

TRENDS OF MUSIC FROM 2010 TO 2019

IST 719
Yunhuai Cao
Dec 2nd, 2022

Data Description

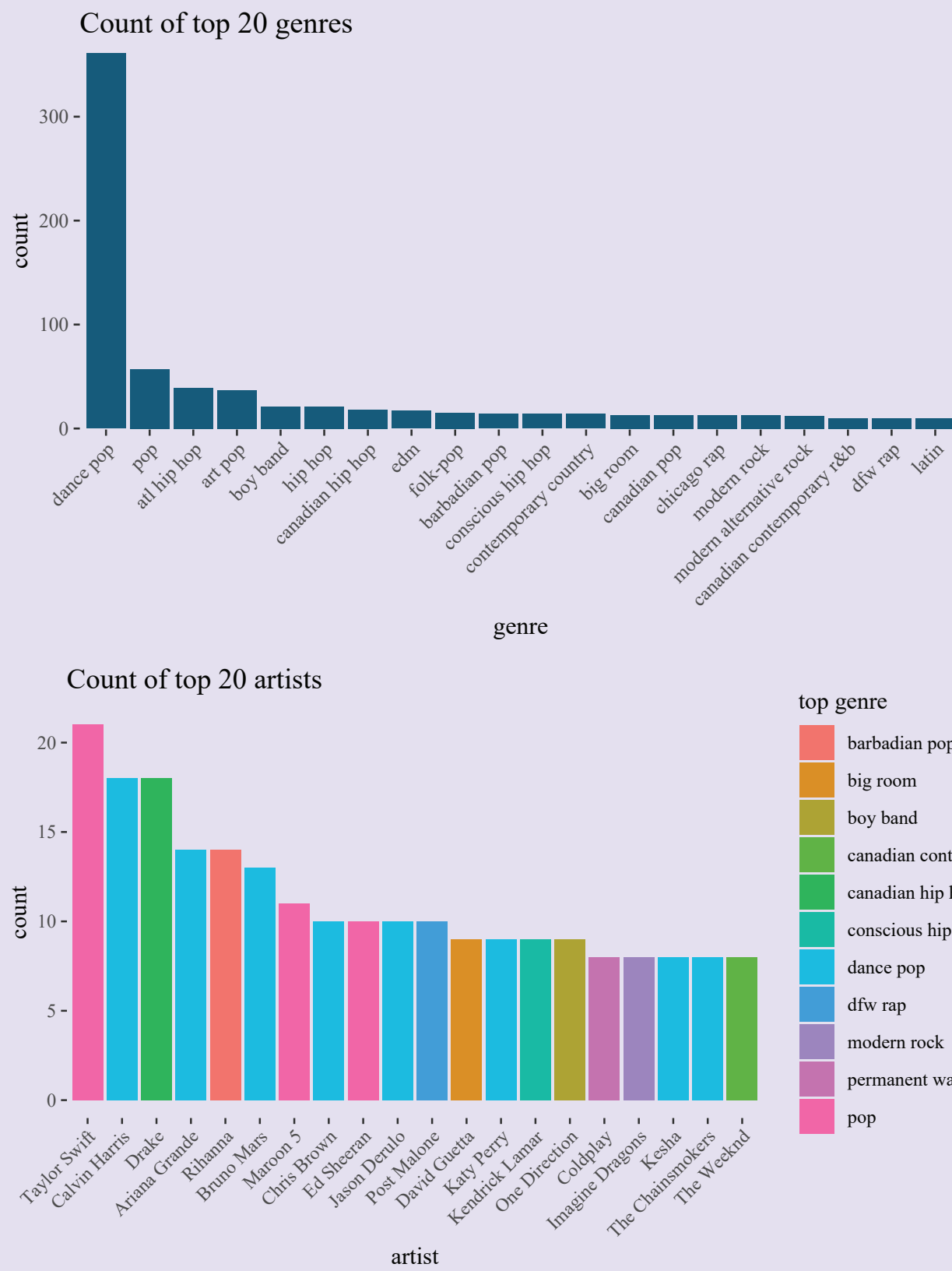
The dataset extracted from Kaggle contains a list of top 100 songs of each year on Spotify from 2010 to 2019. It includes some musical information about popular songs during the decade, such as beats per minutes and duration. This dataset has 1000 rows and 17 columns. 'Artist', 'Top Genre', and 'Top Year' are the main variables used for subsetting or aggregating.

