CONFERENCE: UNDERSTANDING AND ADDRESSING DIGITAL INEQUALITIES

Digital inequalities and diversity in the Latin American music landscape

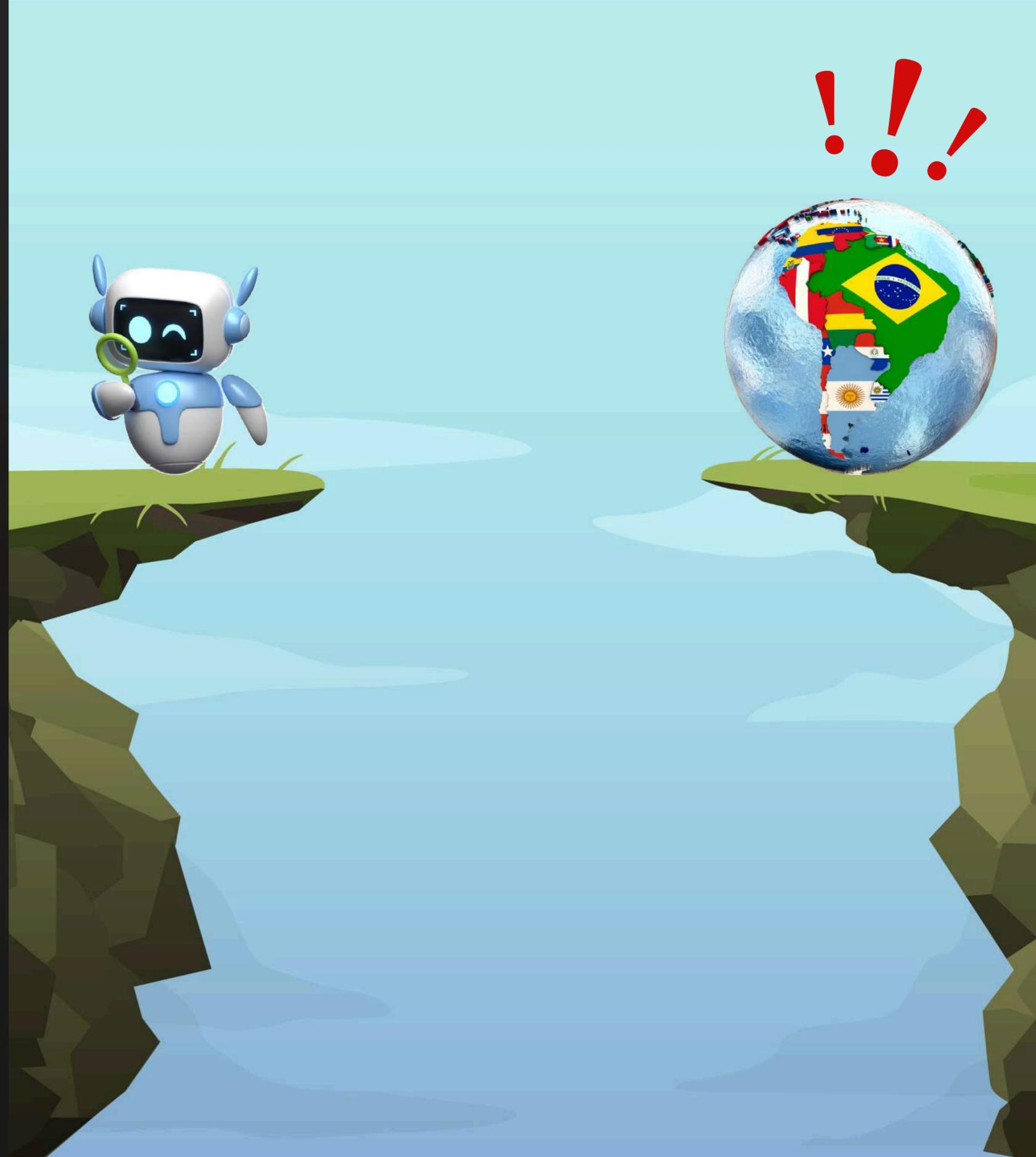Presented by Miguel Tomas-Miranda
November 20th, 2025

Introduction

Exciting topics,
but information
gaps are present

Exciting and ongoing topics

- Concentration and inequality → topics of interest for cultural economists + concern for creative practitioners.
- Historical perspective → evidence of high concentration levels within the music industry.
- Digitisation might mitigate inequality + better conditions for independent artists.
- However, most academic research has been conducted in developed countries.
- Information gap for LA countries, but now there are better datasets.
- Good opportunity to widen knowledge of the dynamic of the music industry in the non-Western world.

Latin America

- Diverse challenges initially disincentivising investment of foreign labels.
  - Why? → operational difficulties in South America due to the ups and downs of its economies, political instability, problems with royalty collections, among others (Bernstein & Weissman, 2007; Fisher, 1980).
  - Early 2000s → a dramatic decline in revenues, IFPI criticised piracy in LA and ineffective copyright enforcement policies.
- However, since 2010 → sustained growth in LA, particularly regarding digital revenues.

In 2022, LA saw its thirteenth consecutive year of growth with its market now worth US$1.3 billion.

