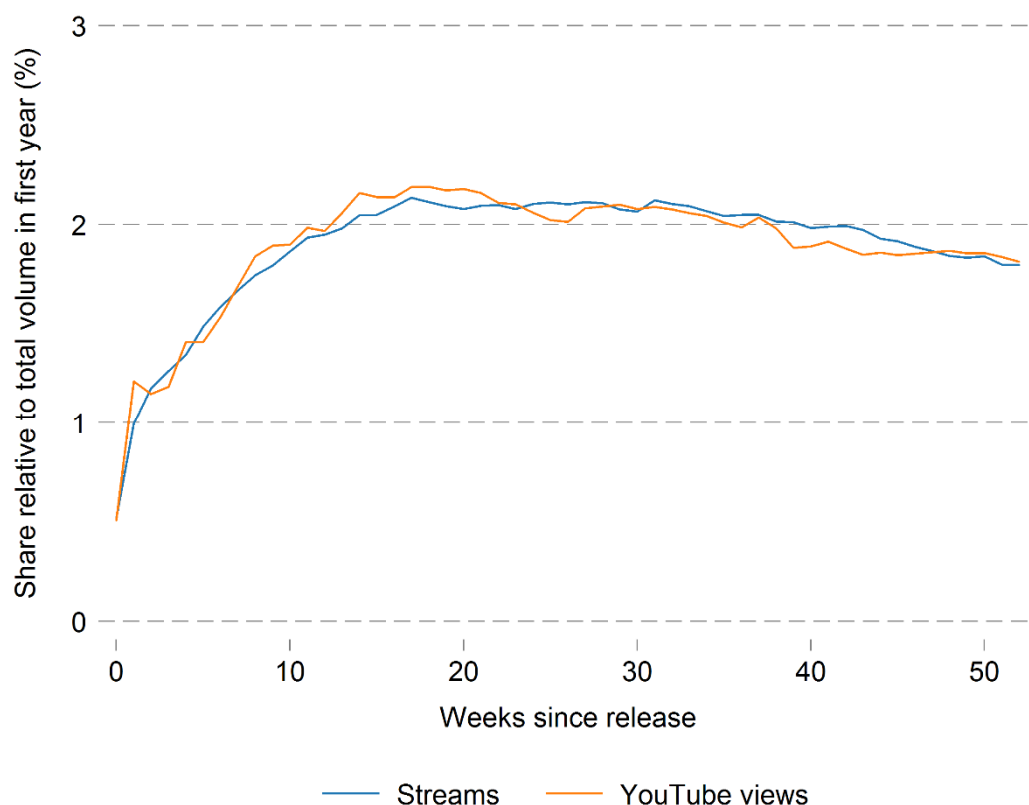
Source: RBB analysis of GfK data and YouTube internal data. The sample includes the 480 tracks for which the first year after release is observed in the data (i.e. tracks released between 2014w1 and 2015w31). The volumes have been normalised by the first year total for each platform, so that the area under both charts is equal to one. The first two weeks of the lifecycle are excluded since streaming data is often missing for these weeks. Tracks where further streaming data was missing have been excluded from the analysis.

Table 19: Results of Granger Causality for streams in Italy

	(1)	(2)
	log(streams)	log(streams)
log(YouTube views) at w-1	0.0327*** (0.00324)	0.0318*** (0.00244)
jul2014		0.00455 (0.00489)
aug2014		-0.0334*** (0.00985)
...		
jul2016		-0.0285*** (0.00403)
log(streams) at w-1	0.674*** (0.0307)	0.668*** (0.0307)
log(streams) at w-2	0.136*** (0.0134)	0.136*** (0.0133)
log(streams) at w-3	0.0515** (0.0153)	0.0549*** (0.0143)
log(streams) at w-4	0.0212** (0.00715)	0.0255*** (0.00684)
log(streams) at w-5	0.00134 (0.00728)	0.00370 (0.00819)
...		
log(streams) at w-24	-0.00368 (0.00418)	-0.00380 (0.00435)
Constant	0.409*** (0.106)	0.432*** (0.101)
N	124898	124898
N_g	2178	2178

*Standard errors in parentheses. Time dummies correspond to a specific month and year. These and lagged logarithm of streams are not all displayed for clarity. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Figure 39: Share of streams vs. YouTube views over first year of tracks, Italy



Source: RBB analysis of GfK data and YouTube internal data. The sample includes the 849 tracks for which the first year after release is observed in the data (i.e. tracks released between 2014w1 and 2015w31). The volumes have been normalised by the first year total for each platform, so that the area under both charts is equal to one. The first two weeks of the lifecycle are excluded since streaming data is often missing for these weeks. Tracks where further streaming data was missing have been excluded from the analysis.

H Section 6.1.3.2: Sample sizes

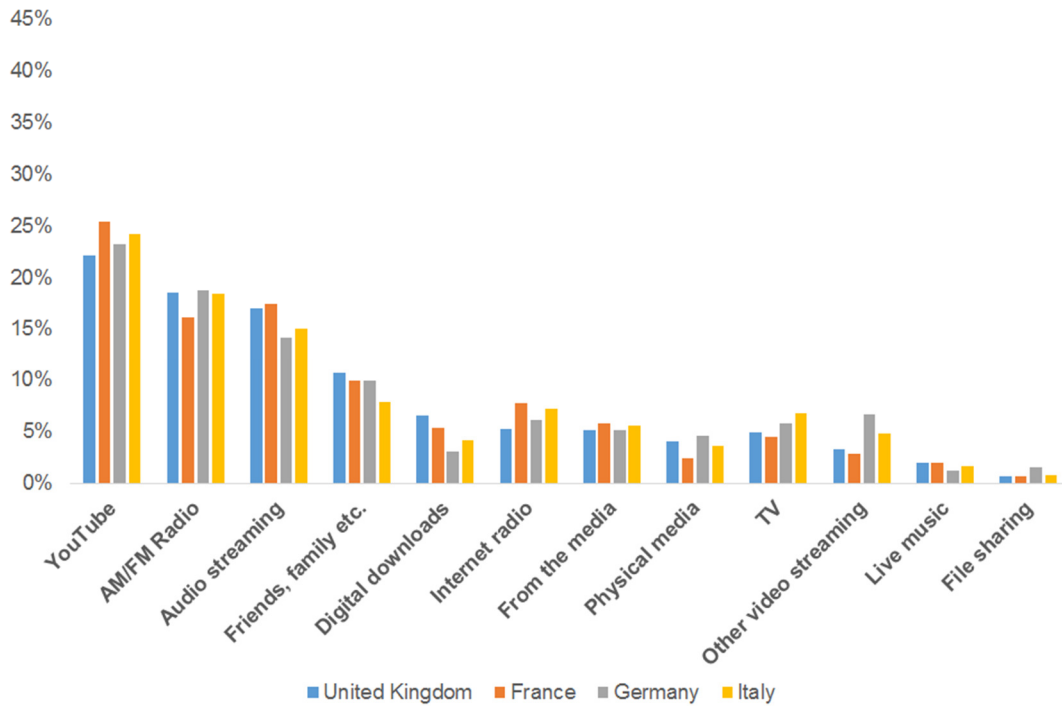
Table 20: Sample sizes of YouTube music user type by country, different assumptions about the segmentation and method of calculation