Source: <https://www.kaggle.com/datasets/muhmores/spotify-top-100-songs-of-20152019?select=Spotify+2010+-+2019+Top+100.csv>

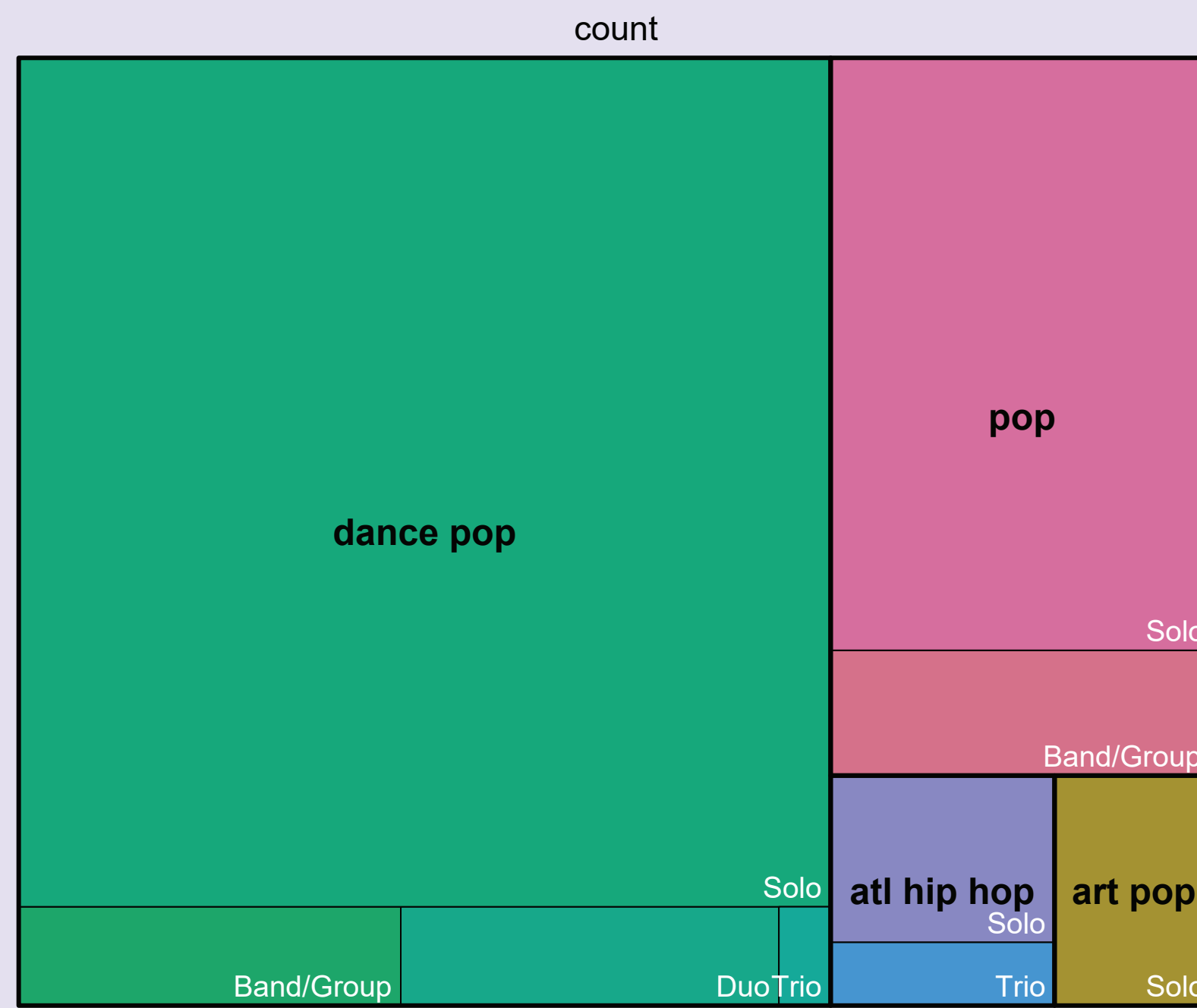
Packages: tidyverse, RColorBrewer, ggthemes, scales, ggrepel, hrbrthemes, viridis, treemap, ggridges

Story & Audience

In recent years, more than 5 million songs are released on Spotify each year. This study is going to analyze the changes in music trends over the past decade, to understand the changes in pacing, duration and tempo of the music during that time. I hope this analysis will help music publishers identify songs that are more likely to be popular, and thus find more talent in musical composition and make more money from popular music.