Revenue growth in the Latin American recording industry (2012-2022)
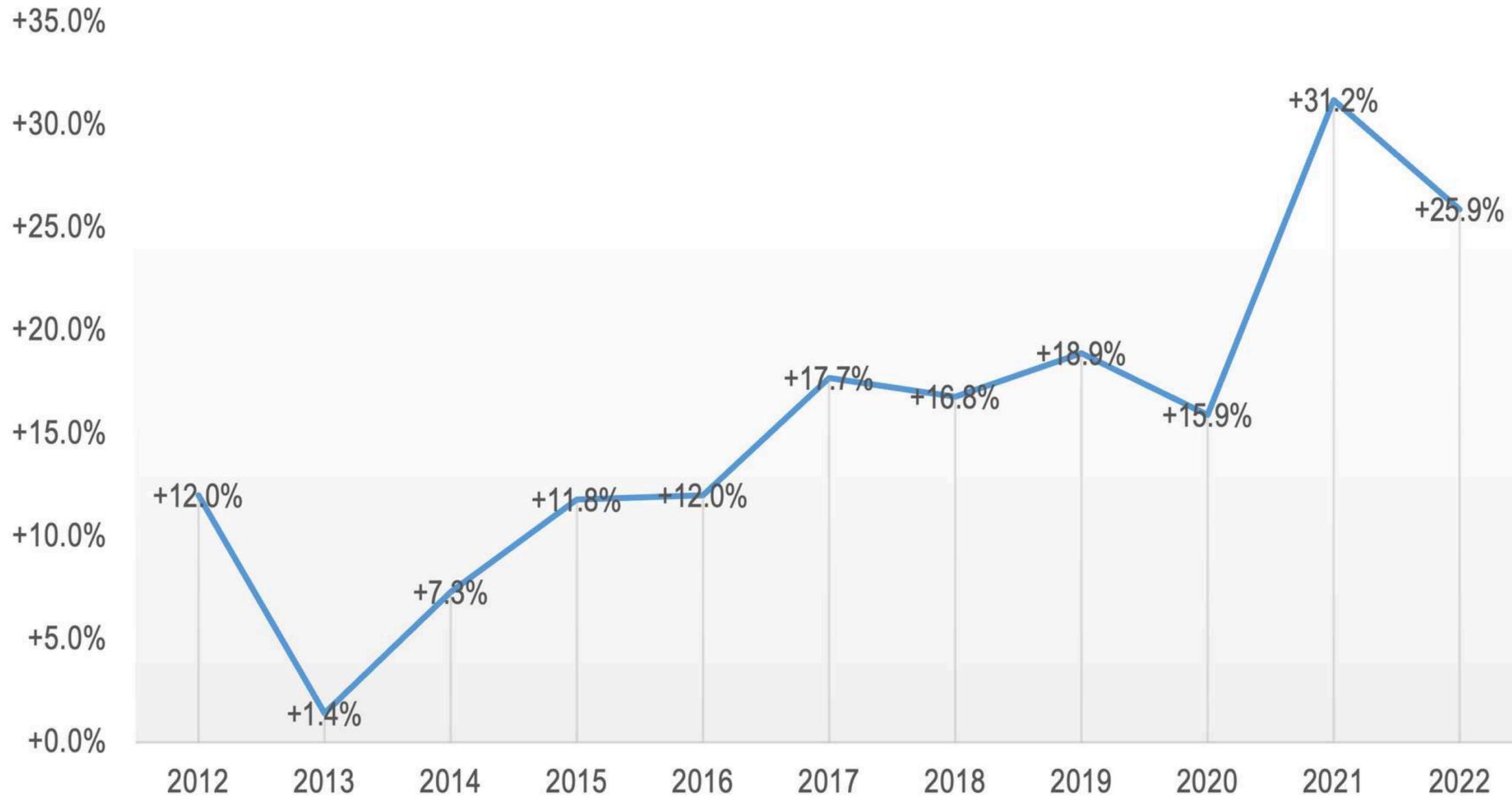
+12.0%
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+18.9%
+15.9%
+31.2%
+25.9%

Research questions

How have label concentration and ownership of streams evolved within the Latin American digital music charts over the 2016-2023 period?

Regarding the type of music supplied based on its musicological characteristics, to what extent do specific record label types and major conglomerates contribute to the diversity of consumed products?

Theoretical framework
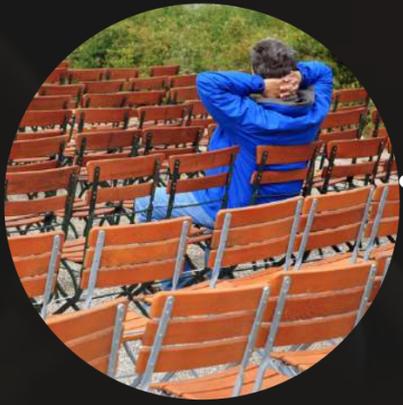
Rosen's superstardom

Anderson's long tail
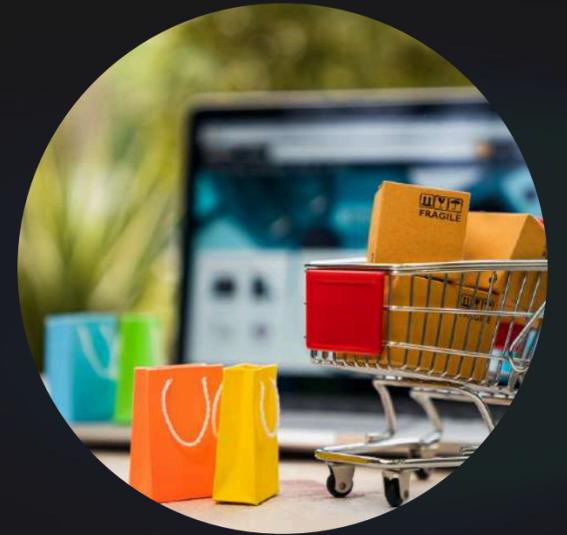
Stirling's Diversity

