Query: Find the trend of taxi driver income compared to that of inflation

## Introduction:

https://www.bloomberg.com/news/articles/2022-05-23/nyc-taxi-drivers-call-for-first-fare-increase-in-a-decade?leadSource=uverify%20wall

The fares of taxi drivers have become a hot topic with many unions fighting for increased fares. This is especially so with the rise of inflation. We must look at the change in income and prices over time, benchmarked to inflation. Taxi wages depend on a number of things, from the average fare they get per trip, and how many trips they can take per day. It also depends on how much they get tipped. Tipping culture for taxis isn't always a percentage of the fare, sometimes it can take the form of an informal "keep the change" style tip. Do surcharges happen more or less often than before? What about extra fees? All things considered, when you add up all the sources of income, are taxi wages keeping up with inflation?

**Queries:**

There are several things we need to do to create our final change over time comparision:

- Change of average fare amount over time (main source of income)
- Change of average number of trips per day over time (main source of income)

- Change of average tip over time (Do tips increase with inflation, has tipping culture itself changed. Tipping culture for taxi's isn't always a percentage based value, often times it takes the form of "keep the change")
- Change of  average use of Extra Fees over time. E.G a driver may get the extra fee on average 1.2 times a day. How has this average extra fees per day changed over time.
- Change of  improvement surcharge over time. E.G a driver may get the improvement Surcharge on average 1.2 times a day. How has this average extra fees per day changed over time.

Finally, combine these totals to show the change in average daily wage and compare it the average daily wage needed to keep up with inflation.

### Real World Application:

We can provide a real justification or rejection of the claims that taxi fares in NYC should be increased. It also provides a look in to see the effect of inflation on working class jobs and incomes.

## Data Representation:

We should be able to use line graphs to show the change of a parameter daily from 2011 to 2022 (years where we have the data.) Daily data is more accurate, but we can also aggregate it into a month by month analysis too. For example,

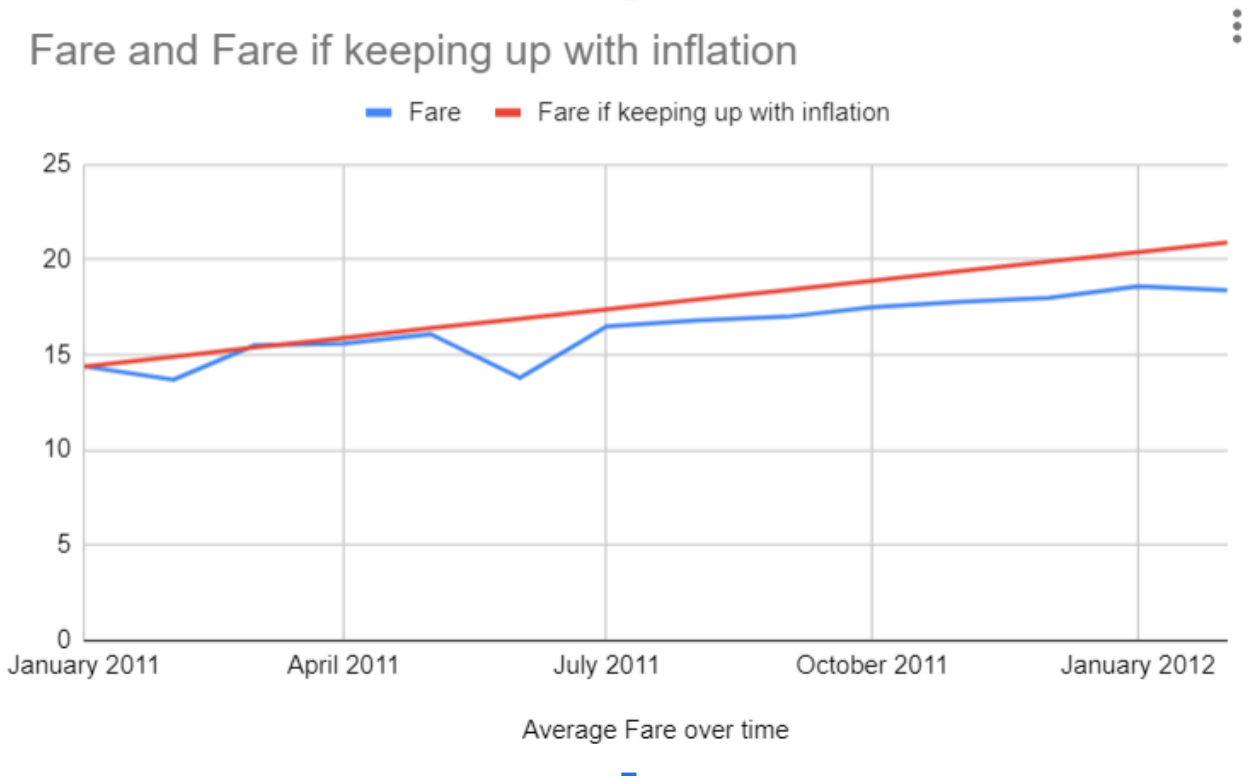


Figure 1. Sample Graph of Change in Average Fare Compared to Inflation

We can do this for every month from January to 2011 to September 2022.

With the exception of average trips per day, we can compare statistics to inflation. In the case of extras and surcharges, we can not compare to average instances of extras per day, but we can compare the average value of each instance. For example, an average of 1.2 instances of surcharge per day with an average of $4 per surcharge.

Variables and Data:

From our taxi data database we have access to all sorts of monetary information. We can use complex queries to select the ones we need and combine them to display the change in average total income per day.

The inflation data is not readily available. One approach is to find the inflation percentages over time and make main memory calculations to display the expected incomes. Instead, however, because this calculation is trivial, we can just calculate it ourselves beforehand and store it in our database. We would need to modify the existing database we have but the benefit is worth it.