Treemap of artist types in top 4 genres



Basic information

According to the top left chart, more than one-third of the 1,000 songs that made it into the top 100 in the past 10 years were dance pop, while the rest were all under 100.

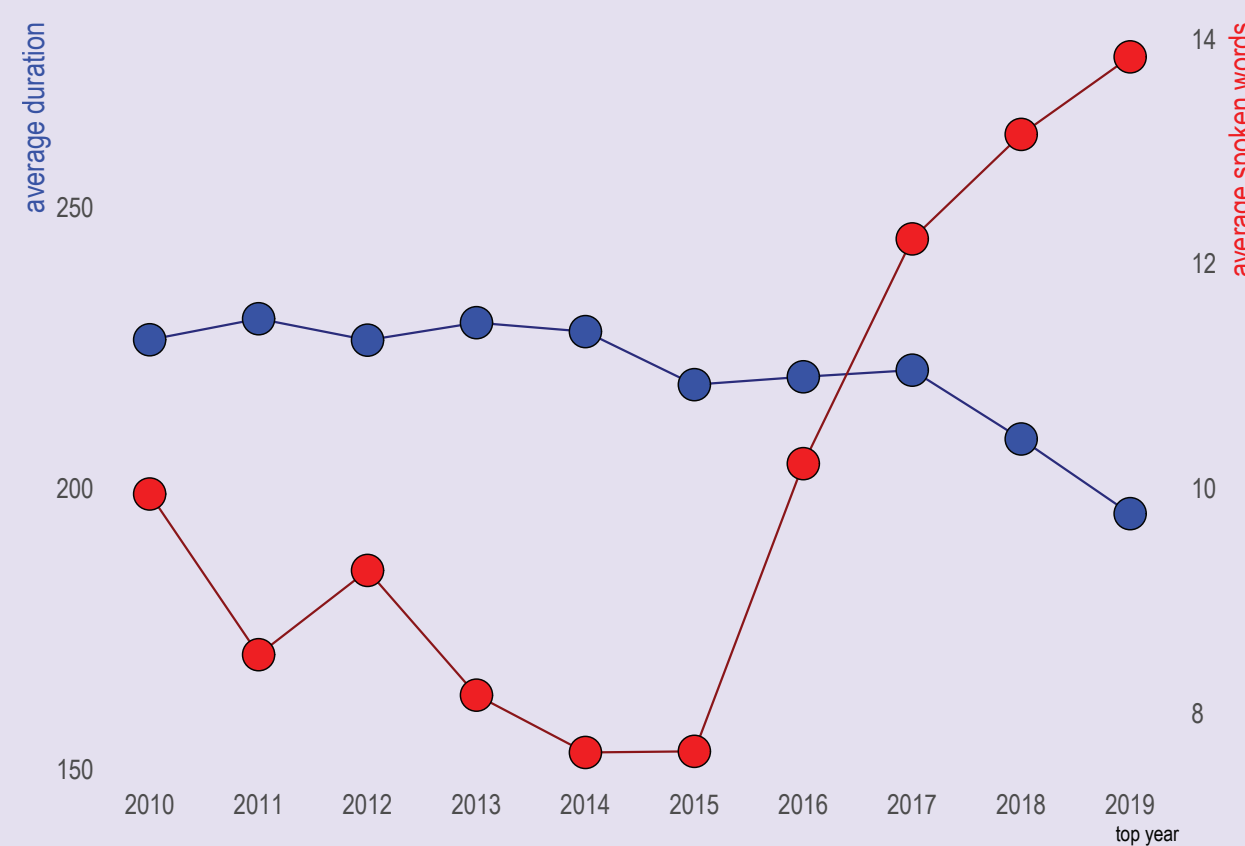
Among the top 20 artists with the most number of songs, 8 of them played dance pop. The top 5 are Taylor Swift, Calvin Harris, Drake, Ariana Grande and Rihanna. There are 11 different genres for top 20 artists during 2010 to 2019.