Adler's superstardom

Methodology

Dataset construction
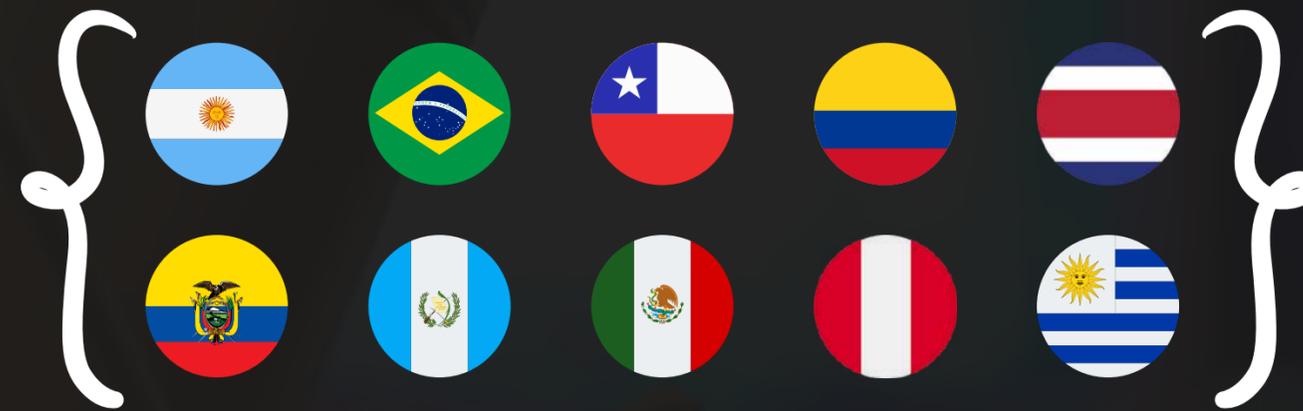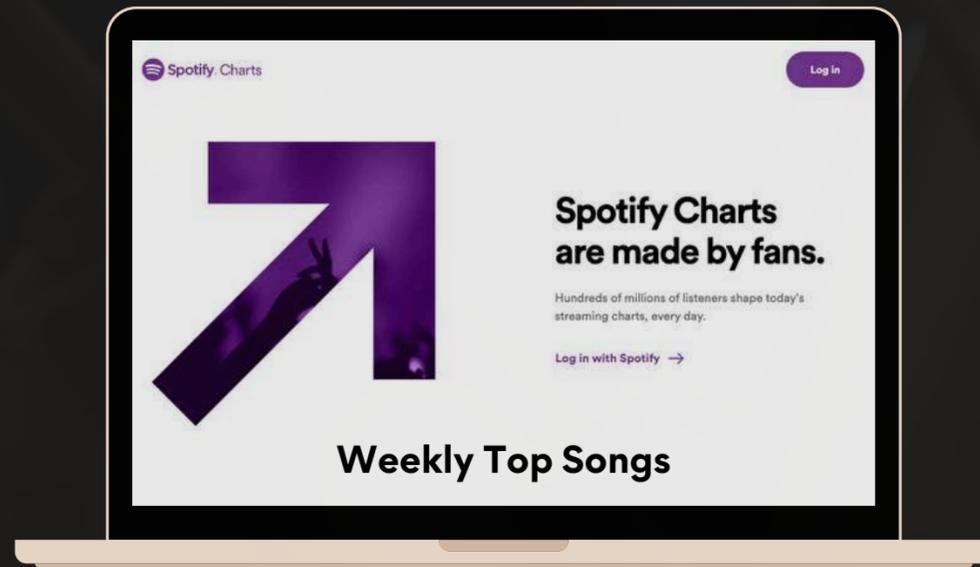
10 countries

317 weeks

200 chart positions per week

Dec 2016 – Jan 2023
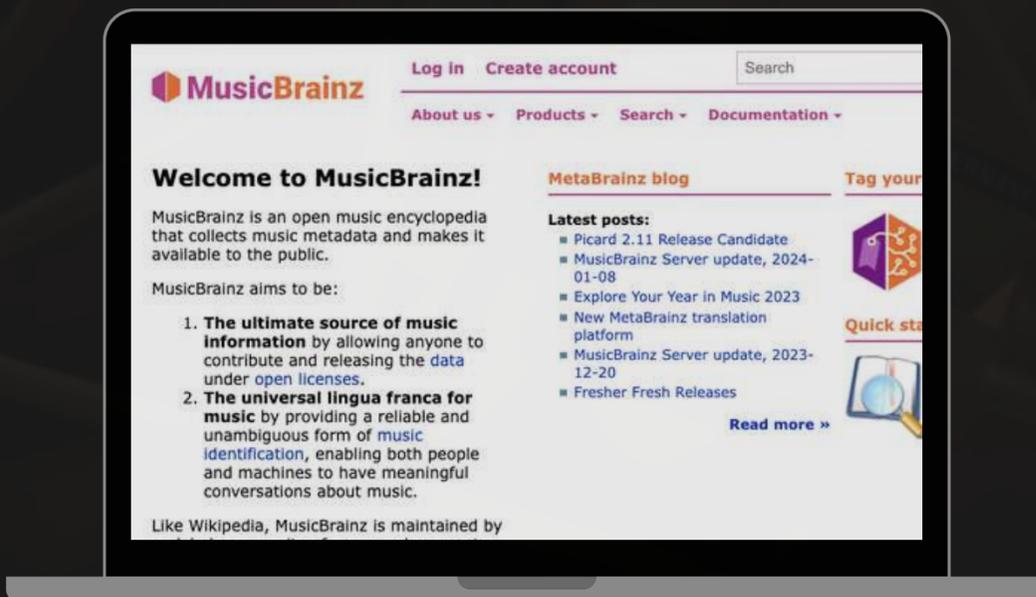
1,837 label entities → Manual classification into one of the 3 major conglomerates or indies

Better-quality dataset, compared to Aguiar and Waldfogel (2021): ↓ misclassification

Spotify Charts are made by fans.

Hundreds of millions of listeners shape today's streaming charts, every day.

Log in with Spotify →

Weekly Top Songs

Welcome to MusicBrainz!

Spotify for Developers

Web API

Retrieve metadata from Spotify content, control playback or get recommendations

Spotify Web API enables the creation of applications that can interact with Spotify's streaming service, such as retrieving content metadata, getting recommendations, creating and managing playlists, or controlling playback.

stevesie   Apps Pricing Docs   Login

Legally Scrape Spotify Data

Download to Excel & CSV Files via API

Unlike screen scrapers, our no-code platform exports data directly from Spotify's Official API so you can download extracted data seamlessly. This means no breaking code, getting blocked, overpriced proxies or incorrect data.

