



# PAYMENT OPTION TRANSPARENCY

On the impact of  
alternative payment models  
in music streaming

This paper investigates the potential impact of a **User-Centric Payment System (UCPS)**. It illustrates how UCPS could redistribute revenue derived from music streaming, compared with the current “Pro-Rata” Model. The scale of the impact is shown at the overall market level as well as for the individual artist.

While this first edition focuses on the UCPS model, **future editions shall address other potential alternative payment models** as well.



# AUDIENCE

## Who is this study for?



The insights of this study are meant to inform **artists as well as their representatives and business partners**. Why should artists and their representatives pay attention to the insights presented here? Alternative payment models have the potential to impact streaming income for individual artists very significantly. Not because they allocate more revenue to all artists. In fact, alternative payment models are a null-sum game, where the total revenue available to all artists stays the same.

**What makes alternative payment models highly relevant is that for many artists the potential increase in income would be substantially higher than with other measures.**

While we explicitly address music artists, we will mostly use the term “**artist profiles**” because music streaming services provide access to audio provided by content owners that are not the “usual” artists and that may not be associated with a typical musical genre or even categorized as music. We believe this notion to be relevant when assessing the impact of an alternative payment model.



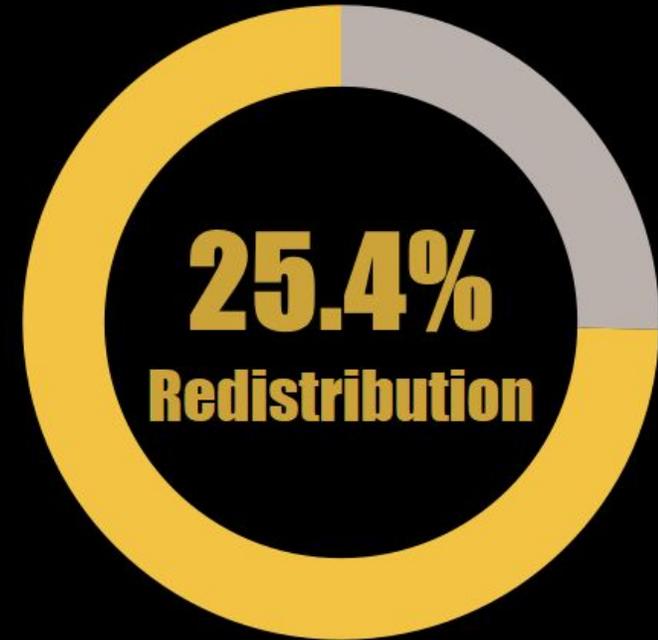
# SUMMARY

Our analysis shows that the overall impact would be significant. In 16 out of 18 countries analyzed, **more than a quarter of the total revenue pie could be redistributed** – with the average for top countries at 25.4%. The average across all countries is even higher at 32.6%.

Translated to the overall streaming market, this could potentially amount to a reallocation of €161 million per year in Germany alone.

While previous studies concluded that UCPS would only lead to marginal changes in revenue distribution, our analysis demonstrates that the **overall impact could in fact be significant**.

However, while the impact shown above could be seen as significant enough to warrant the cost and effort associated with changing the payment model, these numbers only tell part of the story. After all, these figures **do not answer whether this significant impact is “fair” or “favorable” as well**.



Proportion of the overall revenue pie that would be allocated from certain artist profiles to others.

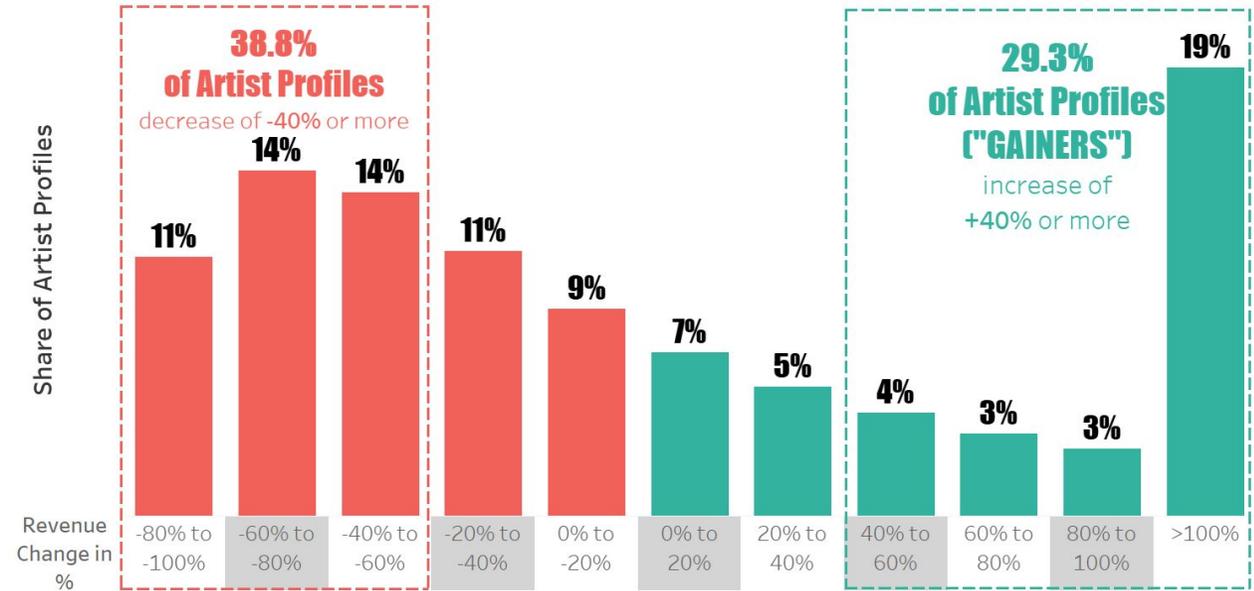
Average value across top countries and months analyzed  
(GB, DE, CA, AU, FR)

# SUMMARY



According to our analysis, almost **every third artist profile could increase their revenue by at least 40%** in the major countries.

Almost **one in five artist profiles** could at least **double their income** under UCPS.



## Impact Level Groups

Share of Artist Profiles that experience a certain level of revenue change  
(Average value across top countries and months analyzed)

# SUMMARY

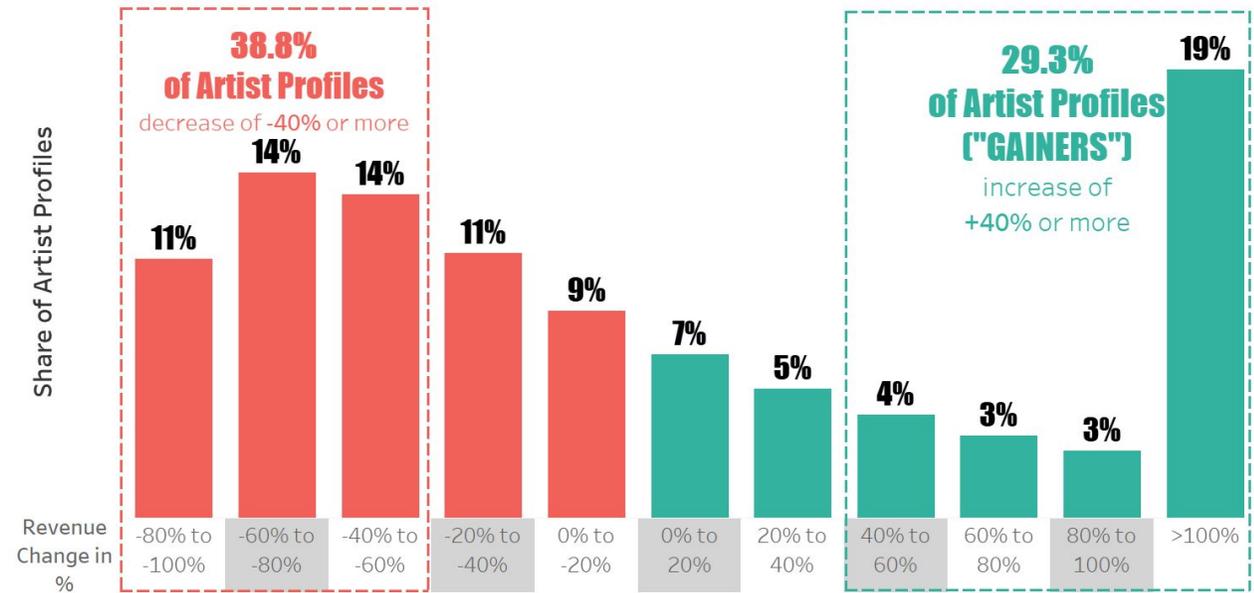


What the graph to the right also shows is that more than a third of artist profiles could lose 40% or more of their income as well.

This leads to two important questions. First of all, every artist will be keen to know what impact group they belong to. And secondly, if there are winners and losers, how could one possibly decide whether UCPS would be “favorable” compared to the status quo?

If the impact of UCPS shall be considered “favorable”, by definition, it must also be deemed “favorable” that certain artist profiles profit at the expense of others\*.

\*It should be noted that any payment model results in winners whose gains come at the expense of others - including the current Pro-Rata Model when it is compared to other methods of revenue allocation.



## Impact Level Groups

Share of Artist Profiles that experience a certain level of revenue change  
(Average value across top countries and months analyzed)

# SUMMARY

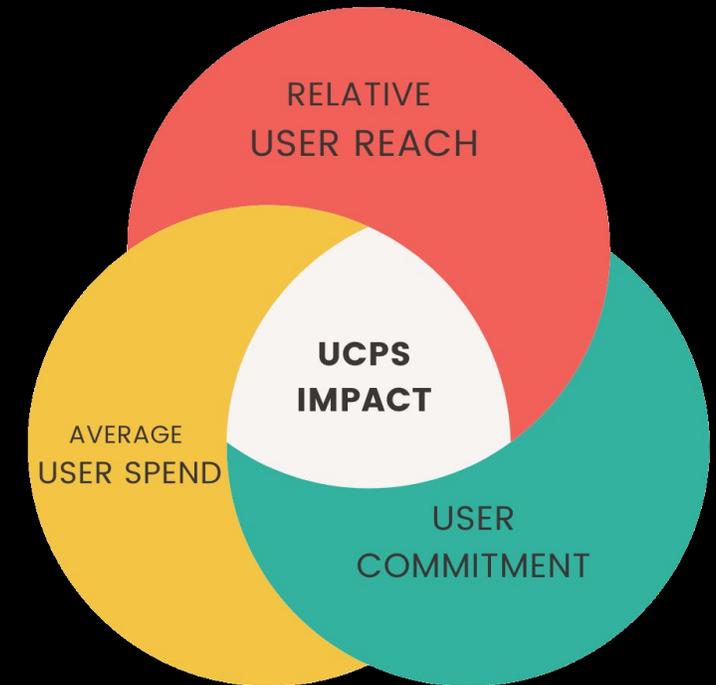
The answer to this question lies in evaluating the “direction” of the UCPS impact. What do the “Gainers” have in common that clearly distinguishes them from artist profiles that see their income decrease? Or in other words: **what characteristics determine whether an artist profile will financially profit or not?**

To address this, we mathematically identified the three artist profile characteristics that directly determine what type of artist profile will benefit from UCPS. These characteristics are an artist profile’s **relative User Reach**, its **User Commitment** and its users’ **average User Spend**. In combination, these factors explain how and to what extent an individual artist profile would be impacted.

These decisive artist profile characteristics will be explained in detail. But in a nutshell, an **artist profile would be incentivized for reaching a relatively high number of users, for when its users commit much of their listening to the artist profile’s content and for appealing to an audience that is willing to contribute the most money to the system.**

These three factors constitute the **incentive structure of UCPS**. Instead of singularly considering the number of streams, an artist profile’s added value would, in addition, be determined via these criteria.

## ARTIST PROFILE CHARACTERISTICS that determine the UCPS impact



With this paper, we aim to help artists and music professionals understand the logic of UCPS and the impact it could have on their individual income. Next to this purely financial perspective, it **enables artists and their representatives to arrive at their own opinion**, whether the impact of UCPS might be favorable in its direction and with regards to the incentives it puts in place for the artist community.

The authors of this paper **will not recommend or advocate for or against UCPS.**

Firstly, it is just one possible solution for an alternative payment model and the current definition of UCPS only represents the simplest version imaginable.

Secondly, we believe that any decision-making must be left to artists and their representatives as the main stakeholders in this debate.

## Artist Tipp

The following pages (9–27) include valuable context and definitions as well as the goals and methods of this study.

We recommend reading through them to get a full understanding.

If you feel impatient however, you can first skip to the [results section](#).

# CONTENTS



**Introduction and Definitions** p. 10-12

**State of Research** p. 13-19

**Research Objectives, Methods & Calculations** p. 20-27

**Results (Platform Level)** p. 28-35

**Results (Artist Level)** p. 36-53

**Interpretation** p. 54-59

click this icon in the bottom right corner  
on any slide to return to this overview page.



# INTRODUCTION

## Relevance of music streaming

After a sharp decline<sup>1</sup>, beginning in the late 1990s, recorded music began to recover in recent years. A number of countries are on track to setting new all-time records<sup>2-4</sup>, with revenue growth projected to continue in the coming years. The main driver behind this turnaround is music *streaming*, which now accounts for 84% of US revenues<sup>5</sup> and 73.3% in Germany<sup>6</sup>, for example.

However, if the overall music streaming income could soon be higher than ever, why are many artists and songwriters feeling excluded from this success? If the total funds available are supposedly sufficient, the question ultimately turns to whether the allocation of income is an issue.

According to a recent study by the GEMA, about 75% of their members agree to a certain extent with the notion that streaming generally provides high potential for growing the music business<sup>7</sup>. At the same time, there is a strong consensus among these members that the payment and allocation models applied by streaming services need to be improved<sup>8</sup>.

Based on a small survey by IAO Music, only 4% of artists are satisfied with their revenue from streaming services<sup>9</sup>. Given the central role of music streaming regarding the income of artists, musicians and authors, the allocation of streaming revenues is inevitably coming under review. Lately, the current payment model, known as “Pro-Rata”, has been called into question by several parties<sup>10</sup>.