Since there are hundreds of song genres, visualizing them all would make some of the graphs look confusing, so I've only picked the top four genres. According to the treemap, of all the 4 genres, solos have the largest proportion.

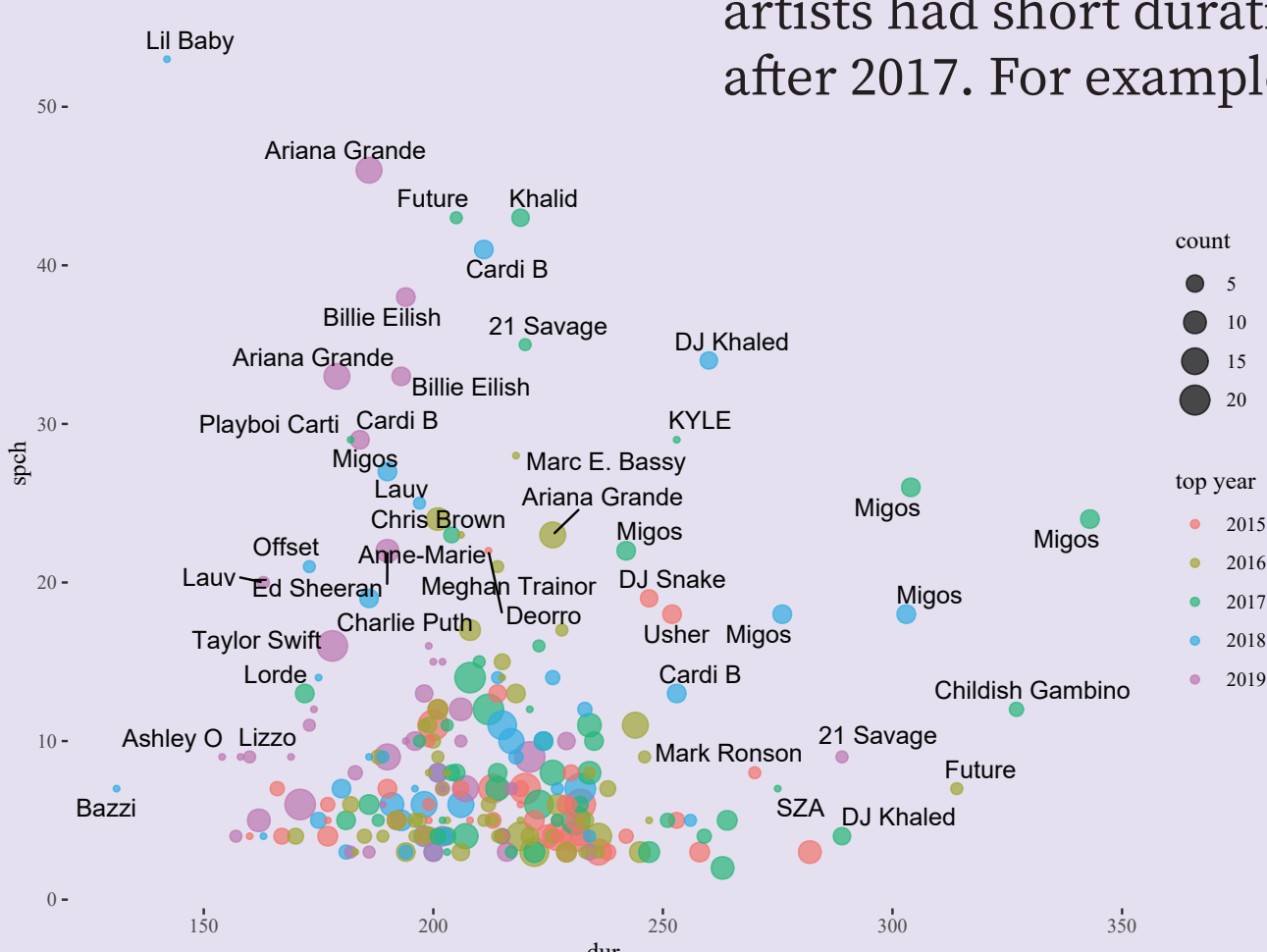
Duration & Spoken Words

The line chart shows trends in the average song duration and spoken words in a song during past decade. The blue line is average duration and red one is average spoken words (sw). This graph clearly shows that the average music duration declined gently over this period. However, the average sw decreased from 2010 to 2015 and then rapidly increased during the next 4 years. So I think in recent pop music, adding more lyrics to shorter songs is an effective popular factor.

