Case Study 3: Follow your own Case Study Path (UK Inflation Data from 1989-2022)
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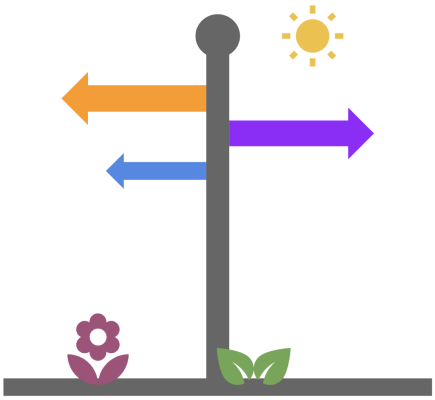


INTRODUCTION

Choosing your own Case Study Path helps you to be dependent on your own study. I chose UK Inflation Data from 1989 to 2023. This case study will investigate which year has the highest and lowest inflation in the United Kingdom. In which quarter does the inflation occur in highest and lowest.

By the end of this lesson, the learner goal is to have a portfolio-ready case study. To make sure you are set up for success, it is recommended that you complete one of the more structured case studies first. In addition, be sure to read the included scenario and follow the Case Study Roadmap, which details the steps of the data analysis process: **ask**, **prepare**, **process**, **analyze**, **share**, and **act.**

SCENARIO

You are a junior data analyst working for a business intelligence consultant. You have been at your job for six months, and your boss feels you are ready for more responsibility. He has asked you to lead a project for an UK Inflation Data from 1989 to 2022 — this will involve everything from defining the business task all the way through presenting your data-driven recommendations. You will choose the topic, ask the right questions, identify a fresh dataset and ensure its integrity, conduct analysis, create compelling data visualizations, and prepare a presentation.

ABOUT THE DATASET

CPIH index is a version of the Consumer Price Index which has been modified to include costs related to housing, mainly rent and mortgage payments. It does not take into account the cost of housing.

This data set can be used in combination with other UK datasets to examine potential correlations between inflation and other social and economic indicators.

Usage of this data is covered by the OGL 3.0. The datasets contain 2 files which are divided into Year and Quarter.

Note: After I carefully reviewed the dataset. The dataset ranges from 1989 to 2023. Also, i focused on the dataset in Year and Quarter only.

DATA ANALYSIS PROCESS

As a data analyst, we will apply all the data process analysis; starting with the **ASK** process.

ASK process

After reviewing the dataset, I arrived at these questions;

- What year has the highest and lowest inflation?
- What is the average inflation in a year? Quarter?

These questions will help the stakeholders to their decision to examine potential correlations between inflation and other social and economic indicators.

PREPARE process

The data is located in a csv file or spreadsheet. Since these datasets are contained with only a few columns and rows. I didn't remove some of it as I will need it to perform my analysis later on.

Source:
https://www.kaggle.com/datasets/scarfsman/uk-inflation-data-1989-2022/data?select=Inflation+by+Quarter.csv by George (Kaggle)

The tools that I will be using for my analysis are SQL and for Data Visualization will use Spreadsheet or Tableau.

PROCESS stage

In this process. I will be using SQL for data analysis such as PostgreSQL, and Tableau for Data Visualization.

ANALYZE process

Now that we have all the data that we need, we can now analyze it using SQL. I ran some queries to answer some questions.

First, I ran a query to determine what year has the highest inflation value;

```
SELECT inflation, year
FROM uk_inflation_year
WHERE inflation = ( SELECT MAX(inflation)
                    FROM uk_inflation_year)
```

Then, the year 1990 has the highest record of inflation value in UK.

	inflation real	year smallint
1	8	1990
2	8	1990

Next, the lowest inflation value;

```
SELECT inflation, year
FROM uk_inflation_year
WHERE inflation = (SELECT MIN(inflation) FROM uk_inflation_year);
```