	United Kingdom	France	Germany	Italy
Non-YouTube users (Q25)	754	713	739	556
Non-YouTube users (Q6*Q12)	775	726	751	570
Light users (Q25)	252	277	256	264
Light users (Q6*Q12)	152	151	122	154
Medium users (Q25)	285	272	283	348
Medium users 3h – 10h (Q6*Q12)	291	310	286	345
Medium users 3h – 20h (Q6*Q12)	451	474	456	567
Heavy users (Q25)	242	259	245	390
Heavy users >10 hours (Q6*Q12)	315	334	364	489
Heavy users >20 hours (Q6*Q12)	155	170	194	267

Source: SurveyMonkey survey data, RBB analysis.

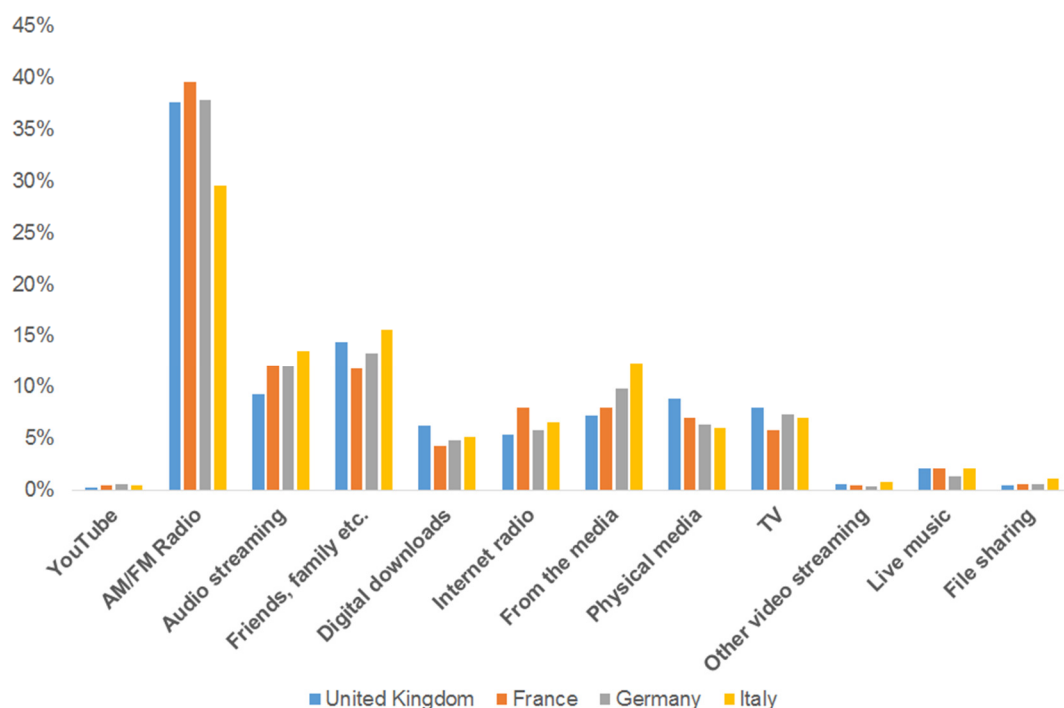
I Section 6.2: Importance of YouTube for music discovery

Figure 37: YouTube music users' average importance of channel for new music discovery



Source: Survey Q12, Q48-52, YouTube internal data; samples sizes: United Kingdom - (155 Heavy/ 451 Medium/ 152 Light); France - (474 Medium/ 170 Heavy/ 151 Light); Germany - (194 Heavy/ 456 Medium/ 122 Light); Italy - (267 Heavy/ 567 Medium/ 154 Light). Sample sizes by country, YouTube user segment and platform will be smaller and will in some instances have an impact on the robustness of the results.

Figure 38: Non YouTube users' average importance of channel for new music discovery



Source: Survey Q12, Q48-52, YouTube internal data; samples sizes: United Kingdom - 775 Non YouTube users; France - 474 Non YouTube users; Germany - 751 Non YouTube users; Italy - 570 Non YouTube users. Sample sizes by country, YouTube user segment and platform will be smaller and will in some instances have an impact on the robustness of the results.

J Section 6.3: Spend patterns by YouTube users

Table 21.a: Value of YouTube users to the music industry by user segment and country

France						
	Total Value	On YouTube	Off YouTube	Total Value	On YouTube	Off YouTube
Light	£5.11	£5.05	£0.06	€2.84	€2.79	€0.04
Medium	£6.40	£6.05	£0.35	€6.78	€6.55	€0.23
Heavy	£7.11	£5.21	£1.90	€5.37	€4.09	€1.27

Source: Survey Q6, Q12-16, Q39, Q42, and YouTube internal data on value to the music industry, and distribution margin per music channel. Sample sizes: United Kingdom - (155 Heavy/ 451 Medium/ 152 Light/ 775 Non YouTube users); France - (474 Medium/ 170 Heavy/ 151 Light/ 474 Non YouTube users). Sample sizes by country, YouTube user segment and platform will be smaller and will in some instances and have an impact on the robustness of the results.

