Name(s)	Project Number
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Project Title

Skirts, Music, and the Economy: An Investigative Study on the Correlation Between Music Tempo and GDP Rate

Abstract

Objectives/Goals
The objective of this study was to characterize the correlation, if any, between GDP rate and Average Yearly Music Tempo.

Methods/Materials
Laptop computer with Microsoft Excel & "BPM Counter" by Abyss Media. GDP data was collected from the US Bureau of Economic Analysis. The Top 50 songs from the Billboard Hot 100 for each year were selected and downloaded from youtube, taking advantage of Google's autogenerated channels to avoid copyright infringement. Songs were then processed using "BPM Counter" in order to produce an average beats per minute for each year. (One data point per year) Both data sets were subtracted from their respective best-fit trend-line in order to create "fluctuation" or a sense of relativity. A comparison between
de-trended GDP rate and de-trended Average Music Tempo was then made.

Results
Mathematically: (de-trended GDP rate)=-0.4476*(de-trended Average Music Tempo). The correlation factor between de-trended GDP rate and de-trended AVerage Music Tempo was -0.756.

Conclusions/Discussion
The correlation factor of -0.756 suggested that music tempo was a strong inverse indicator of economic mood. Tempo fell below its trendline when GDP spiked above its trendline, and tempo spiked above its trendline when GDP rate fell below its trendline.
A possible reason for this phenomenon is that people may self-medicate. When the economy is down and feelings are at a low, people may listen to faster, more up-beat music. When the economy is up, then people may unwind and listen to slower, more relaxed music.

Summary Statement

I demonstrated a strong negative correlation between relative music tempo and relative GDP rate.

Help Received

None. I designed and conducted the project myself. Only after the project was finished was I able to ask a few statisticians as to whether or not my data was for sure valid, which to the answer was yes.