

Warsaw Econometric Challenge 2021

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Warsaw, 24-04-2021

$$b = (X'X)^{-1} X'y$$

WARSAW econometric CHALLENGE






First edition

$$\hat{\theta} = \underset{\theta}{\operatorname{argmin}} M_T'(\theta) W_T^{-1} M_T(\theta)$$

The topic

- The Economist, the magazine, Feb 8th, 2020 edition
- In the article, it was hypothesized that people's mood may be the worst in January ("Blue Monday").
- To measure the mood (or "seasonal misery"), The Economist has analyzed music consumption.
- **And so have we**
- **And you are about to!**
- **Valence:** A measure restricted to $[0; 1]$ interval. It codes positiveness or happiness of a song.
- Songs described with higher valence sound more positive, and simultaneously low valence songs sound more negative.

Daily data on Top 200 – <https://spotifycharts.com/regional/pl/daily/2018-01-01/>

Spotify		Charts		↓ DOWNLOAD TO CSV	
TOP 200		VIRAL 50		Filter by	
		POLAND		DAILY	
				01/01/2018	
		TRACK		STREAMS ?	
	1	▲ rockstar by Post Malone, 21 Savage		38,954	
	2	▲ Havana by Camila Cabello, Young Thug		33,062	
	3	▼ Shape of You by Ed Sheeran		32,170	
	4	▼ More Than You Know by Axwell /\ Ingrosso		29,949	
	5	▼ Feel It Still by Portugal. The Man		28,166	

Let's get down to business

- Your lecturers decided to repeat the analysis performed by the Economist (weekly magazine). For this reason, data on music listened to in all northern hemisphere OECD countries were downloaded from Spotify.
- Since 2017 Spotify has also published daily tables of the 200 most-streamed songs, both worldwide and in each country.
- The daily data were aggregated to monthly figures. Thus, we end up with a panel data set, with entity dimension defined by a list of all northern hemisphere OECD countries, and time dimension defined by months from January 2018 up to December 2019.
- What we offer to you, is extended with the (possible) covariates consisted of
 - *sky* - cloud amount (percent of the sky hidden behind clouds) and
 - *temperature* - average month temperature in Fahrenheits.

Get down to business

- We expect you to elaborate on this relationship and to try quantify it.
- To solve the contest problem teams will have 24 hours. The deadline for the papers is 10:30 a.m. on Sunday, April 25th, 2021.
- The papers should be submitted via email wec@wne.uw.edu.pl.
- The jury has one week after the deadline to assess submitted papers.
- The jury selects the winning papers. The assessment of papers will be made in the same way the submitted papers are assessed by editors and reviewers at scientific journals. The jury will do its utmost to assess the papers impartially. Having said that, the participants should be reminded that not all decisions can be easily quantified.
- For 3 hours, until 13:30, teams will be allowed to consult their general ideas with the supervisors. The jury reserves the option not to address to some questions.

Possible extensions...

- Surprisingly, lower aggregated valence is observed in the southern hemisphere as well.
- Music generally listened to in Latin American countries might be considered as more happy (higher valence). It would be interesting to elaborate on these countries.
- Other ideas???

Good luck!