Then, the result is;

	inflation real	year smallint
1	0.4	2015
2	0.4	2015

Second, we determine the average inflation value per quarter and year;

```
SELECT AVG(inflation) AS quarter
FROM uk_inflation_quarter


SELECT AVG(inflation) AS year
FROM uk_inflation_year
```

The result is;

	year double precision
1	2.752941167529891

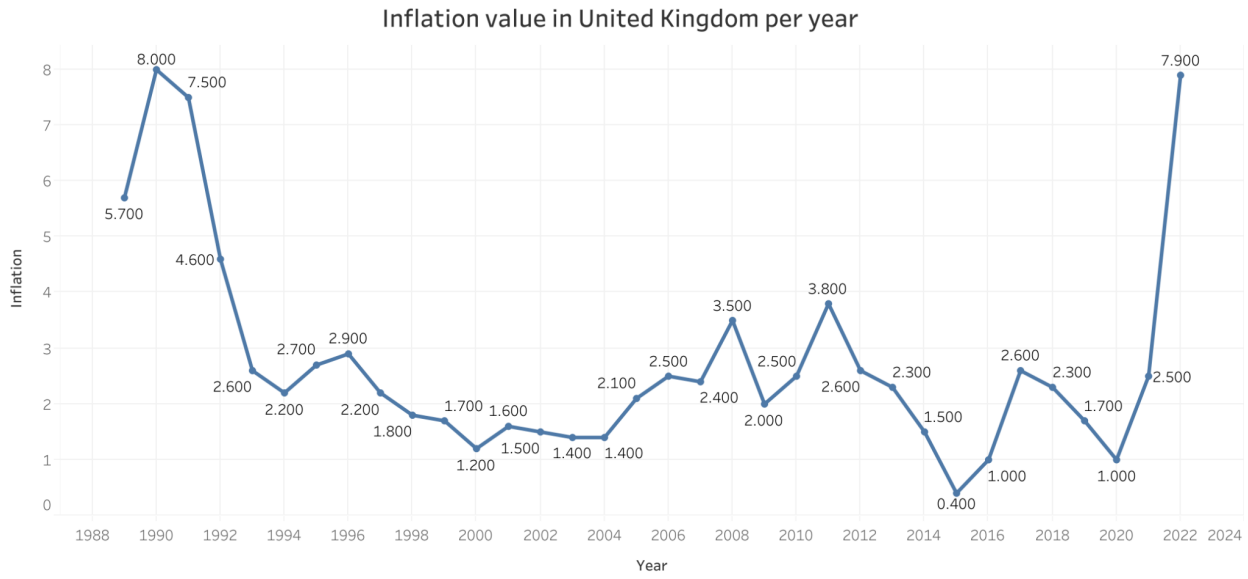
	quarter double precision
1	2.824637673687244

Now that we have all the data we need for our visualization, let's bring this back to life.