Spotify Data Collection

Scrape Spotify Albums

Scrape Spotify Artists

Scrape Spotify Playlists

Scrape Spotify Podcasts

Scrape Spotify Tracks

Variables

Type	Name		
RAW data	Individual stream count		
Aggregate data	Sum of streams	All labels	
		Major labels	
		UMG	
		SME	
		WMG	
		Indie labels	
		Artists as labels	
Aggregate data	Share of streams	Major labels	
		UMG	
		SME	
		WMG	
		Indie labels	
		Artists as labels	
	Concentration and inequality	3-firm concentration ratio	
		Gini coefficient	
		Herfindahl-Hirschmann	

Descriptive statistics

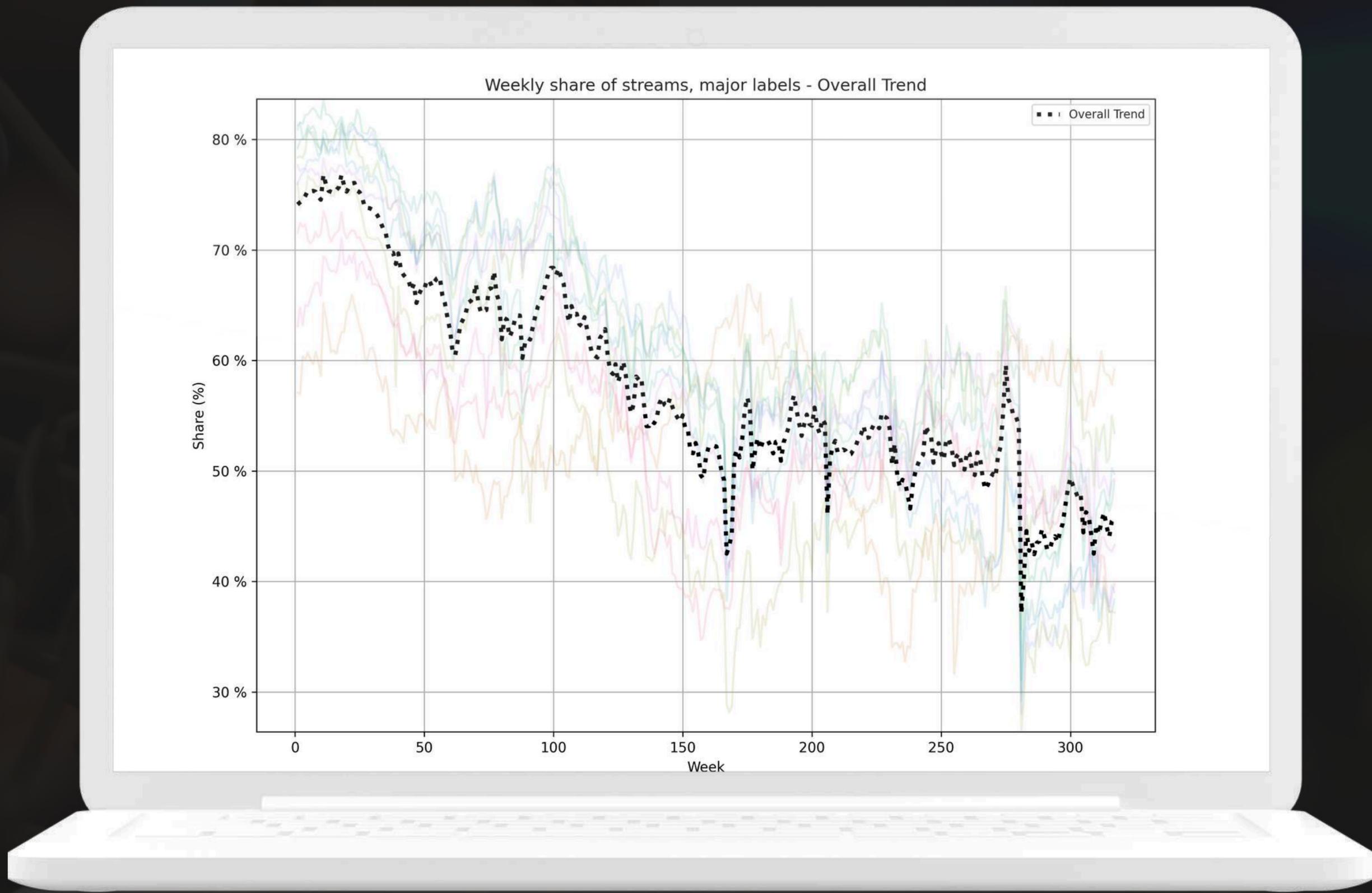| Country	Absolute difference in average sum of streams	Relative growth
Argentina	112,157,369	+240.37%
Brazil	290,906,568	+275.62%
Chile	81,144,890	+261.33%
Colombia	52,611,343	+415.62%
Costa Rica	7,670,799	+141.76%
Ecuador	20,254,111	+410.46%
Guatemala	20,563,240	+821.94%
Mexico	356,457,046	+375.79%
Peru	41,647,184	+360.3%
Uruguay	7,839,106	+218.03%

Important!
- ↑ # Consumers (+++ premium users): approx. 2x from 2018-2021.
- ↑ Monthly streaming hours: 1.7 to 9.8 billion from 2015-2021.