Table 21.b: Value of YouTube users to the music industry by user segment and country

	Germany			Italy		
	Total Value	On YouTube	Off YouTube	Total Value	On YouTube	Off YouTube
Light	€3.47	€3.42	€0.04	€2.27	€2.22	€0.05
Medium	€6.05	€5.81	€0.24	€4.72	€4.47	€0.25
Heavy	€5.07	€3.77	€1.31	€5.44	€4.14	€1.29

Source: Survey Q6, Q12-16, Q39, Q42, and YouTube internal data on value to the music industry, and distribution margin per music channel. Sample sizes: Germany - (194 Heavy/ 456 Medium/ 122 Light/ 751 Non YouTube users); Italy - (267 Heavy/ 567 Medium/ 154 Light/ 570 Non YouTube users). Sample sizes by country, YouTube user segment and platform will be smaller and will in some instances and have an impact on the robustness of the results.

Table 22: Per User Monthly Spend on Concert Tickets, Merchandise and Fan Club Memberships

	United Kingdom		France		Germany		Italy	
	All YouTube users	No high value platform	All YouTube users	No high value platform	All YouTube users	No high value platform	All YouTube users	No high value platform
Light	£3.14	£0.58	€1.48	€1.93	€3.31	€1.44	€2.18	€1.50
Medium	£5.13	£1.99	€3.01	€1.12	€5.44	€1.56	€4.08	€1.32
Heavy	£5.15	£3.05	€2.94	€2.49	€4.95	€1.93	€3.66	€1.53

Source: Survey Q12, Q46, Q47; samples sizes: United Kingdom - (155 Heavy/ 451 Medium/ 152 Light/ 775 Non YouTube users); France - (474 Medium/ 170 Heavy/ 151 Light/ 474 Non YouTube users); Germany - (194 Heavy/ 456 Medium/ 122 Light/ 751 Non YouTube users); Italy - (267 Heavy/ 567 Medium/154 Light/ 570 Non YouTube users). Sample sizes by country, YouTube user segment and platform will be smaller and will in some instances and have an impact on the robustness of the results.

Table 23: Monthly Value Spend on Concert Tickets, Merchandise, and Fan Club Memberships of non-YouTube users

	United Kingdom	France	Germany	Italy
Value on platforms	£3.14	€ 2.86	€ 2.86	€ 2.41
Spend on live music	£2.14	€ 1.62	€ 0.78	€ 1.69

Source: Survey Q6, Q12-16, Q39, Q42, Q46, Q47; samples sizes: United Kingdom - 775 Non YouTube users; France - 474 Non YouTube users; Germany 751 Non YouTube users; Italy - 570 Non YouTube users. Sample sizes by platform will be smaller and will in some instances and have an impact on the robustness of the results.

K United Kingdom Survey

1. What is your age?

- ☐ Under 14
- ☐ 14 to 17
- ☐ 18 to 24
- ☐ 25 to 34
- ☐ 35 to 44
- ☐ 45 to 54
- ☐ 55 to 64
- ☐ 65 to 74
- ☐ 75 or older

2. What is your gender?

- ☐ Female
- ☐ Male
- ☐ Other

3. What is your approximate annual household income?

- ☐ £0 - £9,999
- ☐ £10,000 - £16,999
- ☐ £17,000 - £34,999
- ☐ £35,000 - £54,999
- ☐ £55,000 - £69,999
- ☐ £70,000 - £99,999
- ☐ £100,000 - £149,999
- ☐ More than £150,000

4. How many internet-connected devices do you own and use for personal use at least once per week (e.g., smartphone, computer, tablet, fitness watches, smart appliances, security systems, etc.)?

- ☐ 0
- ☐ 1-2
- ☐ 3-4
- ☐ 5-6
- ☐ 7 or more

2

5. How important is music to you?

- ☐ Extremely important
- ☐ Very important
- ☐ Somewhat important
- ☐ Not so important
- ☐ Not at all important

6. On average, about how many hours per week do you choose to listen to music? (Do not include music at restaurants, shops, etc.)

3

7. Which of the following do you regularly use to listen to music? (Select all that apply.)

- ☐ Online video services (e.g., YouTube, VEVO, Vimeo, Dailymotion, etc.)
- ☐ Online audio streaming services (e.g., Spotify, Soundcloud, Apple Music, Google Play Music, etc.)
- ☐ Internet radio (e.g., TuneIn Radio, radio station's website, etc.)
- ☐ Digital downloads (e.g., Apple iTunes, Amazon Music, Google Play Store, etc.)
- ☐ File sharing services (e.g., torrents, P2P, The Pirate Bay, etc.)
- ☐ Physical Media (CDs, vinyl, cassette tapes, etc.)
- ☐ AM / FM Radio
- ☐ Television (e.g., MTV, VH1, etc.)
- ☐ Live music (e.g., concerts, gigs, music festivals, etc.)
- ☐ None of these
- ☐ Other (please specify)

We'd like to find out more about the services/platforms you use to listen to music. Please indicate whether you are aware of and/or use each of the following to listen to music in each of the categories below.

8. Online Video Services:

	Have not heard of it	Have heard of it, but do not use it to listen to music	Listen to music on it
Dailymotion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vevo.com / Vevo App	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vimeo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
YouTube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Online Audio Streaming Services:

	Have not heard of it	Have heard of it, but do not use it to listen to music	Listen to music on it
Apple Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deezer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Google Play Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soundcloud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spotify	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tidal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Internet Radio:

	Have not heard of it	Have heard of it, but do not use it to listen to music	Listen to music on it
Radio station's website(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TuneIn Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Digital downloads:

	Have not heard of it	Have heard of it, but do not use it to listen to music	Listen to music on it
Amazon Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Apple iTunes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Google Play Store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Take a minute to think about your listening behavior over the past 30 days. Approximately what percentage of your total time spent listening to music were you using each of the following services/platforms?