<sup>1</sup> a loss of nearly 55% between 1999 and 2015 according to the RIAA: “U.S. Sales Database”, <https://www.riaa.com/u-s-sales-database/>

<sup>2</sup> IFPI: “Global Music Report 2022”, available for purchase at <https://gmri.ifpi.org/>

<sup>3</sup> RIAA 2022: “Year-End 2021 RIAA Revenue Statistics”, <https://www.riaa.com/wp-content/uploads/2022/03/2021-Year-End-Music-Industry-Revenue-Report.pdf>, p. 1

<sup>4</sup> Bundesverband Musikindustrie (BVMI) 2022: “Musikgeschäft in Deutschland bald zu vier Fünfteln digital”, <https://www.musikindustrie.de/presse/presseinformationen/musikgeschaeft-in-deutschland-bald-zu-vier-fuenfteln-digital%C2%A0>

<sup>5</sup> RIAA 2022 - 2: “MID-YEAR 2022 RIAA REVENUE STATISTICS”, <https://www.riaa.com/wp-content/uploads/2022/09/Mid-Year-2022-RIAA-Music-Revenue-Report-1.pdf>, p. 1

<sup>6</sup> Bundesverband Musikindustrie (BVMI) 2023: “Musikindustrie in Zahlen 2022 - ePaper”, [https://www.musikindustrie.de/fileadmin/bvmi/upload/06\\_Publikationen/MiZ\\_Jahrbuch/2022/BVMI\\_Musikindustrie\\_in\\_Zahlen\\_2022\\_ePaper\\_230420\\_geschuetzt.pdf](https://www.musikindustrie.de/fileadmin/bvmi/upload/06_Publikationen/MiZ_Jahrbuch/2022/BVMI_Musikindustrie_in_Zahlen_2022_ePaper_230420_geschuetzt.pdf), p. 6

<sup>7</sup> GEMA 2022: “MUSIKSTREAMING IN DEUTSCHLAND”, [https://www.gema.de/fileadmin/user\\_upload/dokumente/aktuelles/pressemitteilungen/2022/GEMA\\_Goldmedia\\_Studie\\_Musikstreaming\\_in\\_Deutschland.pdf](https://www.gema.de/fileadmin/user_upload/dokumente/aktuelles/pressemitteilungen/2022/GEMA_Goldmedia_Studie_Musikstreaming_in_Deutschland.pdf), p. 28

<sup>8</sup> Out of 4,278 of GEMA members included in a survey, 69% completely supported such improvements (a score of 10 out of 10), with the average score among all respondents being 9.3 out of 10.

See GEMA 2022, p. 61

<sup>9</sup> IAO Music 2022: “Streams and Dreams - A fair music economy for all”, [https://www.iaomusic.org/wp-content/uploads/2022/09/STREAMS-AND-DREAMS\\_PART-1.pdf](https://www.iaomusic.org/wp-content/uploads/2022/09/STREAMS-AND-DREAMS_PART-1.pdf), p. 12 (survey conducted among 200 European artists that are “members of or connected to a national trade union or other organisation for musicians and artists, meaning that they are professional or professionally aspiring”)

<sup>10</sup> An overview of criticisms and evaluations of Pro-Rata is provided in: PRO MUSIK 2022 - “Payment Option Transparency - ARCHIVE”, [PRO MUSIK 2022](https://www.pro-musik.de/2022/09/payment-option-transparency-archiv/), p. 2f



# PAYMENT MODEL

## Definition

In the current discourse around "fairness" in music streaming, many aspects are under dispute, including:

How much should streaming services charge their customers for a subscription?

What percentage of the revenue should streaming services pay out to rightsholders?

**How should the money that is paid out to rightsholders be split *between* the artists?**

What percentage of the money received should labels share with their artists?

What share of revenue should authors (songwriters & lyricists) receive, compared to the performing artists?

All of these questions are justified. In this context however, the term **payment model** refers to the **regulation that governs how the streaming revenue pie is allocated among individual artist profiles**. It describes the formula that determines **what share of total revenue** a specific artist profile receives.

This paper will investigate UCPS, since it has been the main focus of the conversations around alternative payment models. It should be pointed out however, that other alternative payment models might be just as relevant to consider and analyze. For example, some parties have called for *Listening Time* or the *context of the stream* (such as active vs. passive consumption) to be considered for the distribution of payments. We feel it is important for the reader to keep this in mind before assessing the impact of UCPS.



# DEFINITIONS & AGGREGATIONS



## Revenue Definition

The calculation of revenue distributable to artists does not take into account individual contracts between artists and distributors, producers or labels. In the context of this study, revenue corresponds to the royalties generated by artists on the streaming services. These funds flow either to a rights holder representing the artist, usually the distributor, or – in some cases – directly to the artist.

## Aggregation on Artist Profile Level

SoundCloud provided distinct single-artist identifiers. This means that usage data is tied to one particular artist ID. So even when tracks would be a collaboration between multiple artists, SoundCloud provided exactly one artist ID. Consequently, no aggregation was performed to this regard.

## Aggregation on User Level

Users can switch between two different subscription types within one month. For this paper, we use the total subscription revenue paid by a user – no matter how many subscription types – and divide that sum of revenue among the artist profiles streamed by that user. Revenue from a user can be lower than the monthly subscription price, in the case that a user subscribed for only a part of a month<sup>11</sup>.

<sup>11</sup> For example, when a user purchased or canceled a subscription mid-month.

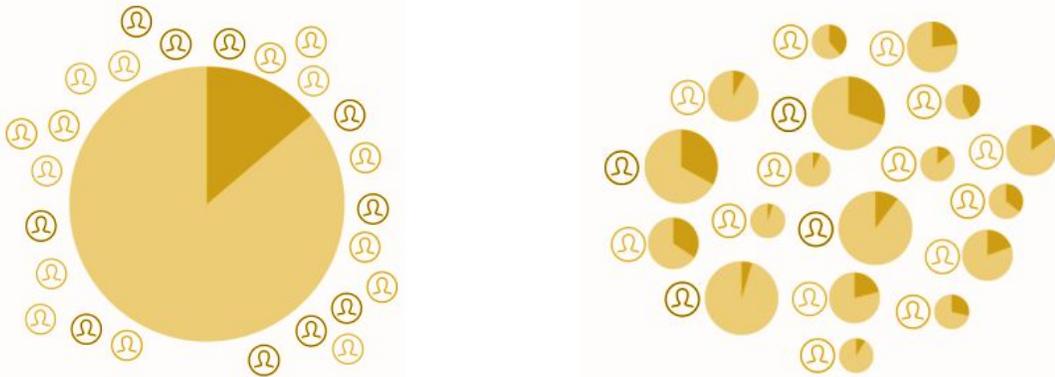


# STATE OF RESEARCH

## Visual representation of Pro-Rata vs. UCPS

In its 2021 study, the *Centre National de la Musique* provides a visual comparison of both models<sup>14</sup>. It illustrates that **Pro-Rata** is about a track's **share of total streams on a streaming service**: the sum of the track's streams from all users who streamed this song compared to *all* users' streams for *all* artists on the platform.

In contrast, under **UCPS**, the stream **share of a track (or artist) is calculated individually for each user**.



Visual representation of Pro-Rata (left) vs. UCPS (right)  
Source: Centre National de la Musique

Since 2014, more than a dozen studies and papers have been conducted regarding the impact of alternative payment models<sup>12</sup>.

While some of these publications mention other alternatives<sup>13</sup>, they all focus on the potential impact of UCPS specifically.

<sup>12</sup> An extensive overview and comparison of previous papers and their results is provided in [PRO MUSIK 2022](#), p. 3-15

<sup>13</sup> see "temporis approach" at CNM 2021, p. 16 and DMF 2017, p. 11

<sup>14</sup> CNM 2021, p. 6

# STATE OF RESEARCH



## Formal calculation of Pro-Rata

Every payment model is ultimately about determining the percentage of the total revenue that each artist will receive<sup>15</sup>. Depending on the model, this **revenue share** is calculated differently.

The current pro-rata model uses streams (with a listening time of at least 30 seconds) to determine an artist's share. An artist's **sum of streams across all of their users** is thereby put into relation with the **total number of streams on a streaming service**, resulting in that artist's stream share (in percent).

The sum of stream shares across all artists equals 100%. In order to calculate an artist's royalties, their stream share is multiplied by the total available revenue.

The formulas used in previous studies are mostly identical and can be represented as follows:

$$R_t = \frac{S_t}{S_m} \times R_m$$

This means that track t's revenue ( $R_t$ ) is calculated by dividing the amount of track t's total streams ( $S_t$ ) by the amount of total "market-level" streams on the streaming service - across all tracks and users - ( $S_m$ ) and then multiplying that by the amount of total "market-level" revenues for the streaming service ( $R_m$ ).

<sup>15</sup> In practice and in most publications, the revenue share is first calculated per track before calculating the aggregated revenue share for any artist. Since for this study, the impact is not analyzed on the track level, the term "revenue share" will hereafter refer to an artist's revenue share.



# STATE OF RESEARCH



## Formal calculation of UCPS

For UCPS, the amount of track  $t$ 's streams from user  $u$  ( $S_t^u$ ) are divided by the amount of user  $u$ 's entire streams across all tracks ( $S_m^u$ ).

This share of a user's streams is then multiplied by the monetary amount of the user's subscription fee ( $E_u$ ).

Finally, the revenue values of all individual users ( $u 1-n$ ) are summed up, resulting in track  $t$ 's overall revenues ( $E_t$ ).

The formula used in previous studies to calculate a track's revenue under UCPS can be represented as follows:

$$E_t = \sum_{u=1}^n \frac{S_t^u}{S_m^u} \times E_u$$



# COMPARISON OF METHODOLOGIES APPLIED



While the previous publications differ in their approaches, many of them analyze the UCPS impact in relation to *artist popularity*<sup>16</sup>. Artists are grouped according to "top", "lower" and/or "mid-level" popularity tiers, depending on how many streams they have. Other grouping methods include categorizing artists by genre<sup>17</sup>, local vs. international content<sup>18</sup>, catalog vs. frontline<sup>19</sup>, label<sup>20</sup>, label type (major vs. indie)<sup>21</sup> or distributor type<sup>22</sup>.

What all these approaches have in common is that artists are divided into groups first, before examining what impact UCPS would have on the respective artist groups. In the context of this study, we refer to this methodology as **top-down** impact analysis<sup>23</sup>.

## Overview of previous studies' results

In terms of artist popularity, the earliest papers conclude that the most popular artists would increase their revenue<sup>24,25</sup>. More recent studies suggest the opposite outcome, where top artists would lose income while less popular artists would benefit<sup>26-28</sup>. While certain studies calculate gains for all "smaller" artists, others present a mixed picture, where some lesser streamed artists would lose revenue<sup>29,30</sup>. Furthermore, *Digital Media Finland* observes that even within the same popularity group, the impacts on individual artists can be very different<sup>31</sup>. In summary, while the most recent research points to losses for the artists with the highest stream popularity, existing results are contradictory on whether an artist's stream popularity and its UCPS impact are in fact strongly correlated.

<sup>16</sup> Pedersen, Rasmus Rex - Denmark: "[A META STUDY OF USER-CENTRIC DISTRIBUTION FOR MUSIC STREAMING](#)", p. 14

<sup>17</sup> Pedersen, p. 13 and CNM 2021, p. 25-26

<sup>18</sup> Pedersen, p. 7 and p. 8-11 and CNM 2021, p. 13+23

<sup>19</sup> CNM 2021, p. 22-23

<sup>20</sup> Pedersen, p. 7

<sup>21</sup> Pedersen, p. 7

<sup>22</sup> CNM 2021, p. 13 and 23

<sup>23</sup> In contrast to a "bottom-up" approach used for this study. See chapter "Aggregated visualization at artist profile level" in [PRO MUSIK 2022](#), p. 44

<sup>24</sup> Pedersen, S. 8

<sup>25</sup> Pedersen, S. 10

<sup>26</sup> CNM 2021, p. 24

<sup>27</sup> Digital Media Finland 2017, p. 9

<sup>28</sup> Pedersen, p. 13

<sup>29</sup> Haampland et al 2022, p. 17

<sup>30</sup> CNM 2021, p. 14

<sup>31</sup> Digital Media Finland 2017, p. 9



# COMPARISON OF METHODOLOGIES APPLIED



Previous research mostly agrees that UCPS **would potentially benefit major labels or distributors** slightly<sup>32-35</sup>. The exception is an early paper from *Clouds & Concerts Research Group* who reported a decline for most major labels<sup>36</sup>. The only source providing results for **catalog vs. frontline content** is the CNM, reporting an increase from 48.9% to 52.1% for catalog<sup>37</sup>.

A number of publications take a look at the **UCPS impact by genre**. Their results are pretty much aligned in terms of identifying “Rap”/“Hip Hop”/“Urban” as the Genre that would experience the biggest negative impact<sup>38-41</sup>. They also mostly agree that “Classical” and to a lesser extent “Blues” would likely benefit. Aside from these extremes however, the results for particular genres vary quite significantly. One prominent example being EDM, which could either see a decrease or increase in revenue, depending on the study. Overall, there seems to be **no clear picture of how or whether an artist’s genre relates to its UCPS impact**. In addition, a large portion of the overall consumption may be missing from such a top-level genre perspective. *Haampland et al* report “Other” as the largest genre, ahead of Pop and Urban, accounting for 25% of all streams<sup>42</sup>. The *University of Hamburg’s* study focuses on top genres and does not include the category “Other”<sup>43</sup>.

The methods described above mostly group artists based on certain categories instead of metrics. The only exception is the artist popularity view, which is based on the number of streams. **Metrics however, are generally better suited to identify the characteristics that are decisive** for whether an artist would benefit from UCPS or not.

<sup>32</sup> CNM 2021, p. 13

<sup>33</sup> CNM 2021, p. 23

<sup>34</sup> CNM 2021, p. 8

<sup>35</sup> Haampland 2022, p. 17

<sup>36</sup> Pedersen, p. 7

<sup>37</sup> CNM 2021, p. 22

<sup>38</sup> CNM 2021, p. 26

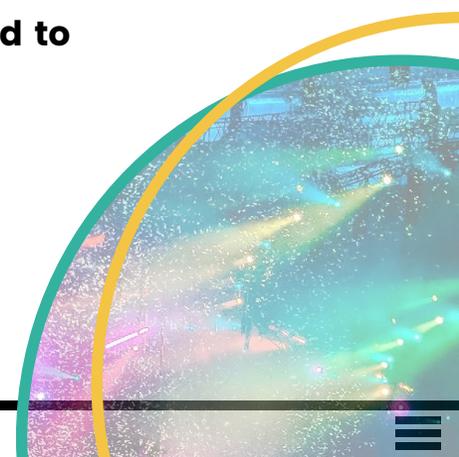
<sup>39</sup> Pedersen, p. 13

<sup>40</sup> University of Hamburg 2022, p. 16

<sup>41</sup> see Haampland et al 2022, p. 26

<sup>42</sup> see Haampland et al 2022, p. 16

<sup>43</sup> see University of Hamburg 2022, p. 16



# COMPARISON OF METHODOLOGIES APPLIED



## Grouping methods based on metrics

Haampland et al. refer to an analysis by Will Page and David Safir<sup>44</sup>, naming intensity and diversity as the two main factors determining an artist's UCPS impact:

***“The lower the intensity [...] (the lower the monthly number of streams) [of its users] and the less diverse its [users'] tastes are (the lower the number of different artists a subscriber is listening to [...]), the more favourable a user-centric payment system is for the artist.”<sup>45</sup>***

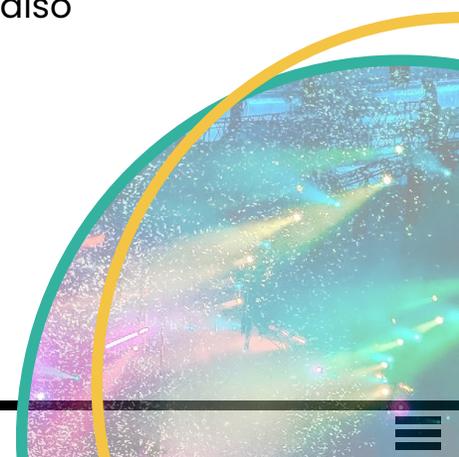
According to a recent analysis by MIDiA Research, an artist's UCPS impact is directly tied to the metric “share of superfans within an artist's audience”<sup>46</sup>. The larger the average share of super fans, the higher the average revenue under UCPS. MIDiA also observes that artists with an average of 914 “Streams per Fan” lose at least 75% in revenue, while artists with a more positive impact have a lower “Streams per Fan” value of 13<sup>47</sup> – suggesting that this metric might also affect individual UCPS impact.