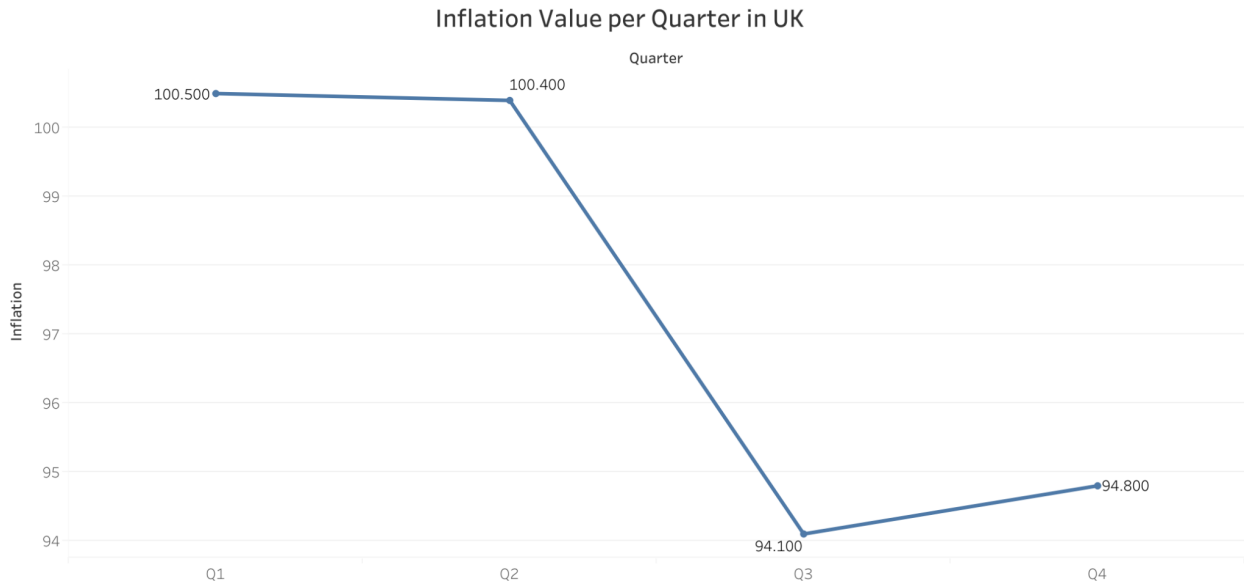
SHARE process

In this process, i use Tableau for data visualization and I came up with these results;

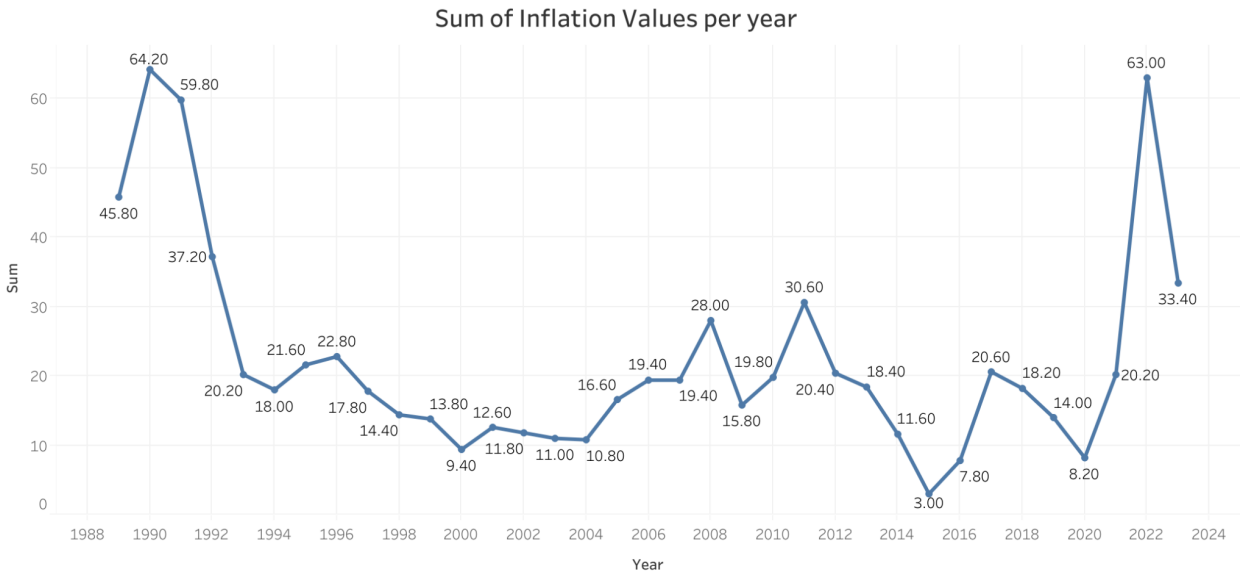
I include all the datas from the year 1989 to 2022. The year that has the highest inflation occurs in 1990 and the lowest is in 2015.



These values are sum of every month per year in per quarter (for example for the year 1989; all data in Q1 are in one point)



Lastly, this is the sum of all inflation values occurring per year; this is different from the first chart, because the first chart is just only the percentage.



ACT PROCESS IS IN THE PRESENTATION
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