(Please enter whole numbers without any symbols such as '%'. **Totals across all services/platforms should add to 100.**)

12. Online Video Services: (%)

Dailymotion

Vevo.com / Vevo App

Vimeo

YouTube

13. Online Audio Streaming Services: (%)

Apple Music

Deezer

Google Play Music

Soundcloud

Spotify

Tidal

14. Internet Radio: (%)

Radio station's website(s)

TuneIn Radio

15. Digital Downloads: (%)

Amazon Music

Apple iTunes

Google Play Store

16. Other: (%)

Other method not listed

File sharing services (e.g., torrents, P2P, The Pirate Bay, etc.)

Physical Media (CDs, vinyl, cassette tapes, etc.)

AM / FM Radio

Television (e.g., MTV, VH1, etc.)

Keep thinking about your listening behavior over the past 30 days. On approximately how many days during the past month did you use each of the following services/platforms to listen to music?

17. Online Video Services:

	5 days or less	6 to 10 days	11 to 15 days	16 to 20 days	21 days or more
Dailymotion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vevo.com / Vevo App	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vimeo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
YouTube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. Online Audio Streaming Services:

	5 days or less	6 to 10 days	11 to 15 days	16 to 20 days	21 days or more
Apple Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deezer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Google Play Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soundcloud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spotify	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tidal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Internet Radio:

	5 days or less	6 to 10 days	11 to 15 days	16 to 20 days	21 days or more
Radio station's website(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TuneIn Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. Digital Downloads:

	5 days or less	6 to 10 days	11 to 15 days	16 to 20 days	21 days or more
Amazon Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Apple iTunes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Google Play Store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. Other:

	5 days or less	6 to 10 days	11 to 15 days	16 to 20 days	21 days or more
File sharing services (e.g., torrents, P2P, The Pirate Bay, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical Media (CDs, vinyl, cassette tapes, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AM / FM Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Television (e.g., MTV, VH1, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. Which of the following online video services do you use for music most often?

- ☐ Dailymotion
- ☐ Vevo.com / Vevo App
- ☐ Vimeo
- ☐ YouTube

23. Which of the following online audio streaming services do you use for music most often?

- ☐ Apple Music
- ☐ Deezer
- ☐ Google Play Music
- ☐ Soundcloud
- ☐ Spotify
- ☐ Tidal

24. Which of the following digital download services do you use for music most often?

- ☐ Amazon Music
- ☐ Apple iTunes
- ☐ Google Play Store

25. About how much time do you listen to music on the following online video services/platforms per month?

	Less than 3 hours per month	Between 3 and 10 hours per month	More than 10 hours per month
Dailymotion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vevo.com / Vevo App	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vimeo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
YouTube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

You mentioned that you use the following services/platforms to listen to music. For each service, please indicate which reason(s) best explain(s) why you use that service/platform.

26. Why do you use YouTube to listen to music? (Select up to 3.)

- | | |
|--|--|
| <input type="checkbox"/> Discover new music | <input type="checkbox"/> Listen to music-related content (e.g., podcasts, interviews, etc.) |
| <input type="checkbox"/> Have music recommended to me | <input type="checkbox"/> Listen to music while I do other things (e.g., working, driving, exercising, dancing, etc.) |
| <input type="checkbox"/> Listen to specific songs or artists I already know I like | <input type="checkbox"/> Listen to music for free |
| <input type="checkbox"/> Build and listen to playlists | <input type="checkbox"/> Listen to music when I am not connected to the Internet |
| <input type="checkbox"/> Find music I cannot find elsewhere (e.g., remixes, exclusive releases, covers, live performances, etc.) | <input type="checkbox"/> Listen to music without ads |
| <input type="checkbox"/> Listen to newly-released music | <input type="checkbox"/> Share music with friends |
| <input type="checkbox"/> Listen to older music | <input type="checkbox"/> None of these |
| <input type="checkbox"/> Watch music videos | |
| <input type="checkbox"/> Other (please specify) | |

27. Why do you use Spotify to listen to music? (Select up to 3.)

- | | |
|--|--|
| <input type="checkbox"/> Discover new music | <input type="checkbox"/> Listen to music while I do other things (e.g., working, driving, exercising, dancing, etc.) |
| <input type="checkbox"/> Have music recommended to me | <input type="checkbox"/> Listen to music for free |
| <input type="checkbox"/> Listen to specific songs or artists I already know I like | <input type="checkbox"/> Listen to music when I am not connected to the Internet |
| <input type="checkbox"/> Build and listen to playlists | <input type="checkbox"/> Listen to music without ads |
| <input type="checkbox"/> Find music I cannot find elsewhere (e.g., remixes, exclusive releases, covers, live performances, etc.) | <input type="checkbox"/> Share music with friends |
| <input type="checkbox"/> Listen to newly-released music | <input type="checkbox"/> None of these |
| <input type="checkbox"/> Listen to older music | |
| <input type="checkbox"/> Other (please specify) | |

28. Why do you use Apple Music to listen to music? (Select up to 3.)

- | | |
|--|--|
| <input type="checkbox"/> Discover new music | <input type="checkbox"/> Watch music videos |
| <input type="checkbox"/> Have music recommended to me | <input type="checkbox"/> Listen to music-related content (e.g., podcasts, interviews, etc.) |
| <input type="checkbox"/> Listen to specific songs or artists I already know I like | <input type="checkbox"/> Listen to music while I do other things (e.g., working, driving, exercising, dancing, etc.) |
| <input type="checkbox"/> Build and listen to playlists | <input type="checkbox"/> Listen to music when I am not connected to the Internet |
| <input type="checkbox"/> Find music I cannot find elsewhere (e.g., remixes, exclusive releases, covers, live performances, etc.) | <input type="checkbox"/> Listen to music without ads |
| <input type="checkbox"/> Listen to newly-released music | <input type="checkbox"/> Share music with friends |
| <input type="checkbox"/> Listen to older music | <input type="checkbox"/> None of these |
| <input type="checkbox"/> Other (please specify) | |