<sup>44</sup> see Page and Safir 2019, p. 8

<sup>45</sup> Haampland et al 2022, p. 17-18 - for a regression model applying these metrics, they calculate an  $r^2$  of approximately 0.08

<sup>46</sup> MIDiA Research 2022, p. 18

<sup>47</sup> MIDiA Research 2022, p. 16



# COMPARISON OF METHODOLOGIES APPLIED



## Open Questions

Most existing research reports on the impact of UCPS for certain category-based groups of artists. However, **the reported impact values are aggregates or averages for a whole group of artists** that contain “winners” and “losers”. These papers do **not really explain why the impact can differ greatly for two specific artists within the same group**. For example, it is very likely that even the impact on any two rap artists can look very different.

The two exceptions that apply **metrics-based methods for grouping artists** are the papers from *Page* and *Safir* as well as *MIDiA Research*. However, their results are contradictory regarding the factors they identify as decisive for the impact. In both cases, there is no value provided for how high these factors’ correlation with the impact is.

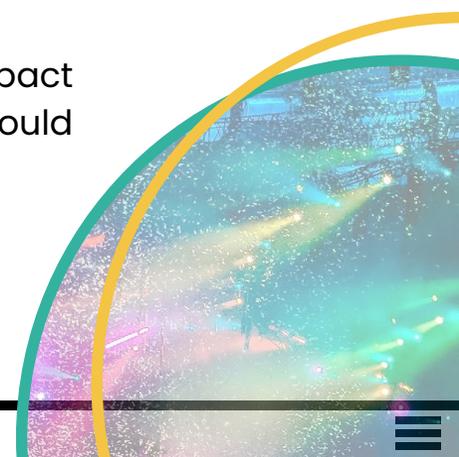
Furthermore, there are **few insights on the UCPS impact at the platform level** - i.e. across all artists on a specific streaming service. *Pedersen* calculates the proportion of benefiting artists (28.8%), but for the top 5,000 only<sup>48</sup>. *MIDiA Research* states that 56% of artists could benefit<sup>49</sup>. The *University of Hamburg* estimates a global total redistribution of 169 million Euros per year (for Spotify)<sup>50</sup>.

Finally, with UCPS, only one alternative payment model was examined in more detail. It is largely unclear what impact other possible options could have, how they compare to UCPS or what advantages and disadvantages they could present.

<sup>48</sup> Pedersen, p. 11

<sup>49</sup> MIDiA's results are based on artists that up to that point in time already participated in SoundCloud's UCPS model

<sup>50</sup> see University of Hamburg 2022, p. 16



# RESEARCH OBJECTIVES



In order to support the discourse regarding alternative payment models, this study aims to:

- analyze UCPS **impact at platform level**
- comprehensively explain the **dynamics** of UCPS **at the artist level**
- identify **artist characteristics that are crucial for a positive impact**
- provide a fact-based **foundation for discussion** within the industry
- Help **artists anticipate the impact on their individual income**

We emphasize again that UCPS is one possible solution. **Other alternative models** – considering Listening Time or the context of the stream, for example – **should be evaluated in future research.**

Furthermore, the **current definition of UCPS is the simplest version** of a User-Centric model. In practice, such a simple model could be enhanced with additional rules and exceptions.



# DATA SAMPLE

For this study, the streaming service *SoundCloud* provided real market data regarding user behavior on its platform.

## Artists (profiles)

The main limitation is that the available data does not cover all artist profiles consumed on *SoundCloud*. Rather, the data only relates to artists participating in *SoundCloud's Fan-Powered Royalties* program<sup>51</sup>. Altogether, the data set contained about **50,300** artist profiles.

## Time frame

Six months of the year 2022 (May through October) were considered. The comparison of different billing periods is important because there can be deviations in consumer behavior from one month to the other, which could affect the impact of a payment model.

## Users

Since the data excerpt only refers to artist profiles participating in *Fan-Powered Royalties*, the data set only contains users who have consumed music from these artist profiles. The number of users varies by month and country. Overall, the streaming behavior of about **1.5 million users** was included in the analysis.

## Countries

In total, **eighteen countries** were analyzed, with the largest markets being: Great Britain, Germany, Australia, Canada and France.

It is important to note that while the scope of the data limits the ability to generalize quantified results<sup>52</sup>, it does not affect the insights regarding the factors influencing UCPS impact at the artist profile level. The respective formula is universally valid and therefore does not depend on the representativeness of the dataset.

<sup>51</sup> Fan Powered Royalties is a UCPS model that was partially implemented by SoundCloud in April 2021. More info available at <https://help.soundcloud.com/hc/en-us/articles/1260801306810-Fan-powered-Royalties-FAQs>

<sup>52</sup> like the overall redistribution or the share of gaining artists on other streaming services.



## DATA FORMAT

| Column Name            | Format                  | Examples                         | Description                                      |
|------------------------|-------------------------|----------------------------------|--|
| Month and Year         | YYYYMM                  | 202105                           | month and year of timeframe                      |
| Country                | text - ISO-3166 ALPHA 2 | DE, FR                           | country code                                     |
| User ID (anonymized)   | text                    | e2a4adc1b8a9d0704800c0e7008975b7 | anonymized unique identifier for soundcloud user |
| Artist ID (anonymized) | text                    | 66887bb237db2cba633e580b5777d5ff | anonymized unique artist identifier              |
| Stream Count           | int                     | 24300                            | SUM of streams                                   |
| Subscription Fee       | int                     | 5.67                             | monetary amount paid by user                     |



# METHODS FOR CALCULATION



## An Artist Profile's Pro-Rata revenue share (RS)

For this study, results are calculated at the artist profile level rather than at the track level. An artist profile's income results from the sum of its tracks' income, so that in the initial Pro-Rata formula<sup>53</sup>, track  $t$  is exchanged for artist profile  $a$ .

Our analysis focuses on the impact on an artist profile's revenue share rather than the monetary value of that change. Therefore, we can apply a simplified formula where an artist profile's Pro-Rata revenue share ( $RS\_MCPS_a$ ) can be calculated by simply dividing the artist profile's streams by the total streams on the streaming service.

$$R_a = \frac{S_a}{S_m} \times R_m$$

$$RS\_MCPS_a = \frac{S_a}{S_m}$$

Where

$R_a$  = revenue of artist  $a$

$S_a$  = total streams of artist  $a$

$S_m$  = total streams at market level  
(across all tracks, artists and users on the streaming service)

$R_m$  = total revenue at market level (across all users on the streaming service)

RS = revenue share

MCPS = market centric payment system = pro-rata

<sup>53</sup> see [Formal Calculation of Pro-Rata](#)



# METHODS FOR CALCULATION



## An Artist Profile's Pro-Rata revenue share - EXAMPLE

$$RS_{MCPS}_a = \frac{S_a}{S_m}$$

In this simplified example, there are 160 total streams on the streaming service. Artist profile A has 30 total streams which constitutes a stream share of 18.75%, resulting in it receiving 18.75% of total revenue accordingly. Artist profile B would be entitled to 12.5% of all revenue.

| Artist Profile      | User      | User Subscription Fee | Streams (>30 s) | User's total streams | Revenue              | RS_MCPS <sub>a</sub>            |
|---------------------|-----------|-----------------------|-----------------|----------------------|----------------------|---------------------------------|
| Artist Profile A    | User X    | €10                   | 10              | 40                   |                      |                                 |
| Artist Profile A    | User Y    | €5                    | 20              | 100                  |                      |                                 |
| Artist Profile A    | Total     |                       | 30              |                      | 0.1875 x €30 = €5.63 | 30/160 = 0.1875 = <b>18.75%</b> |
| Artist Profile B    | User X    | €10                   | 2               | 40                   |                      |                                 |
| Artist Profile B    | User Y    | €5                    | 12              | 100                  |                      |                                 |
| Artist Profile B    | User Z    | €15                   | 6               | 20                   |                      |                                 |
| Artist Profile B    | Total     |                       | 20              |                      | 0.125 x €30 = €3.75  | 20/160 = 0.125 = <b>12.5%</b>   |
| All Artist Profiles | All Users | €30                   |                 | 160                  |                      |                                 |



# METHODS FOR CALCULATION



## An Artist Profile's UCPS revenue share (RS)

For UCPS,  $t$  (for track) is also replaced by  $a$  (for artist profile). However, since the monetary value of an individual user's subscription fee ( $R_u$ ) plays a central role in a user-centric model, it needs to be included in the formula. An artist profile's revenue share under UCPS ( $RS\_UCPS_a$ ) is determined by its UCPS revenue divided by the total revenue on the streaming service ( $R_m$ ).

Note: In practice, the calculation the UCPS revenue share must somehow consider the fact that there are inactive users on the platform whose subscription fees need to be allocated among the artists, while no user-specific stream behavior is available<sup>55</sup>.

$$RS\_UCPS_a = \frac{\sum_{u=1}^n \frac{S_a^u}{S_m^u} \times R_u}{R_m}$$

Where

$n$  = overall number of users

$S_a^u$  = Streams for artist profile  $a$  by user  $u$

$S_m^u$  = Total ("market-level") Streams by user  $u$  (across all artist profiles)

$R_u$  = Revenue generated through an individual user (its subscription fee or associated advertising value)

$R_m$  = Total market-level revenue on the streaming service

<sup>55</sup> see [PRO MUSIK 2022](#), p. 33 for more on this



# METHODS FOR CALCULATION



## An Artist Profile's UCPS revenue share - EXAMPLE

$$RS_{UCPS}_a = \frac{\sum_{u=1}^n \frac{S_u^a}{S_m} \times R_u}{R_m}$$

For artist profile A, the result is  $\frac{10/40 \times \text{€}10 + 20/100 \times \text{€}5 (+0/20 \times \text{€}15)}{\text{€}30} = \frac{0.25 \times \text{€}10 + 0.2 \times \text{€}5 (+0 \times \text{€}15)}{\text{€}30} = \frac{\text{€}2.50 + \text{€}1 (+\text{€}0)}{\text{€}30} = 0.1166 = 11.66\%$

and for artist profile B:  $\frac{2/40 \times \text{€}10 + 12/100 \times \text{€}5 + 6/20 \times \text{€}15}{\text{€}30} = \frac{0.05 \times \text{€}10 + 0.12 \times \text{€}5 + 0.3 \times \text{€}15}{\text{€}30} = \frac{\text{€}0.50 + \text{€}0.60 + \text{€}4.5}{\text{€}30} = 0.1866 = 18.66\%$

| Artist Profile      | User      | User Subscription Fee | Streams (>30 s) | User's total streams | Revenue                       | RS_UCPS <sub>a</sub>                         |
|---------------------|-----------|-----------------------|-----------------|----------------------|-------------------------------|--|
| Artist Profile A    | User X    | €10                   | 10              | 40                   | 10/40 x €10 = €2.50           | 10/40 x €10 / €30 = 8.33%                    |
| Artist Profile A    | User Y    | €5                    | 20              | 100                  | 20/100 x €5 = €1              | 20/100 x €5 / €30 = 3.33%                    |
| Artist Profile A    | Total     |                       | 30              |                      | €2.50 + €1 = €3.50            | 8,33%+3,33% = €3.50 / €30 = <b>11.66%</b>    |
| Artist Profile B    | User X    | €10                   | 2               | 40                   | 2/40 x €10 = €0.50            | 2/40 x €10 / €30 = 1.66%                     |
| Artist Profile B    | User Y    | €5                    | 12              | 100                  | 12/100 x €5 = €0.60           | 12/100 x €5 / €30 = 2%                       |
| Artist Profile B    | User Z    | €15                   | 6               | 20                   | 6/20 x €15 = €4.50            | 6/20 x €15 / €30 = 15%                       |
| Artist Profile B    | Total     |                       | 20              |                      | €0.50 + €0.60 + €4.50 = €5.60 | 1.66% + 2% + 15% = €5.60/€30 = <b>18.66%</b> |
| All Artist Profiles | All Users | €30                   |                 | 160                  |                               |  |



# METHODS FOR CALCULATION



## UCPS Impact: percentage change per artist profile

UCPS impact for an artist profile is expressed as the percentage change regarding its revenue share *RS*, calculated by the formula:

$$\frac{RS_{UCPS}}{RS_{MCPS}} - 1 = UCPS \text{ Impact}$$

### EXAMPLE

| Artist Profile   | Pro-Rata Share | UCPS Share | Calculation         | Change in % = UCPS Impact |
|------------------|----------------|------------|---------------------|---------------------------|
| Artist Profile A | 18.75%         | 11.66%     | $(11.66/18.75) - 1$ | -38.2%                    |
| Artist Profile B | 12.5%          | 18.66%     | $(18.66/12.5) - 1$  | +49.3%                    |



# METHODS FOR CALCULATION



## Overall Redistribution

The first metric regarding impact at platform-level is **overall redistribution (OR)**, indicating what percentage of total revenue would be reallocated from certain artist profiles to others.

It is calculated by adding up the artist profiles' absolute revenue changes, divided by the total revenue on the streaming service ( $R_m$ ) and then divided by two.

$$OR = \frac{\sum_{a=1}^n \text{abs}(RS_{UCPS} - RS_{MCPS})}{2 \times R_m}$$

## Benefitting Artist Profile Share

The second platform-level metric concerns the percentage of all artist profiles that would benefit financially from switching to UCPS.