Duration down, spoken words up

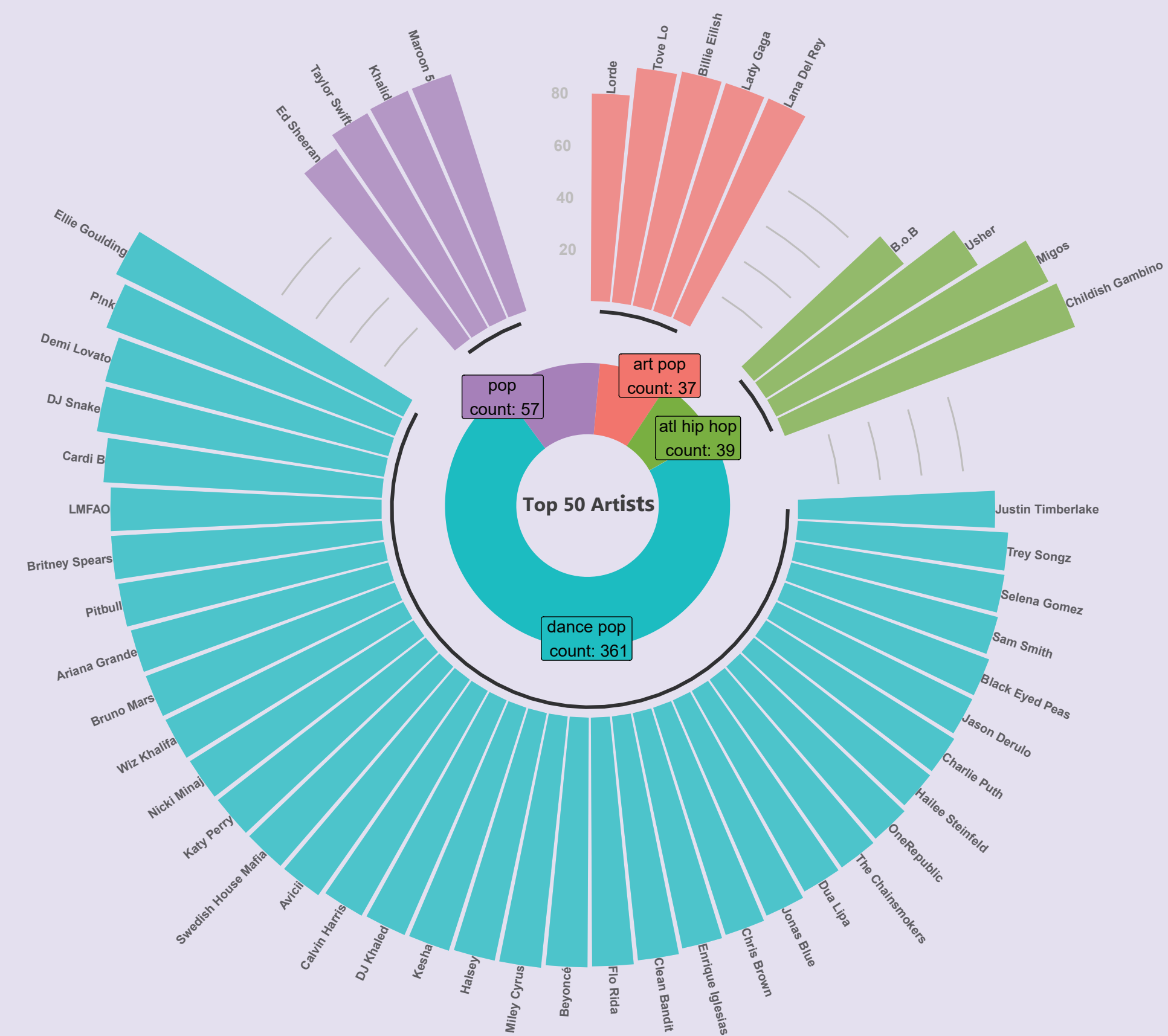


According to the scatter plot, we can see that more and more artists had short duration with more sw songs got into top 100 after 2017. For example, Ariana Grande, Billie Eilish and Cardi B.