29. Why do you use Pandora to listen to music? (Select up to 3.) [HIDDEN in UK survey]

- | | |
|--|--|
| <input type="checkbox"/> Discover new music | <input type="checkbox"/> Listen to music while I do other things (e.g., working, driving, exercising, dancing, etc.) |
| <input type="checkbox"/> Have music recommended to me | <input type="checkbox"/> Listen to music for free |
| <input type="checkbox"/> Listen to specific songs or artists I already know I like | <input type="checkbox"/> Listen to music without ads |
| <input type="checkbox"/> Listen to newly-released music | <input type="checkbox"/> Share music with friends |
| <input type="checkbox"/> Listen to older music | <input type="checkbox"/> None of these |
| <input type="checkbox"/> Other (please specify) | |

30. Why do you use iTunes to listen to music? (Select up to 3.)

- | | |
|--|--|
| <input type="checkbox"/> Discover new music | <input type="checkbox"/> Build and listen to playlists |
| <input type="checkbox"/> Have music recommended to me | <input type="checkbox"/> Buy / own music for my personal library |
| <input type="checkbox"/> Listen to specific songs or artists I already know I like | <input type="checkbox"/> Listen to music while I do other things (e.g., working, driving, exercising, dancing, etc.) |
| <input type="checkbox"/> Find music I cannot find elsewhere (e.g., remixes, exclusive releases, covers, live performances, etc.) | <input type="checkbox"/> Listen to music for free |
| <input type="checkbox"/> Listen to newly-released music | <input type="checkbox"/> Listen to music when I am not connected to the Internet |
| <input type="checkbox"/> Listen to older music | <input type="checkbox"/> Listen to music without ads |
| <input type="checkbox"/> Watch music videos | <input type="checkbox"/> Share music with friends |
| <input type="checkbox"/> Listen to music-related content (e.g., podcasts, interviews, etc.) | <input type="checkbox"/> None of these |
| <input type="checkbox"/> Other (please specify) | |

31. Why do you use Google Play to listen to music? (Select up to 3.)

- | | |
|--|--|
| <input type="checkbox"/> Discover new music | <input type="checkbox"/> Listen to music-related content (e.g., podcasts, interviews, etc.) |
| <input type="checkbox"/> Have music recommended to me | <input type="checkbox"/> Buy / own music for my personal library |
| <input type="checkbox"/> Listen to specific songs or artists I already know I like | <input type="checkbox"/> Listen to music while I do other things (e.g., working, driving, exercising, dancing, etc.) |
| <input type="checkbox"/> Build and listen to playlists | <input type="checkbox"/> Listen to music for free |
| <input type="checkbox"/> Find music I cannot find elsewhere (e.g., remixes, exclusive releases, covers, live performances, etc.) | <input type="checkbox"/> Listen to music when I am not connected to the Internet |
| <input type="checkbox"/> Listen to newly-released music | <input type="checkbox"/> Listen to music without ads |
| <input type="checkbox"/> Listen to older music | <input type="checkbox"/> Share music with friends |
| <input type="checkbox"/> Watch music videos | <input type="checkbox"/> None of these |
| <input type="checkbox"/> Other (please specify) | |

32. Why do you use file sharing services to listen to music? (Select up to 3.)

- | | |
|--|--|
| <input type="checkbox"/> Discover new music | <input type="checkbox"/> Listen to music-related content (e.g., podcasts, interviews, etc.) |
| <input type="checkbox"/> Have music recommended to me | <input type="checkbox"/> Buy / own music for my personal library |
| <input type="checkbox"/> Listen to specific songs or artists I already know I like | <input type="checkbox"/> Listen to music while I do other things (e.g., working, driving, exercising, dancing, etc.) |
| <input type="checkbox"/> Build and listen to playlists | <input type="checkbox"/> Listen to music for free |
| <input type="checkbox"/> Find music I cannot find elsewhere (e.g., remixes, exclusive releases, covers, live performances, etc.) | <input type="checkbox"/> Listen to music when I am not connected to the Internet |
| <input type="checkbox"/> Listen to newly-released music | <input type="checkbox"/> Listen to music without ads |
| <input type="checkbox"/> Listen to older music | <input type="checkbox"/> Share music with friends |
| <input type="checkbox"/> Watch music videos | <input type="checkbox"/> None of these |
| <input type="checkbox"/> Other (please specify) | |

33. Why do you use Physical Media (CDs, vinyl, cassette tapes) to listen to music? (Select up to 3.)

- | | |
|--|--|
| <input type="checkbox"/> Discover new music | <input type="checkbox"/> Listen to music while I do other things (e.g., working, driving, exercising, dancing, etc.) |
| <input type="checkbox"/> Listen to specific songs or artists I already know I like | <input type="checkbox"/> Listen to music for free |
| <input type="checkbox"/> Find music I cannot find elsewhere (e.g., remixes, exclusive releases, covers, live performances, etc.) | <input type="checkbox"/> Listen to music when I am not connected to the Internet |
| <input type="checkbox"/> Listen to newly-released music | <input type="checkbox"/> Listen to music without ads |
| <input type="checkbox"/> Listen to older music | <input type="checkbox"/> Share music with friends |
| <input type="checkbox"/> Build and listen to playlists | <input type="checkbox"/> None of these |
| <input type="checkbox"/> Buy / own music for my personal library | |
| <input type="checkbox"/> Other (please specify) | |

34. Why do you use AM/FM radio to listen to music? (Select up to 3.)

- | | |
|---|--|
| <input type="checkbox"/> Discover new music | <input type="checkbox"/> Listen to music-related content (e.g., podcasts, interviews, etc.) |
| <input type="checkbox"/> Have music recommended to me | <input type="checkbox"/> Listen to music while I do other things (e.g., working, driving, exercising, dancing, etc.) |
| <input type="checkbox"/> Listen to specific songs or artists I already know I like | <input type="checkbox"/> Listen to music for free |
| <input type="checkbox"/> Find music I cannot find elsewhere (e.g., remixes, exclusive releases, covers) | <input type="checkbox"/> Listen to music when I am not connected to the Internet |
| <input type="checkbox"/> Listen to newly-released music | <input type="checkbox"/> None of these |
| <input type="checkbox"/> Listen to older music | |
| <input type="checkbox"/> Other (please specify) | |

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You mentioned that you use the following services/platforms to listen to music. For each service, please indicate which best describes your usage.