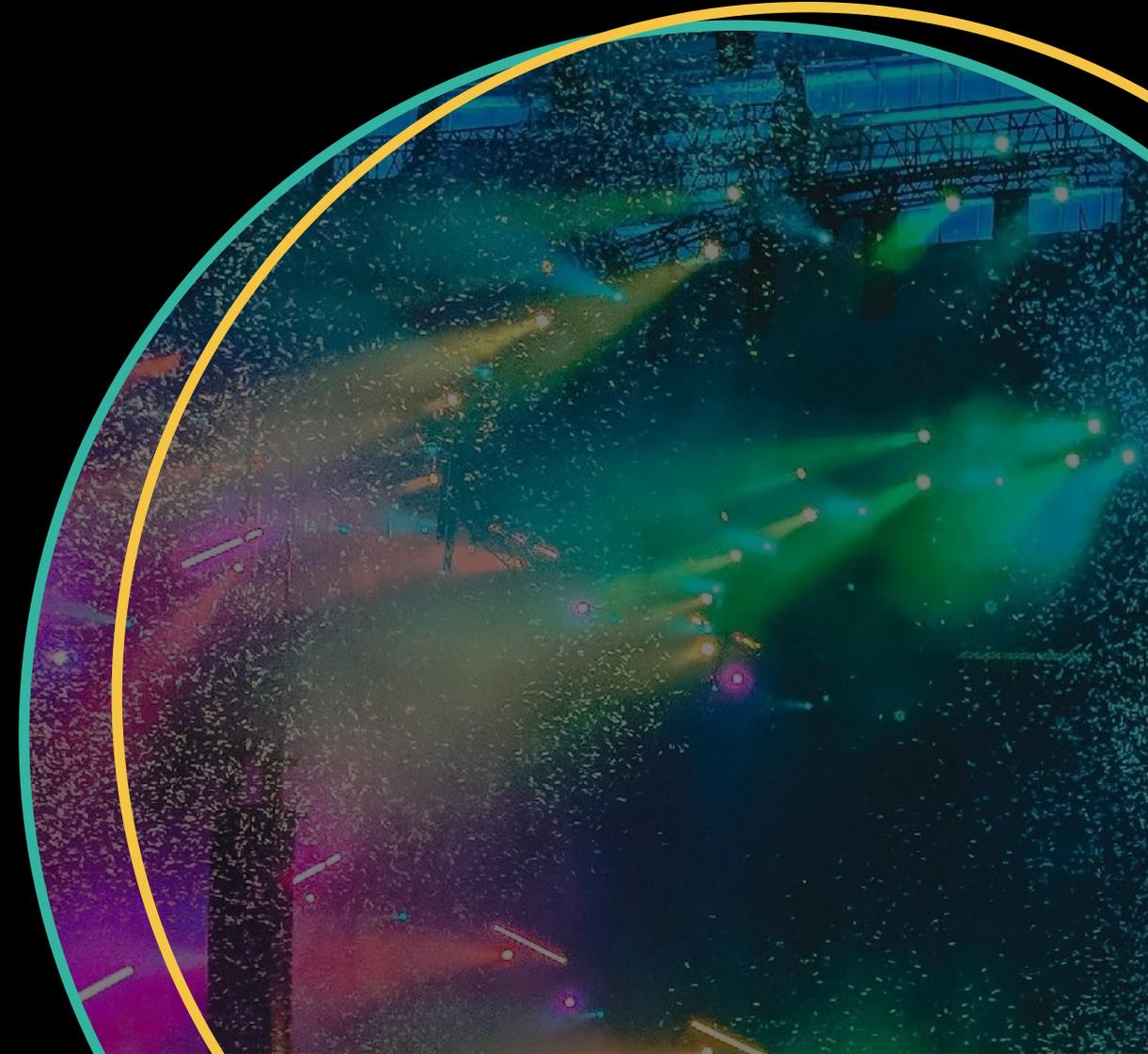
This is calculated by counting the artist profiles with a positive impact ( $>0$ ) and then dividing that number by the total number of artist profiles on a streaming service. In the example below, 50% of artist profiles would benefit from the new payment model.

$$\text{Benefitting Artist Profile Share} = \frac{500,000 \text{ benefitting artist profiles}}{1,000,000 \text{ total artist profiles}} = 0.5$$



# RESULTS

## Platform Level Analysis



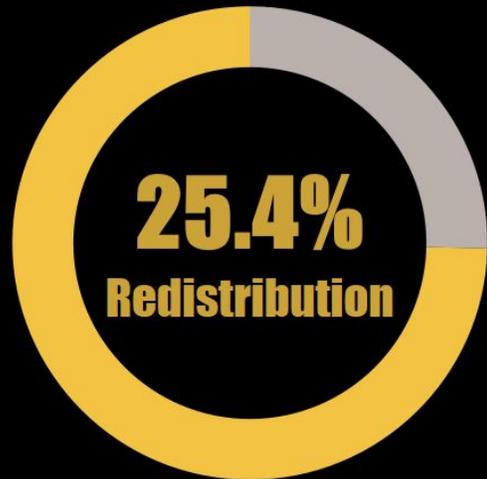
# RESULTS

## Overall Redistribution

Our analysis suggests that **about a quarter of all revenue could be redistributed** from certain artist profiles to others.

The value depends on the country and time period, with the **average across top countries and all months analyzed being 25.4%**<sup>56</sup>.

The redistribution rate for individual countries ranges between 20.5% (GB) and 43.2% (PT)<sup>57</sup>.



### Redistribution for UCPS

Proportion of the overall revenue pie that would be allocated from certain artist profiles to others.

Average value across top countries and months analyzed (GB, DE, CA, AU, FR)



### Redistribution per Country and Month for top countries and last 3 months

|           | Aug/2022 | Sep/2022 | Oct/2022 |
|-----------|----------|----------|----------|
| GB        | 20.7%    | 19.9%    | 19.7%    |
| AU        | 26.0%    | 25.3%    | 24.3%    |
| CA        | 26.2%    | 27.2%    | 27.1%    |
| DE        | 25.7%    | 25.7%    | 24.4%    |
| FR        | 28.8%    | 28.8%    | 28.6%    |
| Month AVG | 25.4%    | 25.4%    | 24.8%    |

<sup>56</sup> Details regarding the calculation of the overall redistribution can be found [here](#).

<sup>57</sup> Country average across all months analyzed.



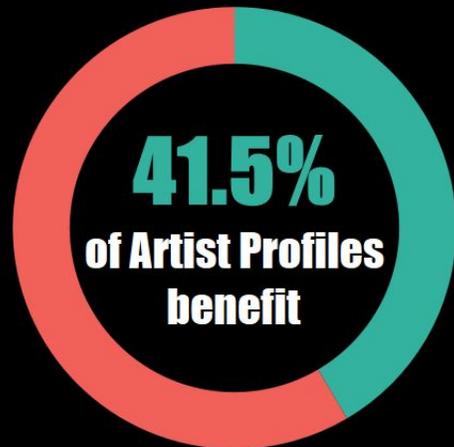
# RESULTS

## Benefitting Artist Profile Share

Our calculation shows that **close to half of all artist profiles could see their income increase with UCPS**. Across the top countries, the **benefitting artist profile share is 41.5% on average**<sup>58</sup>.

The lowest value was calculated for New Zealand (monthly average of 32%), while France recorded the highest, where 44% of artist profiles would see their revenue increase.

What percentage of benefitting artists would be reasonable, whether it should be more than 50%, for example, is an open question. At this point, it is unclear whether the share of benefitting artist profiles matters, when assessing a payment model. In any case, it is more than just a small group that would be positively affected.



**Benefitting Artist Profile Share for UCPS**  
Share of all artist profiles that increase their revenue.

Average value across top countries and months analyzed (GB, DE, CA, AU, FR)



**Benefitting Artist Profile Share**  
per Country and Month  
for top countries and last 3 months

|    | Aug/2022 |     | Sep/2022 |     | Oct/2022 |     |
|----|----------|-----|----------|-----|----------|-----|
| DE | 43%      | 57% | 44%      | 56% | 43%      | 57% |
| FR | 43%      | 57% | 44%      | 56% | 44%      | 56% |
| GB | 40%      | 60% | 40%      | 60% | 40%      | 60% |
| AU | 38%      | 62% | 38%      | 62% | 38%      | 62% |
| CA | 42%      | 58% | 42%      | 58% | 43%      | 57% |

<sup>58</sup> More on the calculation can be found [here](#).



# RESULTS

## Platform Level Analysis

Overall, the analysis at platform level suggests that UCPS impact would **not be marginal**.

Rather, there would be a noticeable and arguably significant outcome both in terms of

- **the overall amount of revenue being redistributed as well as**
- **the share of artist profiles being (positively) affected.**



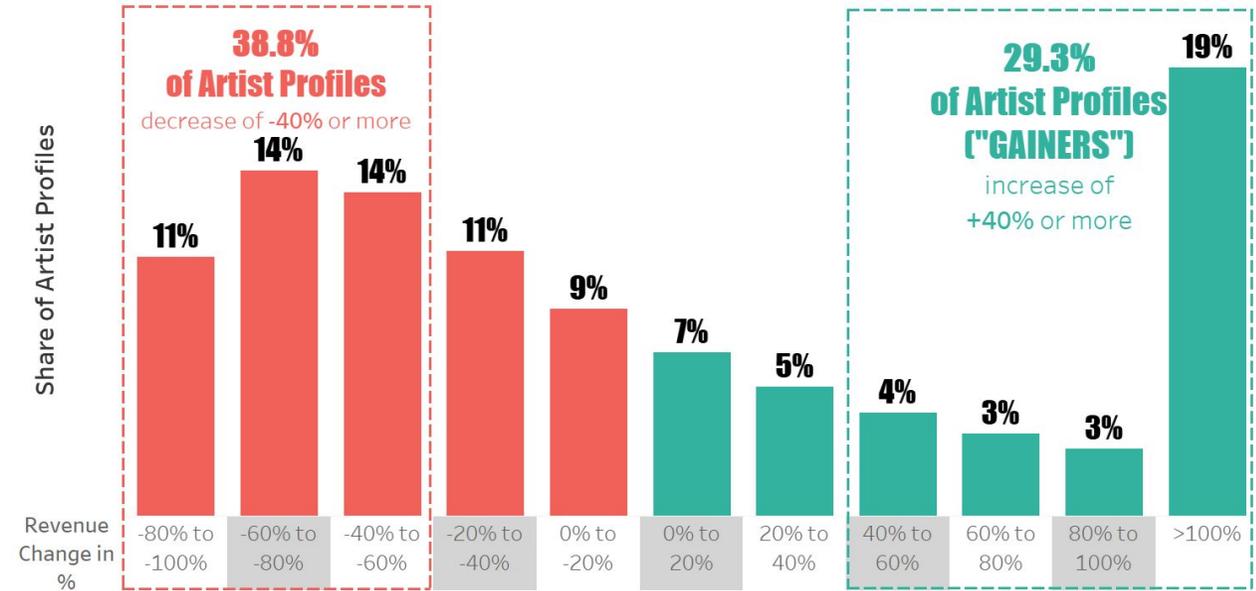
# RESULTS

## Impact Level Analysis

But how significant would the impact be for individual artist profiles? For the purpose of this study, a **significant impact is defined as a revenue change (positive or negative) of at least 40%**. How many artist profiles would see a gain (or loss) of that magnitude? To address this, artist profiles are grouped by percentage change to their income.

As the graph to the right illustrates, **nearly one in five artist profiles could at least double their revenue under UCPS**. The average value across top countries and months is 19%.

**Almost one in three artist profiles (29.3%) would experience a gain of at least +40%**. Going forward, artist profiles with such a significant gain will be referred to as **"Gainers"**. On the other hand, more than a third of artist profiles **(38.8%) could see their income decrease by 40% or more**.



## Impact Level Groups

Share of Artist Profiles that experience a certain level of revenue change  
(Average value across top countries and months analyzed)



# RESULTS

## Impact Level Analysis

In summary, UCPS could lead to a significant percentage change for many artist profiles. But **would these changes be "relevant" in absolute figures as well?** Or are the Gainers mostly "small" artist profiles, whose revenue uplift may seem high in percentage terms, but in absolute terms amount to only a few Euros?

To answer this, the "relevance" of artist profiles is first measured by their streams. **The Gainers – i.e. an average 29% of all artist profiles<sup>59</sup> – generate 18.8% of all streams.**

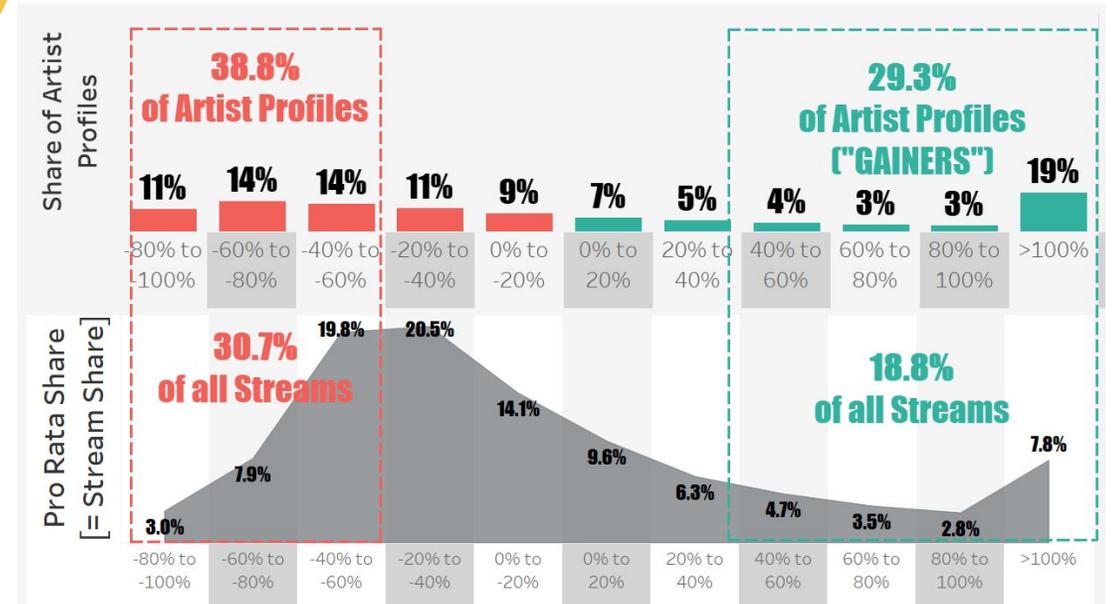
In comparison, 39% of all artist profiles experiencing significant losses<sup>60</sup> represent 30.7% of all streams on average.

