Link to Github Repo:

Hypothesis: Our hypothesis posits that the average profit derived from drug trafficking exceeds the median salary or income of a country. This suggests that drug trafficking may exploit vulnerable individuals and groups in pursuit of larger financial rewards.

Comment and Approach: This hypothesis initially seems plausible before delving into the available data. Upon closer examination, we find that the potential comparable factors include profit from drug trafficking, profit from drugs, and the price of drugs, alongside the intuitive factor of adjusted national income. When considering how the price of drugs is measured, it is in dollars per gram. I obtained the quantity of seizures from the same data source and multiplied them together to calculate the total "profit" from drugs for each country. However, one might question how this can be comparable with the national income. It's understandable that ultimately, we aim to determine whether drug trafficking is an "easy money" avenue preying on vulnerable individuals. Thus, using adjusted national income per capita might be a more appropriate choice. Despite finding no existing data source revealing the number of people involved in drug trafficking for the country of interest, I proceeded with the analysis nonetheless.

Method: The table obtained from this website provides drug prices categorized by drug type, time, and country, with units in dollars per gram. For downstream statistical analysis, I aggregated the data to create a table of country means for drug prices across all drug types and time ranges from 2019 to 2021. Similarly, I acquired a table of seizure quantities categorized by drug type, time, and country, with units in kilograms. This data was also aggregated to create a table of country means for the amount of drug seizures across all drug types and time ranges from 2019 to 2021. Subsequently, I merged these two resulting tables, resulting in data from 13 European countries. Countries with substantial missing data are excluded from our analysis to ensure reliability.

Following the data wrangling process, the chosen downstream statistical analysis method was the Welch Two-Sample t-test. The modified hypotheses are as follows:

- Null Hypothesis: The true difference in means between the overall price of drugs and the overall national income is 0.
- Alternative Hypothesis: The true difference in means between the overall price of drugs and the overall national income is greater than 0.

Result:
The calculated t-value of 3.3929 and associated p-value of 0.00267 suggest a statistically significant difference between the overall price of drugs and the overall national income. This

indicates that the average profit derived from drug trafficking significantly exceeds the adjusted national income across the included countries.

Citations:

World Bank. (2019-2021). World Development Indicators [Adjusted net national income (current US$)]. Retrieved from
https://databank.worldbank.org/source/world-development-indicators/preview/on#

European Monitoring Centre for Drugs and Drug Addiction. (2019-2021). Drug Seizures. Retrieved from https://www.emcdda.europa.eu/data/stats2023/szr_en

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