35. Online Video Services: [HIDDEN in UK]

	I use the free service only	I use a free trial version of the paid service	I use someone else's paid subscription	I am a paying subscriber
[Question hidden in survey]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

36. Online Audio Streaming Services:

	I use the free service only	I use a free trial version of the paid service	I use someone else's paid subscription	I am a paying subscriber
Apple Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deezer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Google Play Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soundcloud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spotify	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tidal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

37. Internet Radio:

	I use the free service only	I use a free trial version of the paid service	I use someone else's paid subscription	I am a paying subscriber
[Question hidden in survey]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

You mentioned that you have a paid subscription for the following music services. Please indicate the cost per month of this subscription in GBP. If you pay for a music subscription as part of a different subscription (e.g., included in your mobile carrier bill) please estimate and indicate the approximate cost per month that is attributable to the music service.

38. Online Video Services: (£ per month) [HIDDEN]

[Question hidden in survey]

39. Online Audio Streaming Services: (£ per month)

Apple Music

Deezer

Google Play Music

Soundcloud

Spotify

Tidal

40. Internet Radio: (£ per month) [HIDDEN]

[Question hidden in survey]

41. You mentioned that you are not paying for any music subscription services. Please select your top reasons for not paying for music subscription services. (Select up to 3)

- ☐ I do not listen to or enjoy music enough to pay for a subscription
- ☐ Paying for a subscription is too expensive
- ☐ I can listen to the music I want for free on online video services (e.g., YouTube, VEVO, Vimeo, Dailymotion, etc.)
- ☐ I can listen to the music I want for free on the free versions of online audio streaming services (e.g., Spotify, Soundcloud, etc.)
- ☐ I can listen to the music I want for free on Internet radio (e.g., TuneIn Radio, radio station's website, etc.)
- ☐ I prefer to buy and listen to music as digital downloads (e.g., on Apple iTunes, Amazon Music, Google Play Store, etc.)
- ☐ I can obtain and listen to the music I want for free on file sharing services (e.g., torrents, P2P, The Pirate Bay, etc.)
- ☐ I prefer to buy and listen to music on physical media (CDs, vinyl, cassette tapes, etc.)
- ☐ I can listen to the music I want for free on AM / FM radio
- ☐ I am currently using a free trial version of a paid subscription service
- ☐ Other (please specify)

You mentioned that you listen to music via purchased digital downloads and / or on physical media (CDs, vinyl, cassette tapes, etc.). Please indicate, on average, how much money you spend per year on digital downloads and / or physical media in GBP.

42. Digital Downloads: (£ per year)

(Please enter a number without any symbols such as '£'.)

Amazon Music	<input type="text"/>
Apple iTunes	<input type="text"/>
Google Play Store	<input type="text"/>

43. Physical Media (CDs, vinyl, cassette tapes, etc.): (£ per year)

(Please enter a number without any symbols such as '£'.)

44. You mentioned that you do not listen to music via digital downloads and / or physical media (CDs, vinyl, cassette tapes, etc.). Please select your top reasons for not listening to music via digital downloads and / or physical media. (Select up to 3)

- ☐ I do not listen to or enjoy music enough to pay for digital tracks and / or physical media (CDs, vinyl, cassette tapes, etc.)
- ☐ Paying for digital tracks and / or physical media (CDs, vinyl, cassette tapes, etc.) is too expensive
- ☐ I can listen to the music I want for free on online video services (e.g., YouTube, VEVO, Vimeo, Dailymotion, or similar)
- ☐ I can listen to the music I want for free on the free versions of online audio streaming services (e.g., Spotify, Soundcloud, or similar)
- ☐ I pay for and listen to music on an audio subscription service (e.g., Spotify, Deezer, Apple Music, or similar)
- ☐ I can listen to the music I want for free on Internet radio (e.g., TuneIn Radio, radio station's website, or similar)
- ☐ I can obtain and listen to the music I want for free on file sharing services (e.g., torrents, P2P, The Pirate Bay, or similar)
- ☐ I can listen to the music I want for free on AM / FM radio
- ☐ Other (please specify)

45. You mentioned that you listen to music obtained via file sharing services (e.g., torrents, P2P, The Pirate Bay, or similar). Please indicate, on average, how many songs you download per year, across all the file sharing services you use.

46. You mentioned that you listen to live music (e.g., concerts, gigs, music festivals, or similar live events). Please indicate, on average, how many live music events per year you attend, and, on average, how much you spend per event on tickets.

Average number of *free* live music events attended per year

Average number of *paid* live music events attended per year

Average spend on tickets in GBP for each paid event
(Do not use symbols such as '£'. Enter 0 if you did not attend any paid events)

47. About how much do you spend on the following types of merchandise in a typical year?
(Please enter a number without any symbols such as '£'. If you do not purchase any, please enter 0 for each box)

Fan club membership(s) (e.g., priority access to ticket sales, access to special edition music, etc.)

Artist or band merchandise (e.g., t-shirts, posters, memorabilia, etc.)

Other merchandise not listed

Which services do you use to discover new music (either recently-released music, or songs, albums, and artists that are new to you)? Please allocate 100 total points among the following services based on how much you use these services to discover new music (Please enter whole numbers without any symbols such as '%'. Totals across all categories should add to 100.)

48. Online Video Services:

Dailymotion

Vevo.com / Vevo App

Vimeo

YouTube

49. Online Audio Streaming Services:

Apple Music

Deezer

Google Play Music

Soundcloud

Spotify

Tidal

50. Internet Radio:

Radio station's website(s)

TuneIn Radio

51. Digital Downloads:

Amazon Music

Apple iTunes

Google Play Store

52. Other

From friends, family, or other people I know

From media (e.g., blogs, magazines, etc.), social media, forums, aggregator / mixtape websites, or other websites

File sharing services (e.g., torrents, P2P, The Pirate Bay, etc.)

Physical Media (CDs, vinyl, cassette tapes, etc.)

AM / FM Radio

Television (e.g., MTV, VH1, etc.)

Live music (e.g., concerts, gigs, music festivals, etc.)

For each of the following services / platforms, approximately what percentage of your time listening to music on that service/platform is spent listening to music you recently discovered (either recently-released music, or songs, albums, and artists that are new to you)?

(Please enter whole numbers without any symbols such as '%'. Each service/platform should be 0-100.)