Thus, when measured in streams, the Gainers are on average 19% "smaller" than artist profiles with significant losses. However, **not all Gainers are "small": as a group, they account for about almost a fifth of all streams.**

In addition, **the assessment of an artist profiles' relevance should arguably consider other criteria** as well. After all, the idea behind UCPS is that an artist profile's (financial) value should explicitly not be measured in streams alone.

<sup>59</sup> the four bars to the right of the graph together

<sup>60</sup> the three bars to the left of the graph together



## Relevance of "Gainers"

measured in Share of Total Streams  
Average across top countries and months



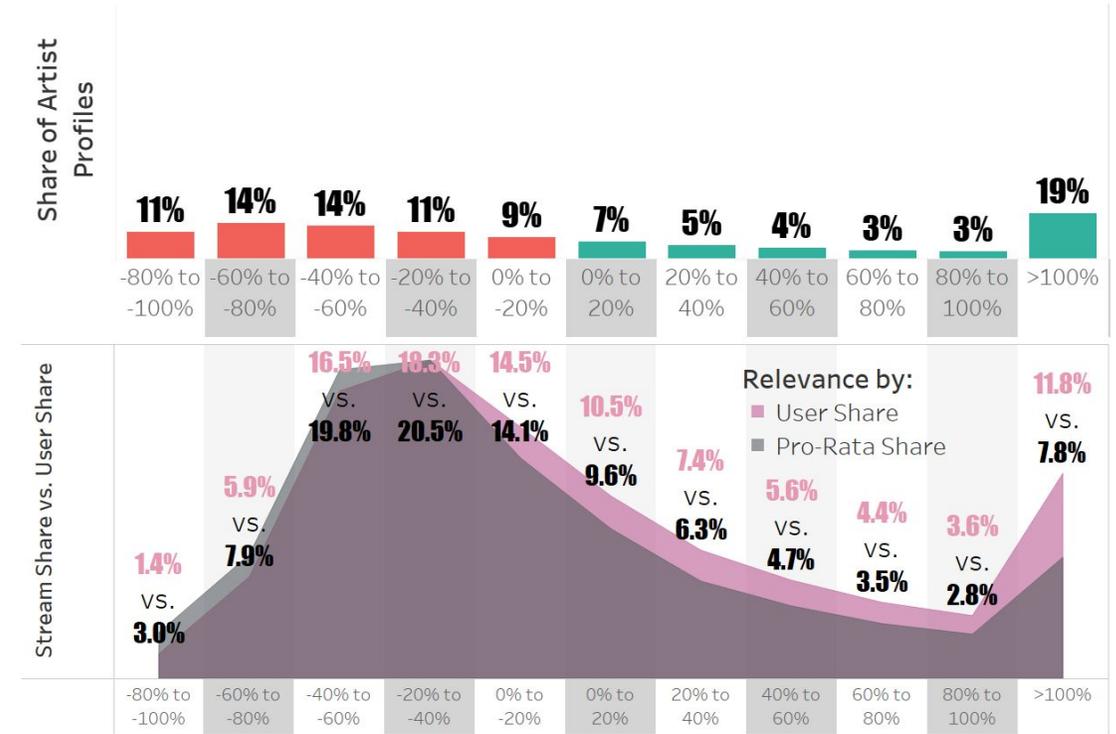
# RESULTS

## Impact Level Analysis

For example, in addition to streams, the number of users that consume an artist profile plays an important role for how the revenue is distributed under UCPS. To this regard, the figure on the right demonstrates that **while the Gainers are less relevant in terms of streams, their relevance concerning users reached is higher.**

The Gainers have an average user share of 25.4%<sup>61</sup>, which means that they reach more users than the artist profiles with significant losses (23.9%).

So while the **Gainers are** 19% "smaller" in terms of streams, they are actually an average **40% "bigger"** when measured in users reached.



## Relevance of "Gainers"

measured in User Share vs. Stream Share  
Average across top countries and months

<sup>61</sup> In order to support the comparison of stream share and user share, an artist profile's user share is calculated by dividing its user count by the sum of all artist profiles' users - i.e. not in relation to the unique users on the streaming service. Thereby, the sum of user shares amounts to 100% and is better comparable to the artist profiles' respective stream shares



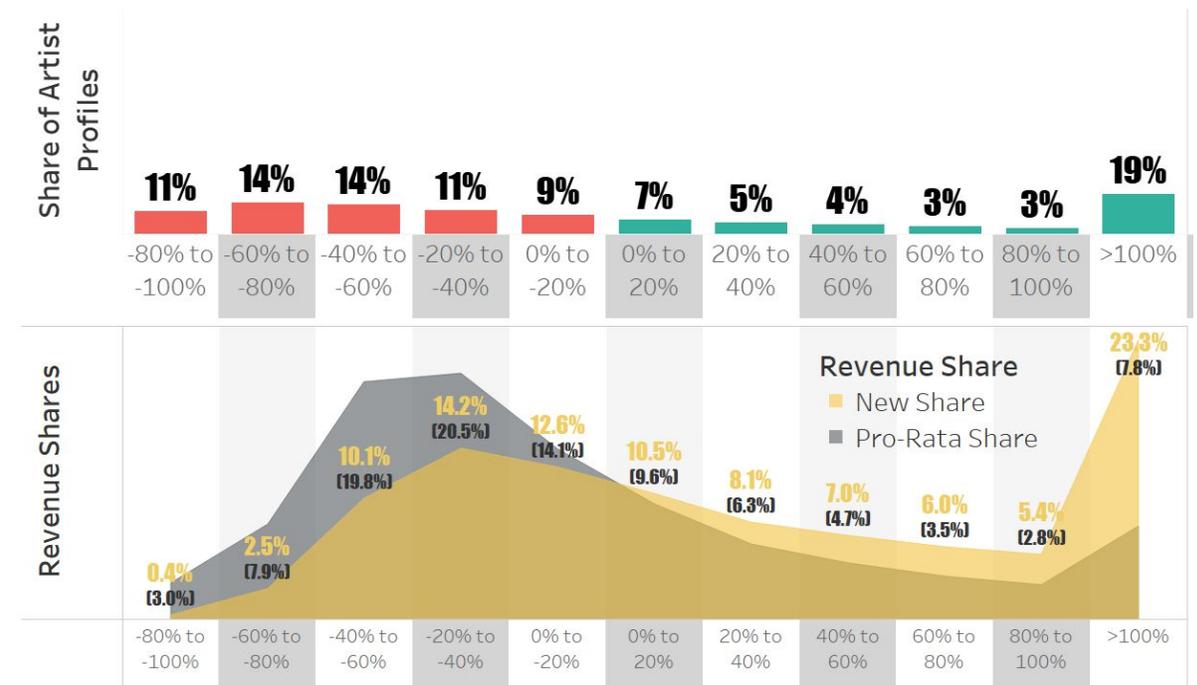
# RESULTS

## Impact Level Analysis

As a consequence, the gainers record relevant gains in absolute terms as well. The figure to the right shows that **artist profiles with an increase of at least 100% alone would additionally receive more than 15% all streaming revenue.**

Their share of total revenue would increase from 7.8% under pro rata (gray area) to 23.3% under UCPS (yellow area).

Under UCPS, **all Gainers** (the four deciles on the right) combined **would now receive 41.6% of total revenue** instead of 18.8% under pro-rata, resulting in **more than one fifth of all revenue in additional income (22.8%)**.



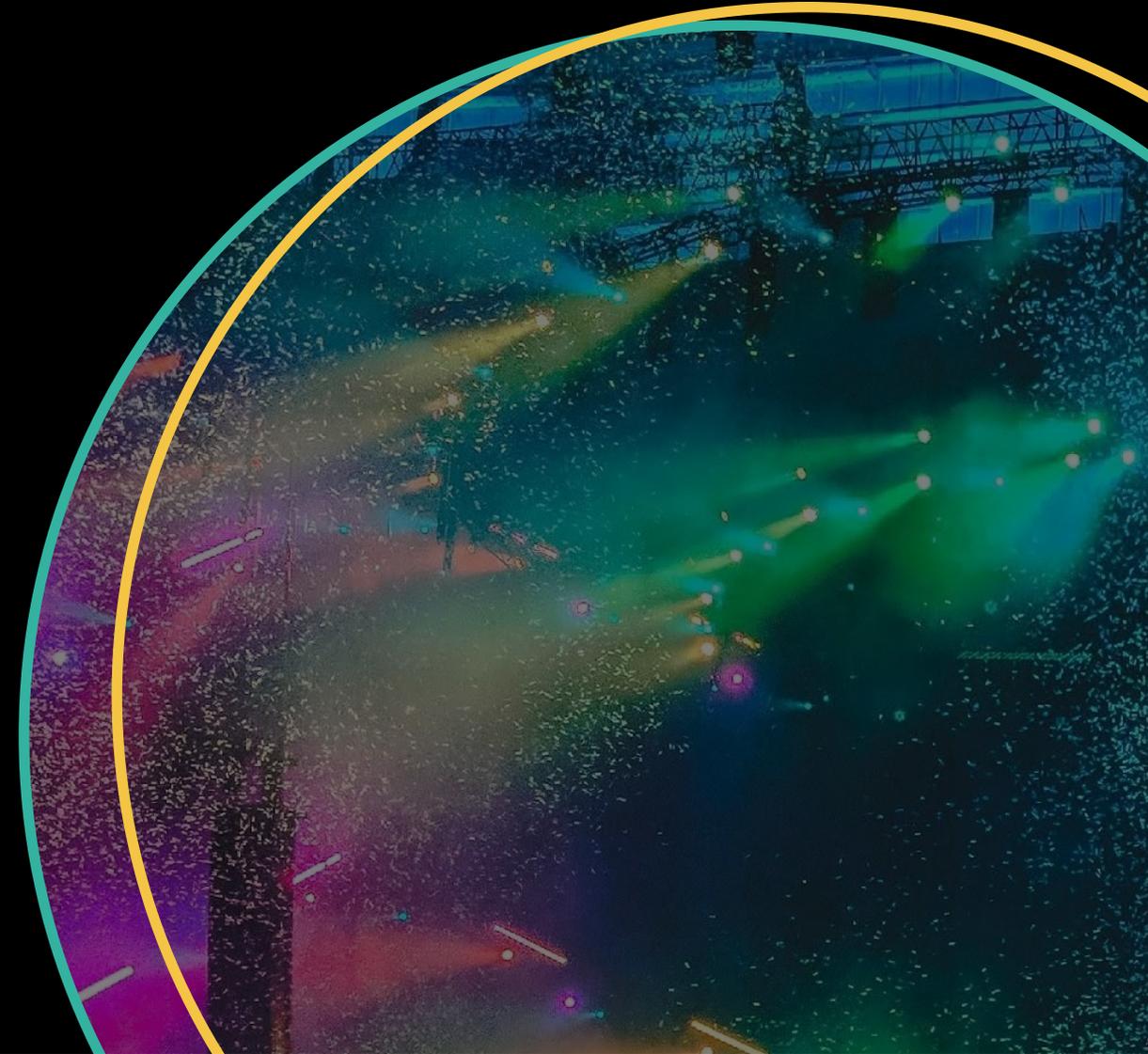
## Money Flow

Redistribution from Pro-Rata to UCPS  
average across top countries and months



# RESULTS

UCPS impact on  
individual Artist Profiles



# ARTIST PROFILE LEVEL IMPACT

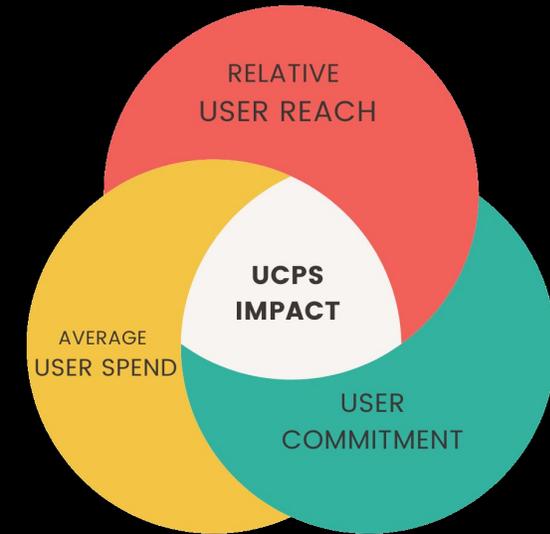


An assessment of whether the impact is “favorable” or “helpful” might ultimately come down to how UCPS effectively works on the artist profile level, the dynamics it induces on individual artists, creative and business processes and the types of achievements that artists are rewarded for under UCPS.

The aim of this study is to **clearly determine which factors are decisive for the impact on an individual artist profile**. These decisive characteristics were derived mathematically<sup>62</sup>. By conclusively describing the types of artist profiles rewarded by UCPS we hope to support the reader in forming an opinion on whether they consider this set of incentives “favorable”.

We were able to identify three factors that determine the UCPS impact on an individual artist profile:

- an artist profile’s **relative User Reach**
- its average **User Commitment**
- its users’ relative **Average User Spend**



None of these three factors alone is decisive for the UCPS impact. In combination, however, they explain with ~97% accuracy whether and to what extent an artist profile would benefit or not.

**When an artist profile has positive scores on all three factors, they are certain to increase their revenue under UCPS.** On the other hand, a relatively poor value for one factor can be compensated for by scoring well on the other characteristics.

<sup>62</sup> see chapters “Derivation of relevant factors” and “Formula for UCPS-Impact at artist profile level” in [PRO MUSIK 2022](#), p. 41-43



# FACTOR A

## relative User Reach (UR)

An artist profile's relative User Reach indicates how many users it reaches in relation to its streams. **The higher an artist profile's relative User Reach UR<sup>63</sup>, the more positive the UCPS impact tends to be.**

### Example

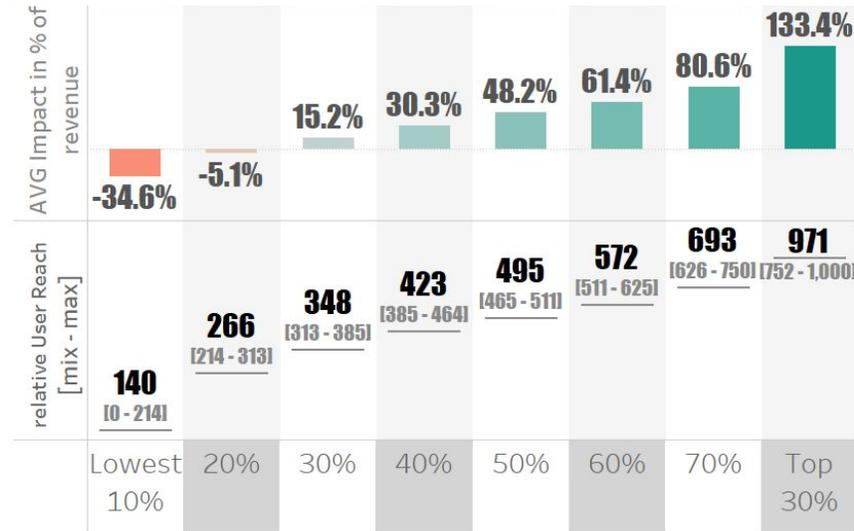
An artist profile with 10,000 that are generated by only ten listeners has a relatively low User Reach of 10 (users per 10k streams). In comparison, another profile with 10,000 streams generated by 400 users has a UR of 400 (users per 10k streams).