Findings
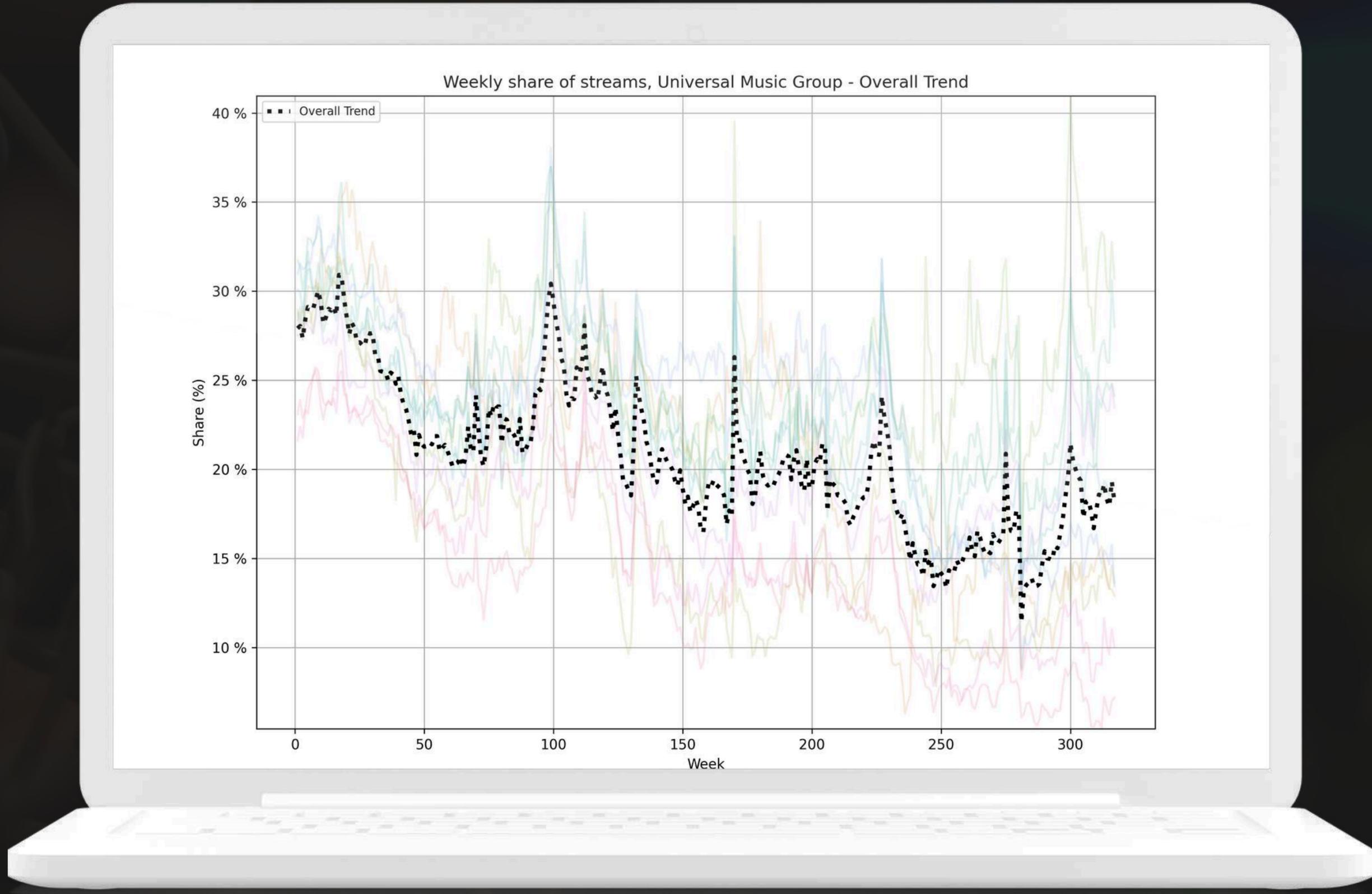
- Consistent rise in total streams.
  - 3-fold increase in total streams (2016-2023).
  - Heterogeneous patterns: varying digital penetration?
- Concentration around the top.

Average Stream Count per Rank Across All Countries and Years

Share of streams according to label type (1)

Weekly share of streams, major labels - Overall Trend
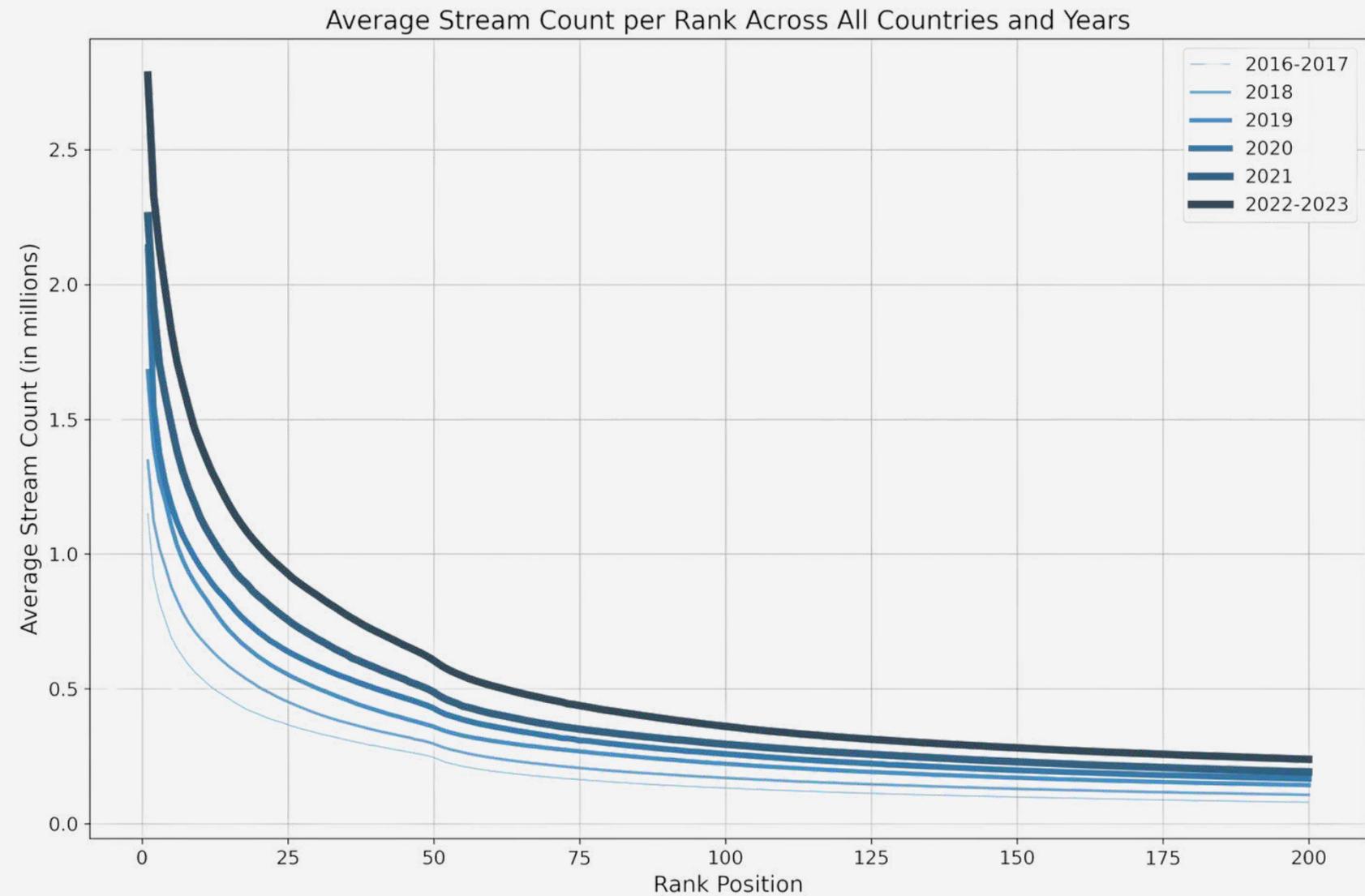
Share of streams according to label type (2)