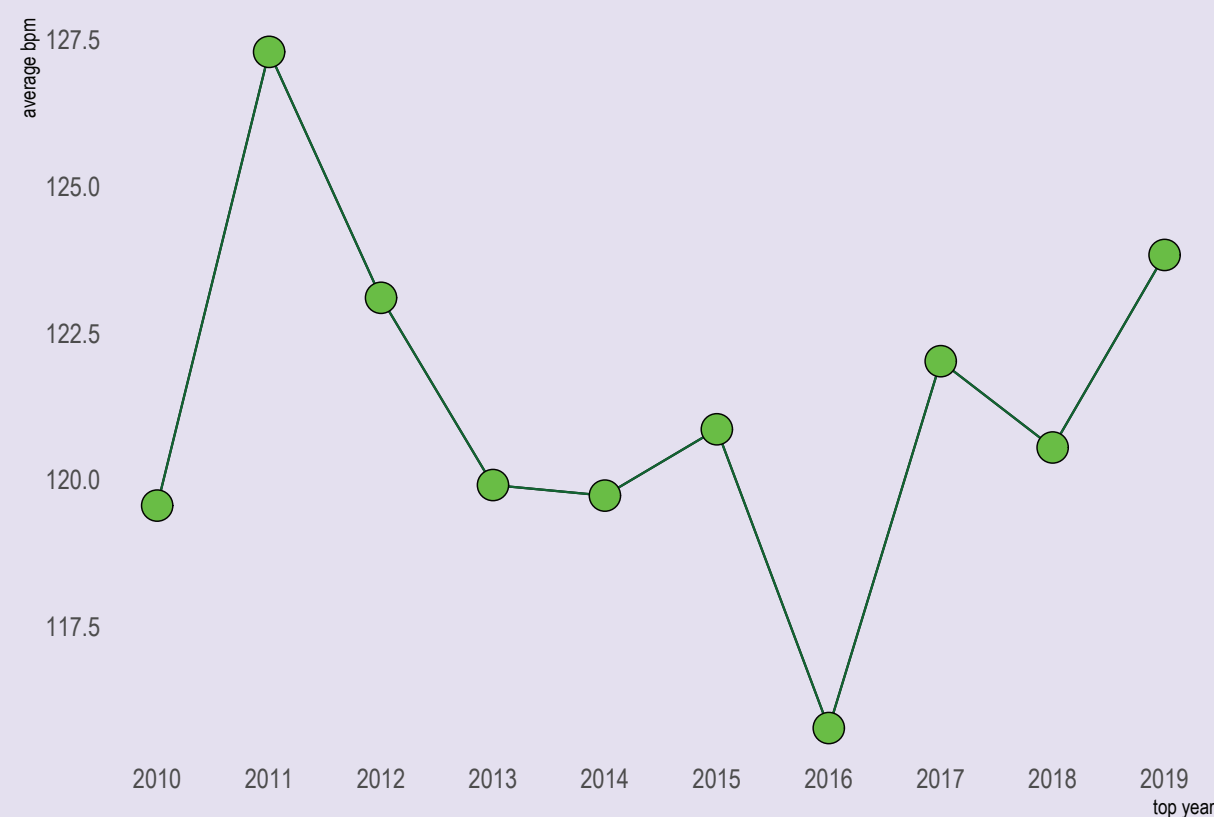
BPM for Top 50 Artists

The plot on the right shows the average beats per minutes (bpm) for songs of the top 50 artists. I've grouped them by genre of music, and put them in order by average bpm. Among them are 361 dance pops, 57 pops, 39 atl hip pops and 37 art pops.