Under Pro-Rata, both profiles would receive the same revenue, as only the number of streams is rewarded. UCPS would reward the second profile for reaching more users.

The graph visualizes this relationship between relative User Reach and average UCPS impact. Artist profiles are grouped into deciles, where each column contains exactly 10% of all profiles\*.

The ten percent of artist profiles with a relatively high User Reach of 693 ("70%"-column) would see their revenues increase by 81% on average. At the opposite end of the scale, the artist profiles with the lowest average User Reach (140) would lose nearly 35% of their income on average.

One should keep in mind that the UCPS impact is not exclusively determined by User Reach, but rather by all three decisive factors combined<sup>64</sup>.



### Impact by User Reach Decile (10% of all Artist Profiles per column\*)

UR = Users per 1000 streams

values are calculated across individual Artist Profile / Country / Month combinations not aggregated on the country and month level

\* in this case, the three highest deciles are grouped together, since >20% of all profiles have a UR of exactly 1000.

<sup>63</sup> Whether a certain User Reach is (relatively) high or low therefore depends on the user reach of all other artist profiles on a streaming service.

<sup>64</sup> The quality measure  $r^2$  for the correlation between relative User Reach and the UCPS impact (based on our SoundCloud data sample) is below 0.01. For the three decisive factors - relative User Reach, User Commitment and Average User Spend - combined,  $r^2$  is 0.97 (on average for top countries and October 2022).



# FACTOR A

## relative User Reach (UR)

Another trend emerges regarding the *Share of Benefitting artist profiles* per group: the lower the average relative User Reach, the higher the proportion of those positively impacted by UCPS (see bar chart on the top of the graph)<sup>65</sup>.

It is important to bare in mind that the average User Reach values at the bottom of the graph are specific to the dataset analyzed and therefore represent consumption only for a subset of SoundCloud. On other streaming services, relative User Reach levels can be higher (or lower).

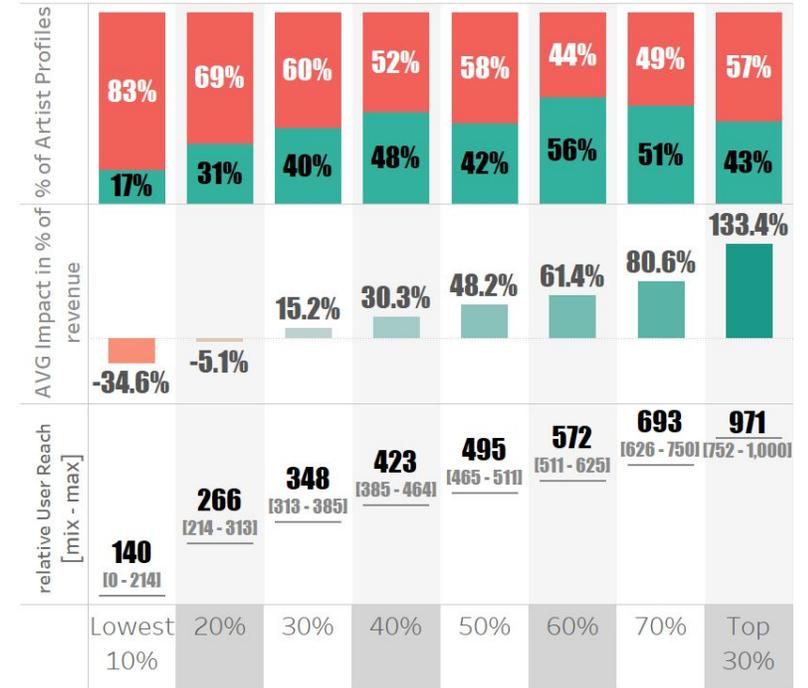
However, the results highlight great differences between artist profiles, with a number of them generating hundreds or thousands of streams per user (when UR <1).

Despite the limitations, the graph on the right provides insight into the relationship of User Reach and the UCPS impact. Unlike the specific values presented to the right, the underlying logic of this relationship applies to any other streaming service as well.

To help the reader familiarize themselves with how relative User Reach influences an artist's income, we provide an interactive [UCPS Impact Simulator](#) on our website<sup>66</sup>.

<sup>65</sup> The trend is less visible for groups that include round UR values like 1000, 750 or 500. These values are typically seen for artist profiles with low stream counts, whose UCPS impact is more heavily influenced by User Commitment and/or AVG User Spend, rather than their relative User Reach.

<sup>66</sup> The Impact Simulator lets you input different values for all three decisive factors and displays how the UCPS impact would change in response, making the logic of UCPS more tangible.



### Impact by User Reach Decile (10% of all Artist Profiles per column)

UR = Users per 1000 streams

values are calculated across individual Artist Profile / Country / Month combinations  
not aggregated on the country and month level



# FACTOR A

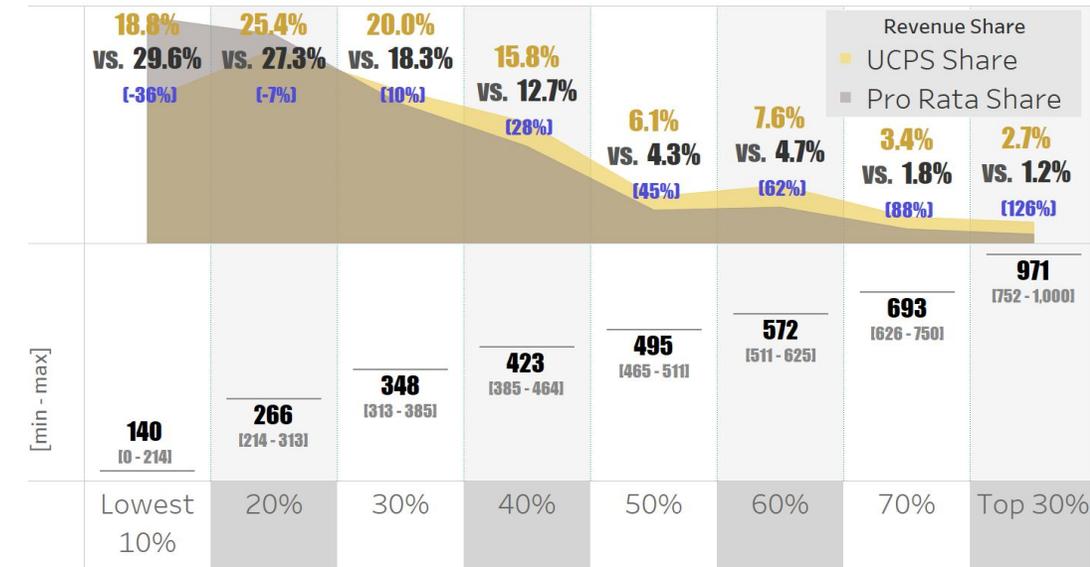
## relative User Reach (UR)

### Visualizing the “direction” of UCPS impact

The figure to the right illustrates how, in comparison with pro-rata (grey area), UCPS reallocates revenue from artist profiles with low relative User Reach to those with higher User Reach.

For example, the revenue share for artist profiles with the lowest relative User Reach (the decile furthest to the left) decreases from 29.6% under pro-rata to 18.8% under UCPS (yellow area). This group would lose 36% of their income on aggregate.

That revenue (along with the revenue losses of decile “20%”) would instead be allocated to artist profiles with a higher relative User Reach.



### Direction of Impact

How UCPS reallocates income based on [relative User Reach](#) Across Top Countries and months



# FACTOR B

## Average User Commitment (UC)

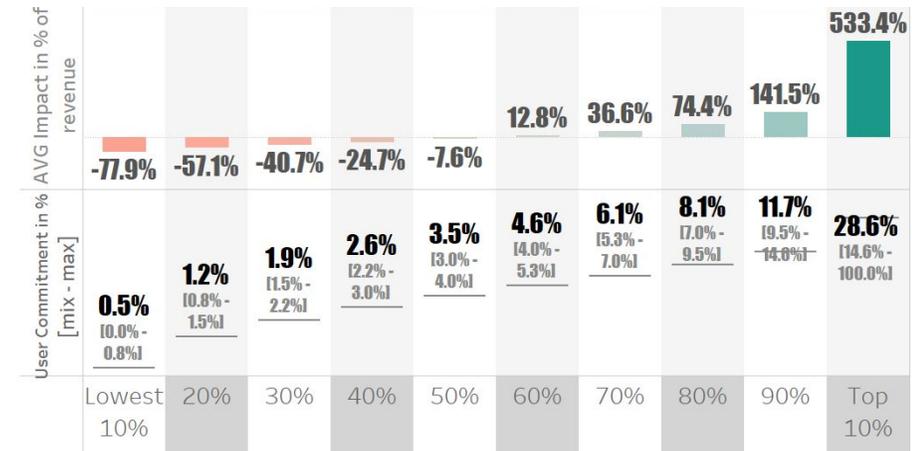
An artist profile's User Commitment indicates how "relevant" its music was to a specific user, in relation to other artist profiles that this user listened to. High commitment means that a user dedicated a large proportion of his/her streams to a certain artist profile. The average User Commitment is calculated across all users of a particular artist profile. **The higher the average User Commitment of an artist profile, the more positive the UCPS impact tends to be.**

### Example

If user X generates 100 streams and 10 of them are spent listening to artist profile A, then A's commitment from that user is 10% (10/100). If by contrast, user Y streams artist profile B 100 times, but otherwise does not listen to any other artist profiles, its commitment towards B is 100%.

The graph visualizes how the artist profiles' User Commitments and their UCPS impact relate. The ten percent of all artist profiles with the highest Commitment account for more than a quarter (28.6%) of their users' consumption on average and would see an average revenue increase above 500%.

Those with the lowest User Commitment are responsible for just 0.5% of their users' streams, meaning that more than 99% of their users' consumption is dedicated to other artist profiles. For this group, UCPS would result in a revenue decrease of almost 80% on average.



### Impact by User Commitment Decile (10% of all Artist Profiles per column)

values are calculated across individual Artist Profile / Country / Month combinations not aggregated on the country and month level



# FACTOR B

## Average User Commitment (UC)

A look at the Share of Benefitting artist profiles shows the link between User Commitment and the impact. In groups with high User Commitment, many artist profiles would benefit from UCPS. **The 20% of artist profiles with the lowest values would nearly all lose revenue.** By contrast, the **30% of artist profiles with the highest commitment would benefit in more than 70% of cases.**

The data shows a very strong link between User Commitment and individual UCPS impact, making it the most relevant of the three decisive factors. What the graph highlights as well, is the **extent of variation between artist profiles**: the best performing artist profiles have an average User Commitment that is **more than 50 times higher than the profiles with the lowest values.**

The interactive [UCPS Impact Simulator](#) on our website<sup>67</sup> is designed to help the reader familiarize themselves with how User Commitment influences an artist's income.



### Impact by User Commitment Decile (10% of all Artist Profiles per column)

values are calculated across individual Artist Profile / Country / Month combinations not aggregated on the country and month level

<sup>67</sup> The Impact Simulator lets you input different values for all three decisive factors and displays how the UCPS impact would change in response, making the logic of UCPS more tangible.



# FACTOR B

## Average User Commitment (UC)

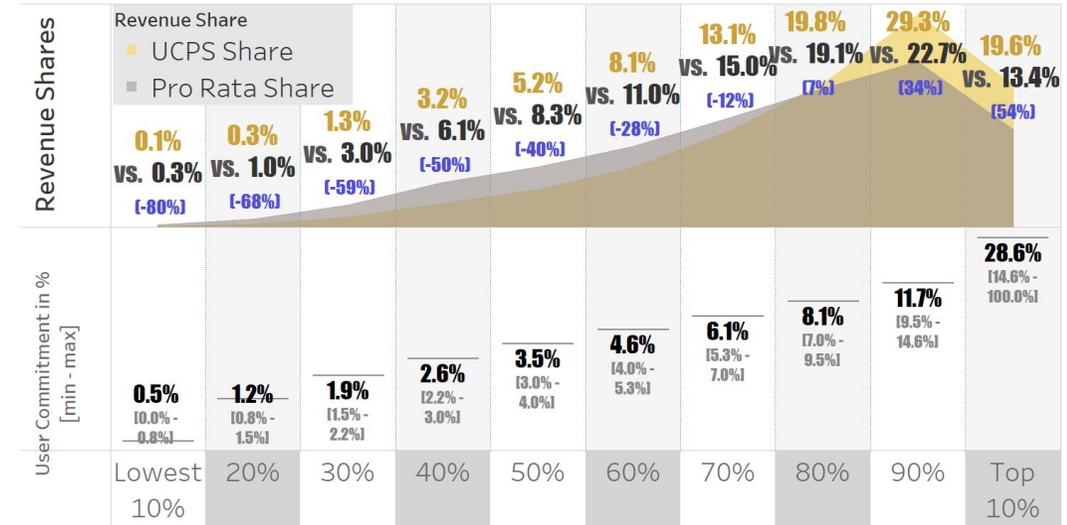
### Visualizing the “direction” of UCPS impact

The results illustrate how – in comparison to pro rata (grey area) – **UCPS (yellow area) would shift income from artist profiles with low User Commitment to those with higher values.**

For example, artist profiles with medium User Commitment (the deciles “50%” and “60%”) would decrease from a revenue share of 19.3% to 13.3%. By contrast, the artist profiles with the highest User Commitment (deciles “90%” and “Top 10%”) would go from a third (36.1%) to receiving almost half (48.9%) of total revenue.

The new incentive set by UCPS becomes clear when comparing the “Top 10%” of artist profiles to those with a moderate commitment (“60%” decile). Both groups have a comparable number of streams and receive about the same income under Pro-Rata (13.4% vs. 11.0%, see gray area). The “Top 10%” however, are – in relative terms – more relevant to their users: They account for a quarter of their users’ consumption (28.6%), whereas the users of the “60%” artist decile dedicate 95.4% of their streams to other artist profiles (100% - 4.6%).

UCPS would reward these “Top 10%” artist profiles for that, now allocating 19.6% of total revenue to them, compared to only 8.1% for the “60%” decile.