Share of streams according to label type (3)

Weekly share of streams, Sony Music Entertainment - Overall Trend

Share of streams according to label type (4)

Weekly share of streams, Warner Music Group - Overall Trend
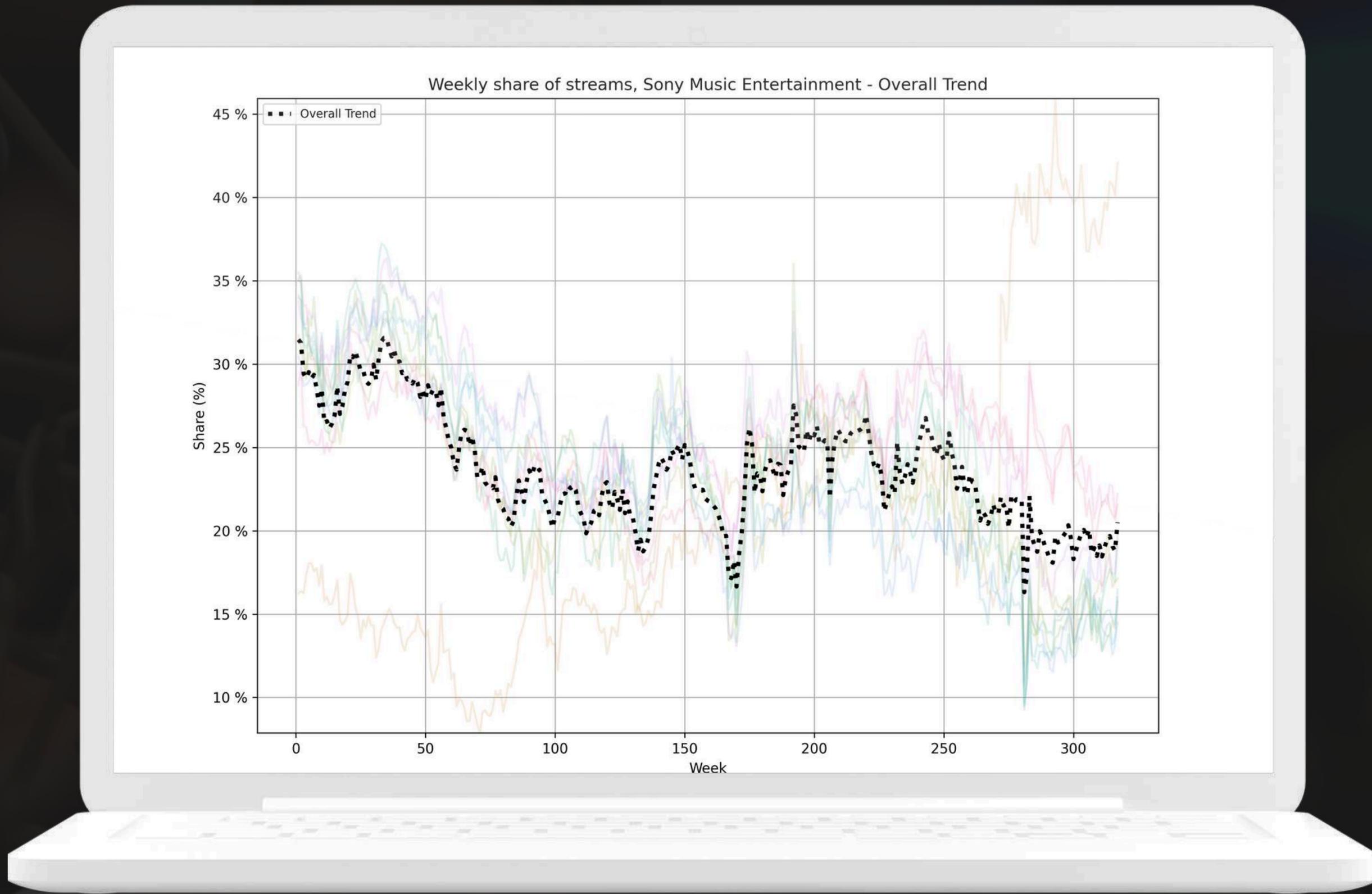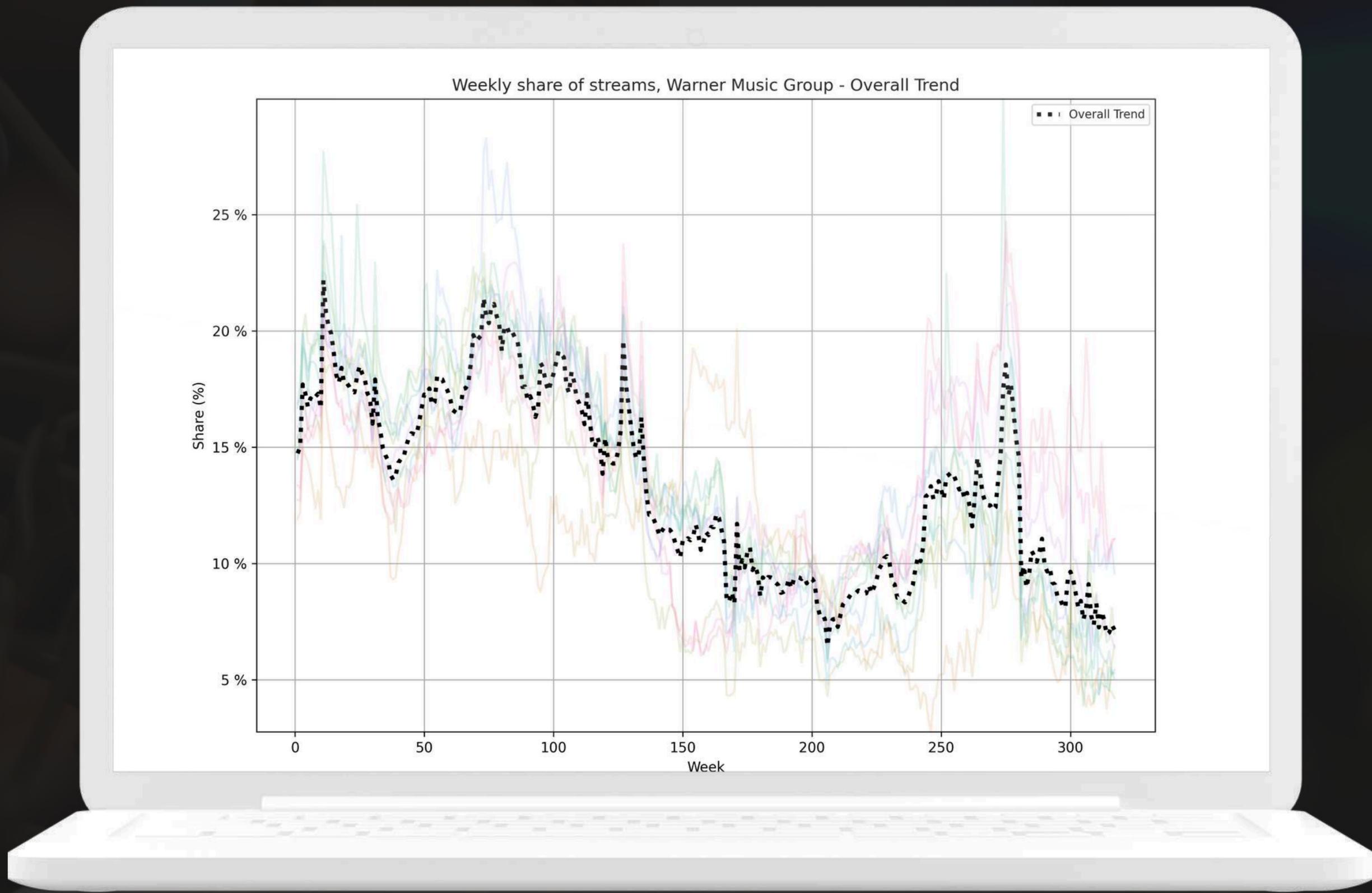
Concentration and inequality