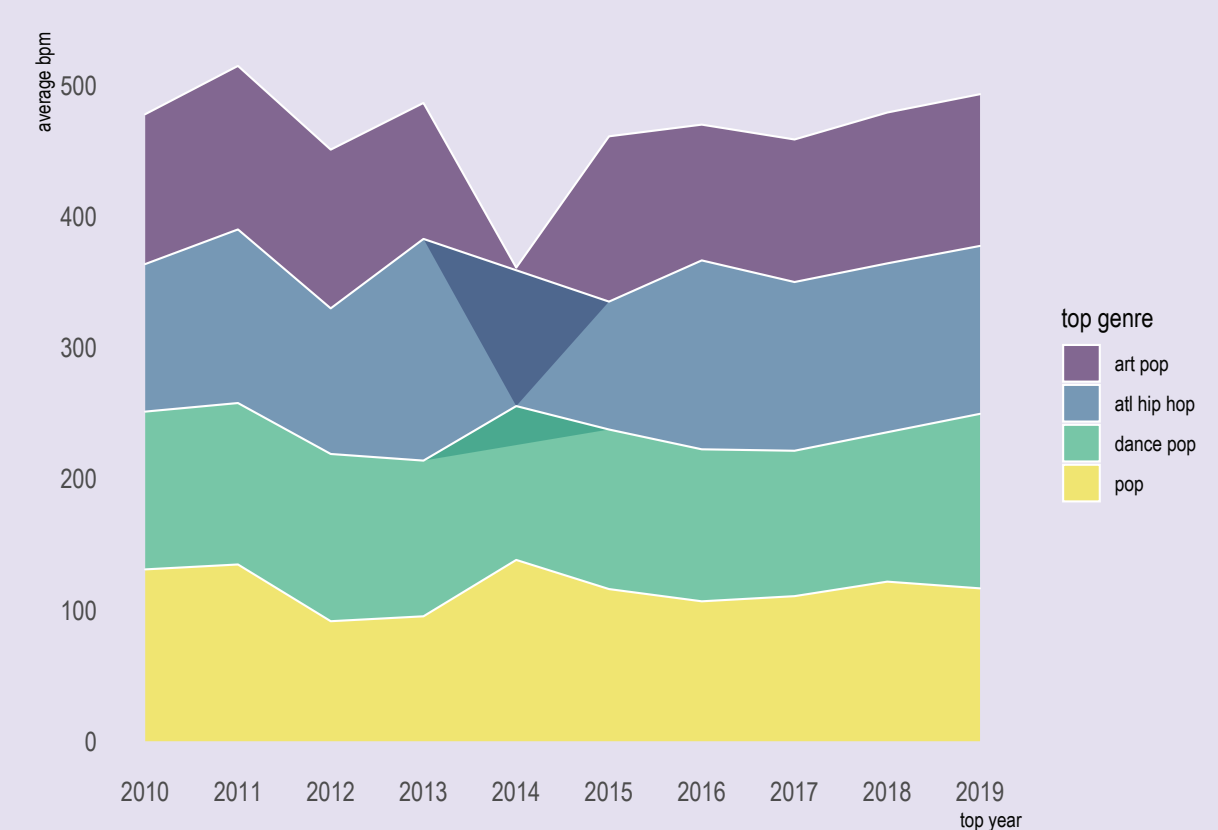


*Outer: Average beats per minutes for 50 artists in top 4 genres
*Inner: Count of songs in top 4 genres

Average Beats Per Minute of Songs During 2010-2019



Average Beats Per Minute of Songs for Top 4 Genres During 2010-2019



Beats per Minutes Trends

The right 2 graphs shows the beats per minutes distribution. From the box plot we can see that art pop is the most narrow box and atl hip pop is the widest. Moreover, although the dance pop is not the widest one, it has many upper outliers. The ridgeline chart also shows that atl hip pops had 2 peaks of bpm, the lower one close to 90 and higher one close to 140.

The above 2 plots shows yearly trend of beats per minutes over the past decade. From the line chart, we can see that the over all average bpm went up from the beginning and decreased from 2011 to 2016, then increased again from 2016 to 2019. Next I filtered the top 4 genres and drew a stacked area chart. It seems only pop genre gently declined since 2018, all others' bpm increased after 2017. Therefore, I believe that the popularity of bpm will continue to going up, and high tempo songs may become more and more popular in the coming years.