### Direction of Impact

How UCPS reallocates income based on **User Commitment in %** Across Top Countries and months



# FACTOR C

## average User Spend (US)

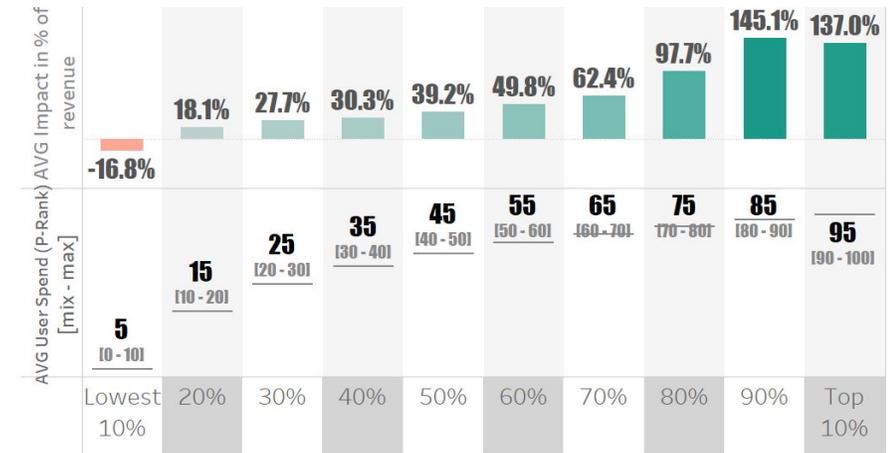
The third decisive factor is related to the amount of money an artist profile's users contribute to the system. An artist profile's individual UCPS impact depends on the average User Spend across its users. **The higher the average User Spend of an artist profile, the more positive its UCPS impact tends to be.**

### Example

If user X pays €5 for the subscription and listens to artist A 20 times – without listening to any other artist – then A would receive 5 Euros<sup>68</sup>. However, if user Y pays €10 and listens to artist B 10 times – without listening to any other artist – artist B would receive twice as much revenue (€10) as artist A.

Under Pro-Rata, the subscription fee paid by users is not accounted for, so that currently, artist A would receive twice as much income as B (20 vs. 10 streams).

The graph visualizes the relationship between an artist profile's US and their UCPS outcome: the higher the average spend<sup>69</sup>, the more positive the impact. The 20% of profiles with the highest paying users would more than double their income on average.



### Impact by average User Spend Decile (10% of all Artist Profiles per column)

values are calculated across individual Artist Profile / Country / Month combinations not aggregated on the country and month level

<sup>68</sup> This is a simplified calculation: in reality the artist payout – what is paid to the artist's label or distributor – would amount to whatever remains after deducting tax and other costs.

<sup>69</sup> The average User Spend is displayed as percentile rank instead of monetary values.



# FACTOR C

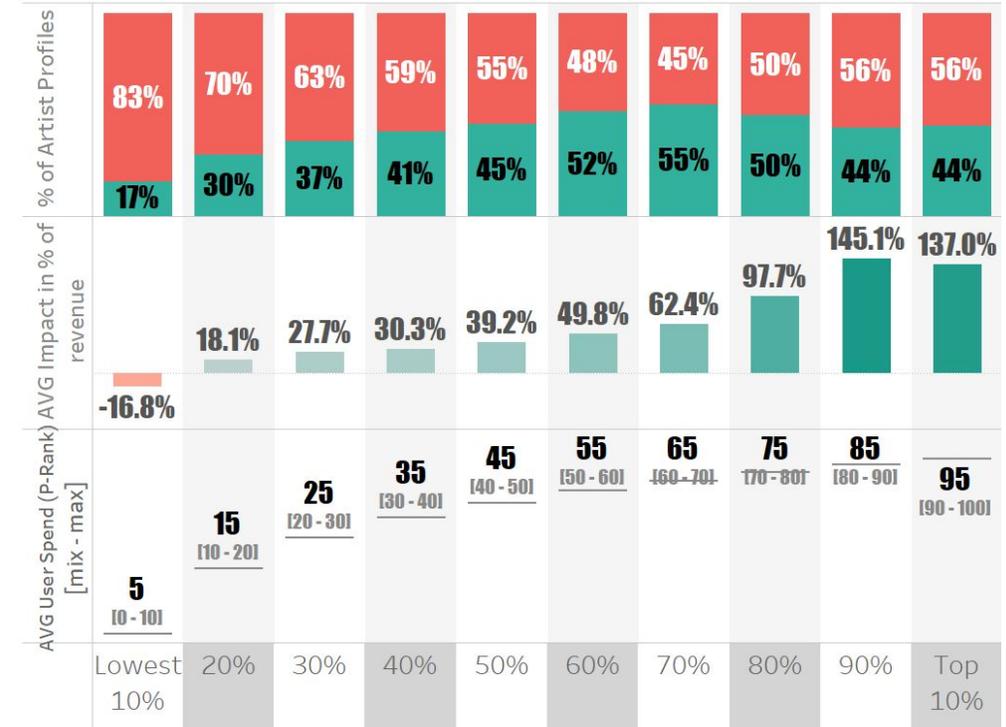
## average User Spend (US)

Regarding the share of benefitting artist profiles, the link between average User Spend and UCPS impact is visible, but less pronounced: for the 30% of artist profiles with the lowest payings users, a clear majority would see their income decrease. Profiles with moderate subscription values have a higher chance of benefiting from UCPS.

The top 30% of profiles do not follow this trend: a majority of them would see a decrease. They do however see high average gains, meaning that those who gain do so at a significant level.

This is because - in our dataset - artist profiles with high average User Spend also had few users and streams (see next page). In such cases, the UCPS impact is influenced more strongly by the other two factors..

The interactive [UCPS Impact Simulator](#) on our website<sup>70</sup> is designed to help the reader familiarize themselves with the combined impact of subscription fee, User Reach and User Commitment on an artist's income.



**Impact by average User Spend Decile (10% of all Artist Profiles per column)**

values are calculated across individual Artist Profile / Country / Month combinations not aggregated on the country and month level

<sup>70</sup> The Impact Simulator lets you input different values for all three decisive factors and displays how the UCPS impact would change in response, making the logic of UCPS more tangible.



# FACTOR C

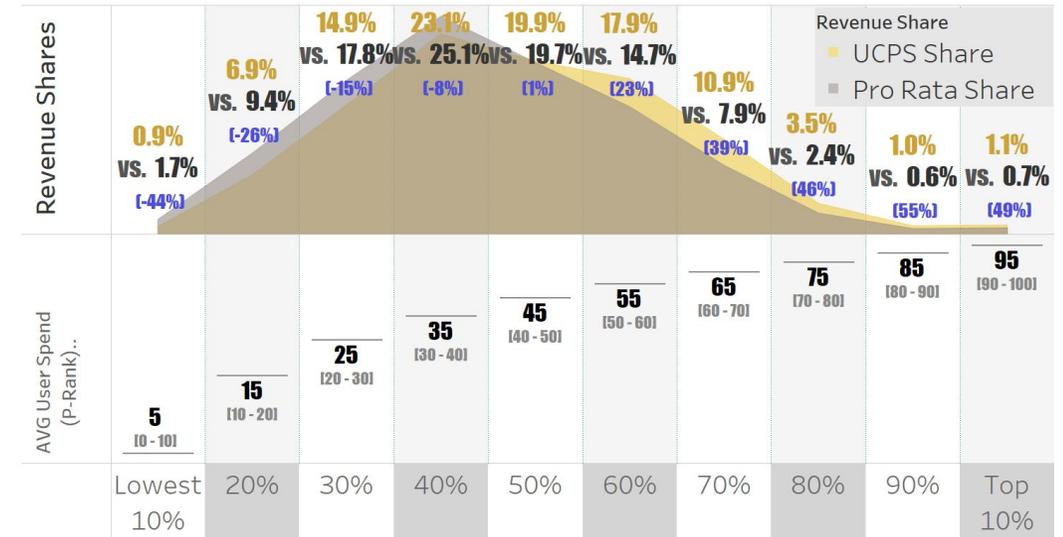
## average User Spend (US)

### Visualizing the “direction” of UCPS impact

The graph shows how – in comparison to pro rata (grey area) – UCPS (yellow area) would shift income from artist profiles with a low average User Spend to those with higher values.

The top half of artist profiles would see their revenue increased on aggregate, at the cost of the deciles “40%” and below – with the bottom tenth of profiles seeing their combined income nearly cut in half.

The graph visualizes how the monetary value that certain users pay into the “music pie” is now factored into UCPS’ incentive structure and the way the income is allocated.



### Direction of Impact

How UCPS reallocates income based on average Subscription Fee (P-Rank) Across Top Countries and months



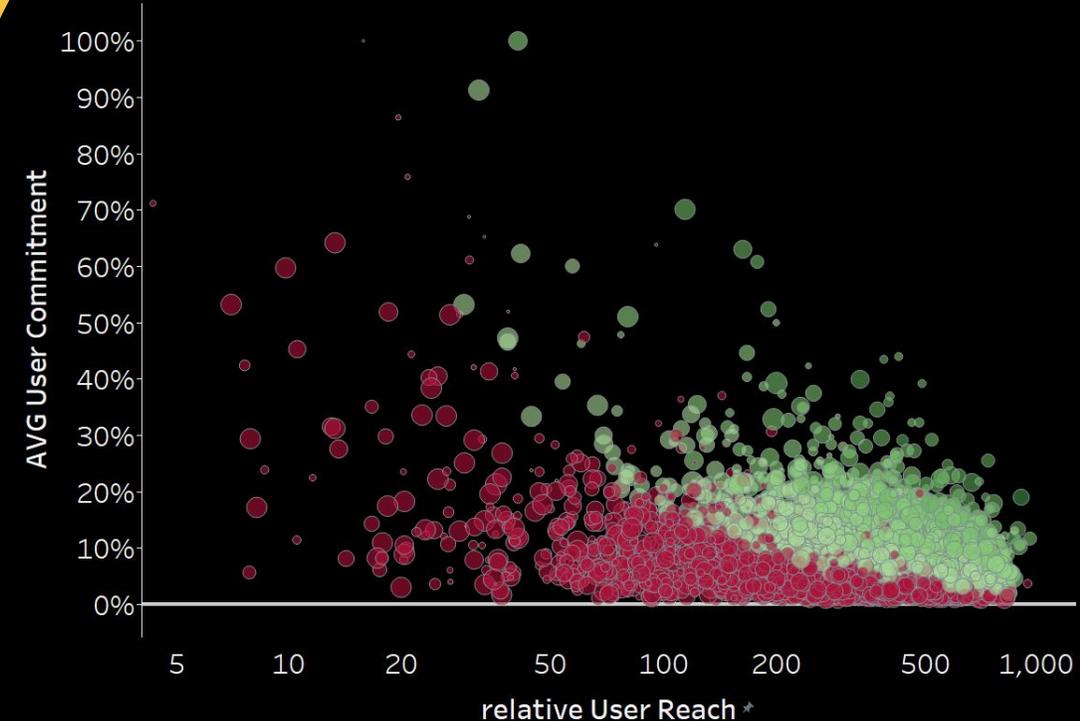
# RESULTS

## The decisive factors' combined effect on UCPS impact

After visualizing the decisive factors' impact separately, this chapter demonstrates how all three factors combined influence an individual artist profile's outcome.

For this purpose, the artist profiles' relative User Reach values are placed on the X-axis, contrasted with their respective average User Commitment on the Y-axis. Each circle represents an individual artist profile. The size of the circle reflects an artist profile's Average User Spend as the third factor.

Finally, the color represents the UCPS impact on the individual revenue: the greener, the more positive the percentage change in income. Red, on the other hand, stands for a decrease in revenue.



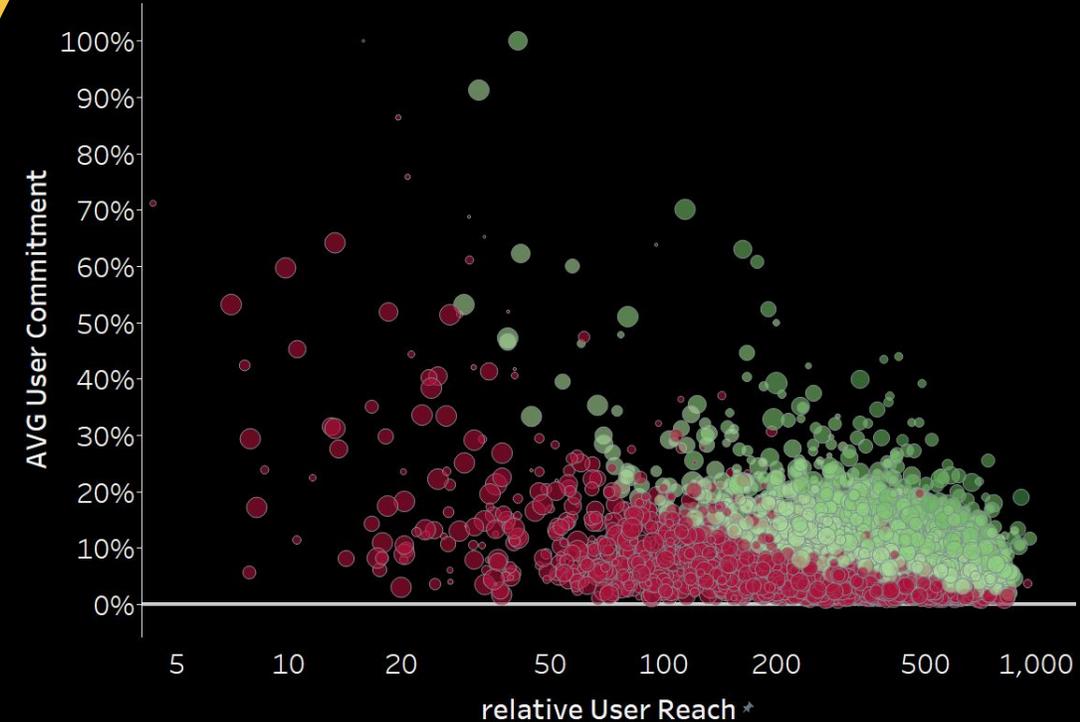
# RESULTS

## The decisive factors' combined effect on UCPS impact

The figure illustrates how the individual artist profile impact depends on all three influencing factors:

- the further to the right (**high relative User Reach**),
- the higher up (**high average User Commitment**) and
- the bigger the circle (**high average User Spend**)

the greener the colour and therefore more positive the revenue change for an artist profile.