- GI mean values for all countries at 74.68.
  - Compare to Fernandez Blanco et al. (2014): <50.
  - ↓ trend: Argentina, Chile, and Mexico.
  - Fluctuating patterns for Argentina (range of 19.06).
  - Brazil was more stable (range of 8.13).
- HHI: values indicated moderate concentration (<2500).
  - Trend line similar to GI.
  - Rhoades (1995): Markets can be highly unequal, but only moderately concentrated.
- Longitudinally: (no) long-tail effects?

"IF YOU LIKE BRITNEY, YOU'LL LOVE ..."

Just as lower prices can entice consumers down the Long Tail, recommendation engines drive them to obscure content they might not find otherwise.

#340 Britney Spears

#1,810 Pink

#5,153 No Doubt

#32,195 The Selecter

Amazon sales rank

Source: Amazon.com

Inequalities persist over time

Labels, concentration, and diversity – Inferential statistics

Diversity panel data regression

- Fixed effects regression model (FE).
  - Intrinsic factors may influence stream ownership x diversity + largely constant during our study.
- Two staged regressions.
  - Model 1: $\text{rao\_stirling} = \alpha + \beta_1 \text{share\_st\_majors}_{it} + \beta_2 \text{gni\_percapita\_ppp\_2017}_{it} + \beta_3 \text{internet\_access}_{it}$

    $$+ \beta_4 \text{sum\_st}_{it} + u_i + \epsilon_{it}$$

  - Model 2: $\text{rao\_stirling} = \alpha + \beta_1 \text{share\_st\_universal}_{it} + \beta_2 \text{share\_st\_sony}_{it} + \beta_3 \text{share\_st\_warner}_{it}$

    $$+ \beta_4 \text{gni\_percapita\_ppp\_2017}_{it} + \beta_5 \text{internet\_access}_{it} + \beta_6 \text{sum\_st}_{it} + u_i + \epsilon_{it}$$

- Diagnostic tests: VIF <5 (no significant multicollinearity), Wooldridge (autocorrelation) p>0.05 (absence), Wooldridge (heteroskedasticity) p<0.001 (!)
  - Therefore, we employed robust standard errors.