53. Online Video Services:

Dailymotion

Vevo.com / Vevo App

Vimeo

YouTube

54. Online Audio Streaming Services:

Apple Music

Deezer

Google Play Music

Soundcloud

Spotify

Tidal

55. Internet Radio:

Radio station's website(s)

TuneIn Radio

56. Digital Downloads:

Amazon Music

Apple iTunes

Google Play Store

57. Other:

File sharing services (e.g., torrents, P2P, The Pirate Bay, etc.)

Physical Media (CDs, vinyl, cassette tapes, etc.)

AM / FM Radio

Television (e.g., MTV, VH1, etc.)

Live music (e.g., concerts, gigs, music festivals, etc.)

58. In general, when you discover a new song, album, or artist that piques your interest, how often do you do each of the following?

	Never	Infrequently	Sometimes	Frequently	Always
Try to find tickets to a live music event where the same or similar music might be played	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seek out more information about that song, album, or artist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share that song with someone you know	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

59. Take a minute to think of the last song, album, or artist you actively searched for on {{ Q23 }}. Why did you choose to search for that music? (Select up to 3.)

- ☐ I recently heard it on a different music service / platform I use (e.g. the radio, YouTube, etc.) or at a live event
- ☐ I recently saw that song, album, or artist advertised, reviewed, or promoted in the media, online, or on social media
- ☐ I recently heard that song, album, or artist's music playing in public (e.g., cafe, bar, gym, etc.)
- ☐ It was recommended by friend/family
- ☐ I already knew about this song, album, or artist and wanted to listen to it
- ☐ I don't recall
- ☐ Other (please specify)

60. You mentioned that for the last song, album or artist you searched for on {{ Q23 }}, you heard it elsewhere first. Where did you hear the song, album, or artist before you searched for it on {{ Q23 }}? (Select up to 3.)

- | | |
|---|---|
| <input type="checkbox"/> YouTube | <input type="checkbox"/> Radio station website |
| <input type="checkbox"/> Vevo.com / Vevo App | <input type="checkbox"/> Apple iTunes |
| <input type="checkbox"/> Vimeo | <input type="checkbox"/> Amazon Music |
| <input type="checkbox"/> Dailymotion | <input type="checkbox"/> Google Play Store |
| <input type="checkbox"/> Deezer | <input type="checkbox"/> File sharing service (e.g., torrents, P2P, The Pirate Bay, etc.) |
| <input type="checkbox"/> Spotify | <input type="checkbox"/> Physical Media (CDs, vinyl, cassette tape) |
| <input type="checkbox"/> Soundcloud | <input type="checkbox"/> AM / FM Radio |
| <input type="checkbox"/> Apple Music | <input type="checkbox"/> Television (e.g., MTV, VH1, etc.) |
| <input type="checkbox"/> Google Play Music | <input type="checkbox"/> Live music (e.g., concerts, gigs, music festivals, etc.) |
| <input type="checkbox"/> Tidal | <input type="checkbox"/> I don't recall |
| <input type="checkbox"/> TuneIn Radio | |
| <input type="checkbox"/> Other (please specify) | |

61. Approximately what percentage of the time you spend listening to music on {{ Q23 }} is spent listening to a song, album, or artist you actively searched for? (As opposed to listening to music recommended or curated by the service, the next song in a playlist / station, etc.)

(Please enter a whole number without any symbols such as '%'.)

62. When you are listening to songs, albums, or artists on {{ Q23 }} that you actively searched for, approximately what percentage of the time is it something you recently discovered (either recently-released music, or songs, albums, and artists that are new to you)?

(Please enter a whole number without any symbols such as '%'.)

63. Take a minute to think of the last song or album you purchased on {{ Q24 }}. Why did you choose to purchase that music? (Select up to 3.)

- ☐ I recently heard it on a different music service/platform I use (e.g. the radio, YouTube, etc.) or at a live event
- ☐ I recently saw that song, album, or artist advertised, reviewed, or promoted in the media, online, or on social media
- ☐ I recently heard that song, album, or artist's music playing in public (e.g., cafe, bar, gym, etc.)
- ☐ It was recommended by friend/family
- ☐ I already knew about this song, album, or artist and wanted to listen to it
- ☐ I don't recall
- ☐ Other (please specify)

64. Where did you hear the song, album, or artist before you purchased it on {{ Q24 }}? (Select up to 3.)

- | | |
|---|---|
| <input type="checkbox"/> YouTube | <input type="checkbox"/> Radio station website |
| <input type="checkbox"/> Vevo.com / Vevo App | <input type="checkbox"/> Apple iTunes |
| <input type="checkbox"/> Vimeo | <input type="checkbox"/> Amazon Music |
| <input type="checkbox"/> Dailymotion | <input type="checkbox"/> Google Play Store |
| <input type="checkbox"/> Deezer | <input type="checkbox"/> File sharing service (e.g., torrents, P2P, The Pirate Bay, etc.) |
| <input type="checkbox"/> Spotify | <input type="checkbox"/> Physical Media (CDs, vinyl, cassette tape) |
| <input type="checkbox"/> Soundcloud | <input type="checkbox"/> AM / FM Radio |
| <input type="checkbox"/> Apple Music | <input type="checkbox"/> Television (e.g., MTV, VH1, etc.) |
| <input type="checkbox"/> Google Play Music | <input type="checkbox"/> Live music (e.g., concerts, gigs, music festivals, etc.) |
| <input type="checkbox"/> Tidal | <input type="checkbox"/> I don't recall |
| <input type="checkbox"/> TuneIn Radio | |
| <input type="checkbox"/> Other (please specify) | |

65. Approximately what percentage of the digital downloads you purchase from {{ Q24 }} are something you recently discovered (either recently-released music, or songs, albums, and artists that are new to you)?
(Please enter a whole number without any symbols such as '%'.)

66. Take a minute to think of the last live music event you attended. Why did you choose to attend that event? (Select up to 3.)