# RESULTS

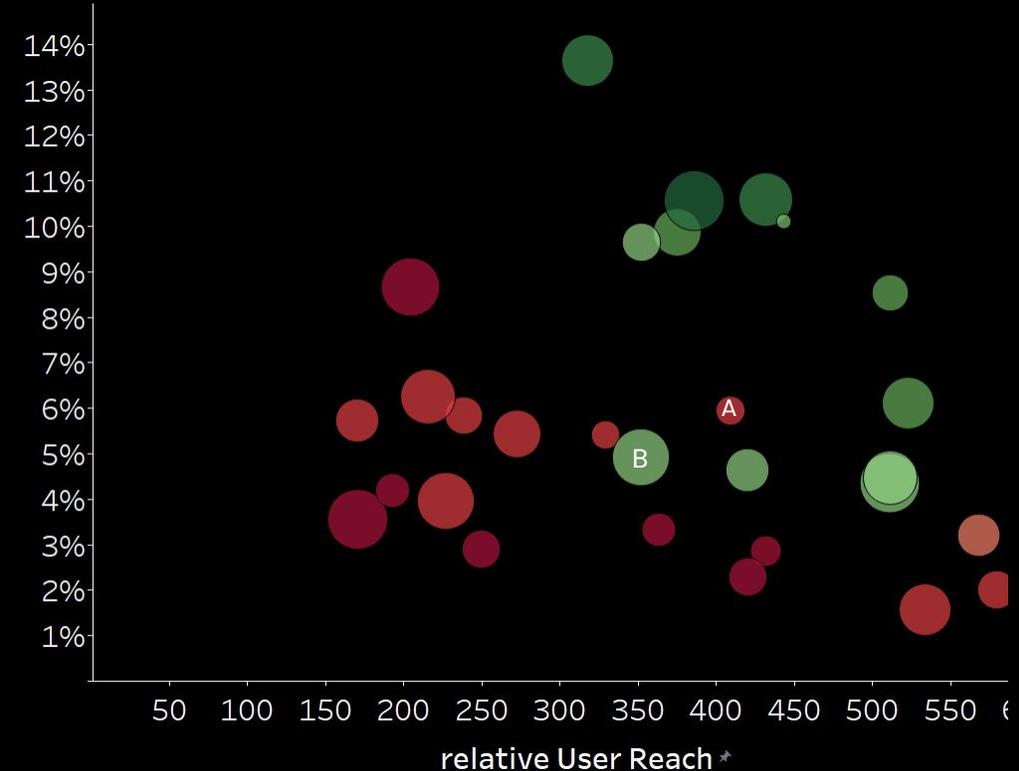
## The decisive factors' combined effect on UCPS impact

The example to the right shows artist profiles from one country (Germany) in a particular month (Oct 22). Every circle represents a **mid-sized artist in terms of streams**.

Since all of these profiles have the **exact same amount of streams**, the graph shows that UCPS impact does not depend on an artist profile's stream count: some of them lose income while others see an increase.

The relationship between both User Commitment and relative User Reach is clear: **the further up and to the right, the more positive the impact**.

Comparing artist profile A and B shows the role of AVG User Spend: profile B performs more poorly on two factors - with lower relative User Reach and lower User Commitment. However, **because its users pay a higher Subscription Fee on average** (bigger size of the circle) its UCPS impact is more positive than that of profile A.



# FORMULA FOR UCPS-IMPACT

## At artist profile level



How do we know that an individual artist's impact depends on the three factors presented above? This is based on the formula shown to the right.

If provided the necessary artist-level data, one can calculate any artist's UCPS impact with 100% accuracy<sup>71</sup>:

The first factor - an artist profile's **relative User Reach** - is derived from the first part of the formula<sup>72</sup>.

$$\frac{S_a}{n_a} = \frac{\text{Total Streams of an Artist Profile}}{\text{Total Users of an Artist Profile}}$$

$$\frac{\frac{S_m}{n}}{\frac{S_a}{n_a}} \times \frac{\sum_{u=1}^n \frac{S_a^u}{S_m} \times R_u}{\sum_{u=1}^n R_u} \times \frac{\sum_{u=1}^n R_u}{\frac{R_m}{n}} - 1$$

= UR
~ UC
= US

<sup>71</sup> see chapters "Derivation of relevant factors" and "Formula for UCPS-Impact at artist profile level" in [PRO MUSIK 2022](#), p. 41-44

<sup>72</sup> to arrive a profile's relative User Reach we flip numerator and denominator resulting in users per X streams.



# FORMULA FOR UCPS-IMPACT

## At artist profile level

The second deciding factor shown in the formula is arguably a bit too complicated to be given a comprehensible name. We therefore simplify it by referring to the more understandable part, which we call an artist profile's **average User Commitment**. This is defined by:

$$\frac{\sum_{u=1}^n \frac{S_a^u}{S_m^u}}{n_a} = \frac{\text{Sum of Artist Profile's individual User Commitments}}{\text{Total Users of an Artist Profile}}$$

Why do we choose to simplify this factor? Our objective is to explain the logic of UCPS as comprehensible as possible, while being as accurate as possible at the same time.

Using Average User Commitment - instead of the more complicated factor in the UCPS impact formula - means that we won't be able to calculate 100 percent of the individual impacts correctly. However, the accuracy is still very high at 97% correlation<sup>73</sup> - meaning that we are still very close to reality.

The benefit of this is that we have three factors that are quite easy to understand so that we can strike a good balance between comprehensibility and accuracy.

<sup>73</sup> the average r2 across top countries and most recent 3 months is 0.969, with very low variance (min: 0.958 and max: 0.975)



$$\frac{\frac{S_m}{n}}{\frac{S_a}{n_a}} \times \frac{\sum_{u=1}^n \frac{S_a^u}{S_m^u} \times R_u}{\sum_{u=1}^n R_u} \times \frac{\sum_{u=1}^n R_u}{\frac{n_a}{\frac{R_m}{n}}} - 1$$

= UR
~ UC
= US



# FORMULA FOR UCPS-IMPACT

## At artist profile level

Finally, the **Average User Spend** that an artist profile's users pay into the "Streaming Pie" - derived from the last part of the formula - is defined by:

$$\frac{\sum_{u=1}^n R_u}{n_a} = \frac{\text{Sum of subscription fees from all users of an Artist Profile}}{\text{Total Users of an Artist Profile}}$$

$$\frac{\frac{S_m}{n}}{\frac{S_a}{n_a}} \times \frac{\sum_{u=1}^n \frac{S_a^u}{S_m^u} \times R_u}{\sum_{u=1}^n R_u} \times \frac{\sum_{u=1}^n R_u}{n_a} - 1$$

$\downarrow$   $\downarrow$   $\downarrow$   
= UR      ~ UC      = US

# FORMULA FOR UCPS-IMPACT

## At artist profile level

The existence of such a UCPS impact formula has some meaningful implications.

First of all, it means that an artist could calculate its individual UCPS impact very easily, if provided access to a handful of metrics.

**With full transparency on their performance regarding the three decisive factors, any individual artist would be enabled to determine the impact on their personal revenues.**

Secondly, it means that such transparency towards artists does not require a third party to have access to datasets from streaming services. By disclosing the relevant aggregated figures to every artist separately, any artist would have clarity on how and why they would be financially impacted by UCPS.

$$\frac{\frac{S_m}{n}}{\frac{S_a}{n_a}} \times \frac{\sum_{u=1}^n \frac{S_a^u}{S_m^u} \times R_u}{\sum_{u=1}^n R_u} \times \frac{\sum_{u=1}^n R_u}{\frac{R_m}{n}} - 1$$

⋮

= UR

⋮

~ UC

↓

= US

# INTERPRETATION

Overall, our analysis shows that UCPS could indeed have a noticeable impact. It would **potentially lead to a significant overall redistribution of 25% of total music streaming income**. In general, one cannot extrapolate from the data used in this study – artists participating in SoundCloud’s fan-powered royalty program – to SoundCloud overall or to other streaming services.

However, the following example illustrates the potential magnitude of the impact, if the results for other streaming services were comparable: Within annual premium streaming payouts of half a billion Euros<sup>74</sup> for the German market, the **overall redistribution could amount to €161 million in revenues per year in Germany** alone.

Under UCPS, **almost one in three artist profiles could see a significant percentage gain of +40% or more**. These gainers are **not just “small” artist profiles, since they account for almost a fifth of all streams** as a group and an even higher share regarding the users their music reaches. Consequently, the **Gainers’ UCPS impact can be seen as significant in absolute figures** as well, receiving an **additional 23% of all subscription revenue** across top countries. On the flipside, however, an **average 39% of all artist profiles would lose significant income**, with their **losses amounting to 18%** of the total revenue.

However, the realization that UCPS – like any other alternative payment model – would produce winners and losers is not surprising. Instead, it **leads to a question that is potentially at the core of assessing UCPS: If its impact is indeed significant, can that impact be considered “favorable” as well?**

<sup>74</sup> To arrive at a reasonable estimate for the German market, 2022 data from BVMI (€2.07 billion in overall revenue x 73.3% share of audio streaming = €1.52 bn) and IFPI (82% of streaming revenue is from premium subscriptions: 2022 data) is applied. That calculation results in €1.24 bn. This number is then multiplied with an average share that is paid out to rightsholders representing performing artists (50% of gross revenue = €5) to arrive at an estimate of €0.622 bn for the total revenue pie available. This is then multiplied by the overall redistribution share for Germany (25.8%).

This scale of the potential impact is growing, too – up from €117 million based on 2021 data (using the same calculation applied above).

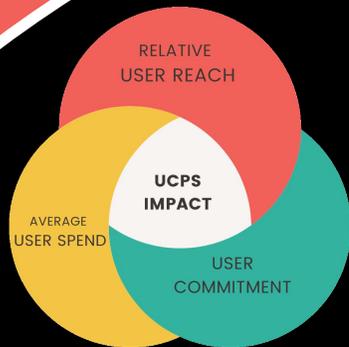


# INTERPRETATION – KEY QUESTIONS



In order to help artists and industry professionals with that assessment we identified and explained **the three factors or artist characteristics that determine the UCPS impact** at the individual artist profile level. Those factors **describe the reward structure that UCPS would put in place**. By outlining what artists would be incentivized for under this new payment model, we **enable the reader to arrive at an opinion as to whether UCPS can be considered “favorable”** when compared with the current Pro-Rata model.

To that regard, we were able to demonstrate that UCPS would reward artist profiles for high relative User Reach. Therefore, a key question regarding the favorability of UCPS is whether the reader agrees that relative User Reach should be factored into the allocation of revenue. Is it “favorable” that the number of streams is no longer valued by itself, but in relation to the number of users reached as well?



Do I believe that an artist's relative User Reach should be taken into account when allocating revenue?

If there are two artists with the same number of streams, should the artist whose streams were generated by more users receive more income?



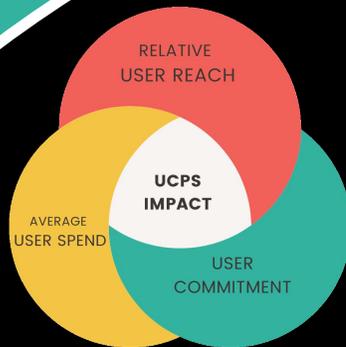
# INTERPRETATION – KEY QUESTIONS



In addition to these questions around relative User Reach, a well-informed opinion must also consider the other two decisive factors, User Commitment and Average User Spend.

User Commitment is in a way the conceptual centerpiece of a user-centric model. It reflects the frequently expressed desire to account for individual user demand. Again, with UCPS, streams are not valued by themselves anymore.

Instead, they are now also weighted in relation to the total consumption of the respective user. The crucial question regarding UCPS' potential favorability is whether the reader agrees with User Commitment being factored into the allocation of revenue.



Do I believe that an artist's User Commitment should be taken into account when allocating revenue?

Of two artists with the same number of streams, should the one whose users listen less to other artists' music, i.e. who is relatively "more important" to their users, be rewarded?

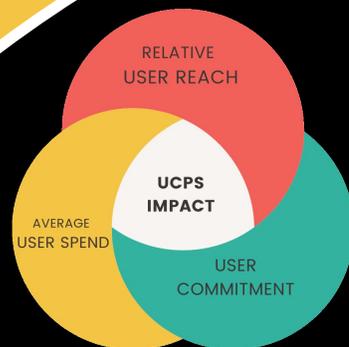


# INTERPRETATION – KEY QUESTIONS



Finally, UCPS will reward artist profiles whose content is consumed by users paying the highest subscription fees. While the User Commitment described above reflects the consideration of individual user demand, this characteristic factors in the user's willingness to pay.

The corresponding key question regarding UCPS' favorability is whether the reader agrees that the Average User Spend should be considered for distributing streaming revenues.



Do I believe that the an artist profile's average User Spend should be taken into account when allocating revenue?

Should the model therefore reward artists that appeal to users who are willing to pay more for music?



# INTERPRETATION



The information and insights presented in this study suggest that the **overall impact on the market and on the artist level could be significant enough** to warrant a step so disruptive as changing the payment model for music streaming. However, since this change would produce winners and losers by definition, the even more **important question concerns the “favorability” of an alternative payment model such as UCPS**. The new reward structure it creates and **the question whether artists and the music community agree with this new set of incentives are at the heart of this assessment**.

It shall be emphasized once more that the authors of this study cannot deliver an answer to these questions. The objective here is to explain the dynamics and incentive structure of UCPS in a comprehensible way and to shed light on the types of artist profiles that would benefit or lose revenue. **Whether this impact and thus UCPS as a payment model shall be regarded as “favorable” must be discussed and answered by the affected music creators and their representatives.**

Their answers and resulting opinions may vary depending on the reader’s perspective. Reaching a decision for or against UCPS – or any other payment model – will therefore require building consensus across the industry and the artist community. By providing insights on the basic dynamics of UCPS, we hope to enable those stakeholders to arrive at an individual opinion as a first step.



# INTERPRETATION



The results regarding artist profile level impact provide a first understanding of the financial impact for individual artists. Furthermore, the **UCPS impact formula and the identification of the three key factors present an opportunity to provide transparency to every artist regarding UCPS impact** on their income, by providing them with the relevant metrics.

Aside from the immediate financial impact, the **“favorability” of UCPS must also be judged by its wider impact on creative and business processes.** Evaluating the incentives set by the consideration of relative User Reach, User Commitment and Average User Spend is a first step.

However, the consequences of an alternative payment model such as UCPS are far-reaching and **its implementation would likely affect many if not all steps in the value chain, from songwriting to production, A&R, fan relations and marketing strategy.** Going forward, **everyone involved** – individuals and corporations – **would start investing time, effort and financial resources into the creation and promotion of talent and content who are rewarded by the new incentive structure.**

These consequences are not covered in this study, since the process of identifying and discussing such implications should involve input from artists and industry experts. We hope that this work will inspire and inform such conversations going forward.



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