Table 8. Results for aggregate majors regression (model 1)

	Coefficient	Std. Error	95% CI	p
Intercept	18.778	(0.5348)	[17.730, 19.827]	<.001
Share of Majors	-0.0246	(0.0018)	[-0.0281, -0.0211]	<.001
GNI Per Capita PPP 2017	0.0001	(0.00002448)	[0.00008899, 0.0002]	<.001
Internet Access	0.0355	(0.0030)	[0.0296, 0.0415]	<.001
Sum of Streams	2.466e-09	(5.554e-10)	[1.377e-09, 3.555e-09]	<.001
R-squared		0.3424		
No. Observations		3158		
F-Statistic (robust)		409.31		

Note: CI = Confidence Interval. The dependent variable is the Rao-Stirling Index value. The model includes entity fixed effects.

Table 9. Results for major conglomerates regression (model 2)

|	Coefficient	Std. Error	95% CI	p
Intercept	18.657	(0.5496)	[17.580, 19.735]	< .001
Share of Universal	0.0132	(0.0034)	[0.0066, 0.0199]	< .001
Share of Sony	-0.0442	(0.0028)	[-0.0497, -0.0387]	< .001
Share of Warner	-0.0209	(0.0033)	[-0.0273, -0.0144]	< .001
GNI Per Capita PPP 2017	0.00008724	(0.00002518)	[0.00003788, 0.0001]	< .001
Internet Access	0.0417	(0.0030)	[0.0358, 0.0476]	< .001
Sum of Streams	4.697e-09	(5.381e-10)	[3.642e-09, 5.752e-09]	< .001
R-squared			0.3856	
No. Observations			3158	
F-Statistic (robust)			328.71	

Note: CI = Confidence Interval. The dependent variable is the Rao-Stirling Index value. The model includes entity fixed effects. P-values are for two-tailed tests.

Further discussion

Spurious long-tail effects

- With our descriptive accounts: better conditions for indies/emergent artists.
  - However, at the song level, the head remains strong.
- Consider the increasing trends regarding daily song uploads to Spotify: dilution effect.
  - 2019: 40,000/day.
  - 2021: 60,000/day.
  - 2023: 120,000/day (!!!).
- Will majors retaliate? It seems that they are already acting:
  - Change in Spotify policies: 1,000 streams threshold for monetization.
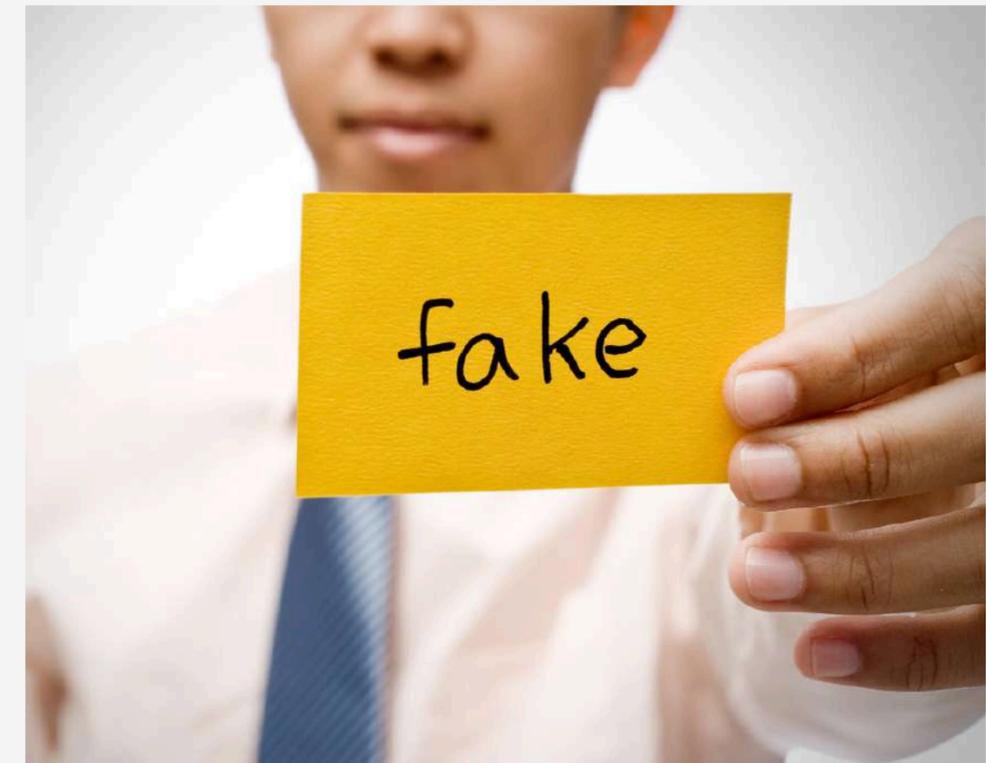
Conclusions, recommendations, and limitations

Wrapping up

- Majors lost power (↓ concentration), but are still dominant within Spotify Charts.
- Pseudo-long-tail effects: loss of majors' power → dilution due to ↑ upload volumes.
  - AI has an important role.
- Superstar artists are still relevant (not considering label affiliation).
- Diversity measures relatively stable, only a slight ↑ trend with RSI.
  - Countries were comparable, except for Brazil.
- Surprisingly, UMG contributes to song diversity, SME and WMG: > standardisation.
- + Correlation between internet access and diversity.

Limitations

- We mostly focused on the head of the distribution (relative long-tail).
  - There is a chance that the musicological characteristics of unsuccessful products are similar to the superstar tracks.
- Inconsistent sources for label database construction.
- Lack of an independent measure for majors' influence in Latin American countries (e.g., # of employees per office).
- Audio features' algorithms are questionable (e.g., how does Spotify treat songs with fluctuating key signatures and tempo?).

There are other mediums that represent music consumption and are especially relevant in some territories (e.g., radio airplay).

Future research could use more sophisticated methods (assessing non-linearities + large volumes of data).

Data use is becoming widespread in the music industry, even for independent/emergent artists.

Therefore, the future seems promising for this field.

End of presentation