- ☐ Heard on a music service / platform I use (e.g. online video, audio streaming, radio)
- ☐ Recently saw the performing artist's music, the performing artist, or the event itself advertised in the media/online/social media/etc.
- ☐ Heard the performing artist's music playing in public (e.g., cafe, bar, gym, etc.)
- ☐ Recommended by friend / family
- ☐ I didn't plan on attending this event ahead of time
- ☐ I do not recall
- ☐ Other (please specify)

67. Where did you hear the song, album, or artist before choosing to go to the live music event? (Select up to 3.)

- | | |
|---|---|
| <input type="checkbox"/> YouTube | <input type="checkbox"/> Radio station website |
| <input type="checkbox"/> Vevo.com / Vevo App | <input type="checkbox"/> Apple iTunes |
| <input type="checkbox"/> Vimeo | <input type="checkbox"/> Amazon Music |
| <input type="checkbox"/> Dailymotion | <input type="checkbox"/> Google Play Store |
| <input type="checkbox"/> Deezer | <input type="checkbox"/> File sharing service (e.g., torrents, P2P, The Pirate Bay, etc.) |
| <input type="checkbox"/> Spotify | <input type="checkbox"/> Physical Media (CDs, vinyl, cassette tape) |
| <input type="checkbox"/> Soundcloud | <input type="checkbox"/> AM / FM Radio |
| <input type="checkbox"/> Apple Music | <input type="checkbox"/> Television (e.g., MTV, VH1, etc.) |
| <input type="checkbox"/> Google Play Music | <input type="checkbox"/> Live music (e.g., concerts, gigs, music festivals, etc.) |
| <input type="checkbox"/> Tidal | <input type="checkbox"/> I don't recall |
| <input type="checkbox"/> TuneIn Radio | |
| <input type="checkbox"/> Other (please specify) | |

68. You mentioned earlier that you do not listen to music via YouTube. Please select your top 3 reasons for this.

- ☐ I think of YouTube as a place to watch videos, not listen to music
- ☐ I do not want to watch music videos, just listen to music
- ☐ I do not want to see or hear ads
- ☐ I cannot listen to YouTube in the background when I am on a mobile device
- ☐ Playing YouTube videos takes too much data on my mobile device
- ☐ The audio quality of music content on YouTube is not high enough
- ☐ YouTube is difficult to navigate and use for music
- ☐ The music I am looking for is not available on YouTube
- ☐ I listen to music elsewhere (e.g., other online video or audio streaming services, Internet radio, digital downloads, CDs / vinyl, AM / FM radio, television, etc.)
- ☐ I do not enjoy music enough to listen to it on YouTube
- ☐ Other (please specify)

Now we'd like to ask you some questions about YouTube.

69. Consider the situation in which you are not able to find a song, album, or artist you are searching for on YouTube. What would you most likely do next?

- ☐ I would listen to a different song, album, or artist on YouTube instead
- ☐ I would watch something not related to music on YouTube instead
- ☐ I would leave YouTube and search for that (or a different) song, album or artist on another music service/platform I use (e.g., another online video service, an audio streaming service, etc.)
- ☐ I would just not watch / listen to anything
- ☐ Other (please specify)

70. You mentioned that if you were not able to find a song, album, or artist you were searching for on YouTube, your likely next step would be to leave YouTube and search for that (or different) music on one of the other services / platforms you use. Specifically which service / platform would you try first?

- | | |
|--|--|
| <input type="radio"/> Vevo.com / Vevo App | <input type="radio"/> Tidal |
| <input type="radio"/> Vimeo | <input type="radio"/> TuneIn Radio |
| <input type="radio"/> Dailymotion | <input type="radio"/> Radio station website |
| <input type="radio"/> Deezer | <input type="radio"/> Apple iTunes |
| <input type="radio"/> Spotify | <input type="radio"/> Amazon Music |
| <input type="radio"/> Soundcloud | <input type="radio"/> Google Play Store |
| <input type="radio"/> Apple Music | <input type="radio"/> File sharing service (e.g., torrents, P2P, The Pirate Bay, etc.) |
| <input type="radio"/> Google Play Music | <input type="radio"/> Physical Media (CDs, vinyl, cassette tape) |
| <input type="radio"/> Other (please specify) | |

71. Now consider a situation in which all music content is no longer available on YouTube. Please tell us what you would do in this situation.

72. Still imagining that no music content were available on YouTube, what percentage of your time listening to music on YouTube would you shift to the following activities?

(Please enter whole numbers without any symbols such as '%'. **Totals across all rows should add to 100.**)

Listening to music on a different music service / platform

Watch content on YouTube that is not related to music

Do something that is both unrelated to listening to music and unrelated to YouTube

73. You mentioned that if all music content were no longer available on YouTube, you would shift some of the time you currently spend listening to music on YouTube to listening to music on a different music service / platform. How would you use this time to listen to music on other services / platforms? Please allocate 100 points among the following.

(Please enter whole numbers without any symbols such as '%'. **Totals across all rows should add to 100.**)

I would spend more time listening to music on non-YouTube online video services (e.g., VEVO, Vimeo, Dailymotion, etc.)

I would spend more time listening to music on online audio streaming services (e.g., Spotify, Soundcloud, Apple Music, Google Play Music, etc.)

I would spend more time listening to music on internet radio (e.g., TuneIn Radio, radio station's website, etc.)

I would spend more time listening to the music I already have (both digital downloads and CDs / vinyl / cassettes)

I would buy more digital music (e.g., Apple iTunes, Amazon Music, Google Play Store, etc.)

I would obtain more music from file sharing services (e.g., torrents, P2P, The Pirate Bay, etc.)

I would buy more CDs / vinyl / cassettes

I would spend more time listening to music on AM / FM radio

I would spend more time listening to music on television (e.g., MTV, VH1, etc.)

Other

You mentioned that if all music content were no longer available on YouTube, you would spend more time listening to music on online audio streaming services.

You also mentioned earlier that you are using the following as a free service or are using a free trial version of its paid service. How likely or unlikely would you be to sign up for a paid subscription of the service as a result of all music content no longer being available on YouTube?

74. How likely would you be to switch to a paid version of the following online audio streaming service(s) if music content were no longer available on YouTube?

	Not at all likely	Slightly likely	Moderately likely	Very likely	Extremely likely
Apple Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deezer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Google Play Music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soundcloud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spotify	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tidal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>