

# Exploratory Data Analysis of the Food Stamp Program

A summary of trends, costs, and insights into U.S. food assistance data (1969-2015)

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Project 1

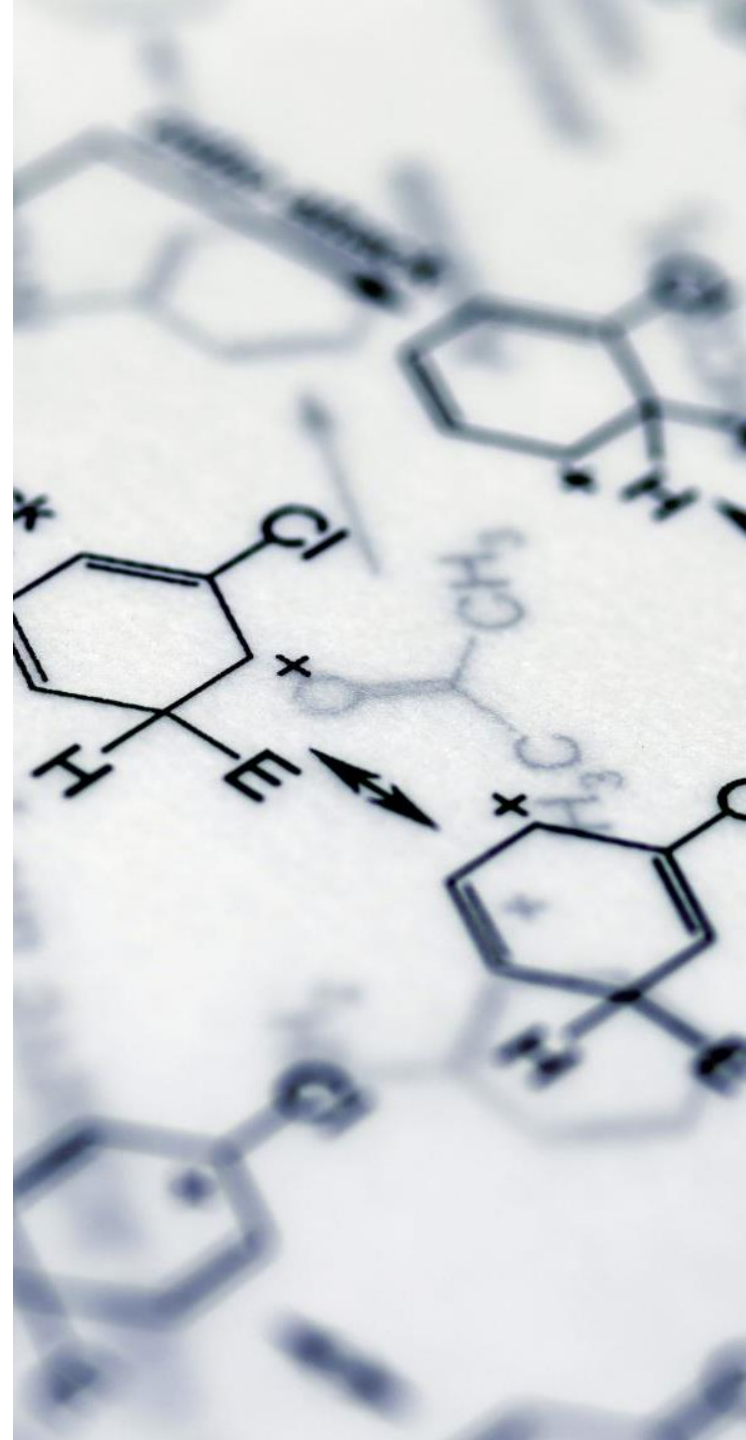
# Introduction

This project explores the U.S. food stamp program data from 1969 to 2015.

The dataset includes yearly information on:

Number of participants (in millions)

Costs of the program (in billions of dollars)



# Data Overview

The dataset contains 47 rows with the following columns:

- Years
- Participants: Number of people using food stamps (millions)
- Costs: Total program cost (billions of dollars)

# Exploratory Data Analysis (EDA) Process

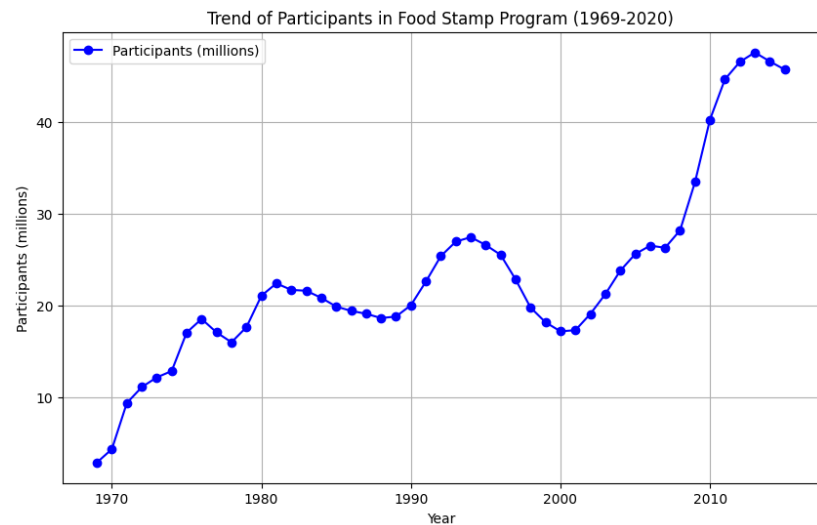
The EDA process involved:

1. Checking data structure and types.
2. Analyzing trends over time for participants and costs.
3. Examining the distribution of participants and costs.
4. Looking at the relationship between participants and costs.



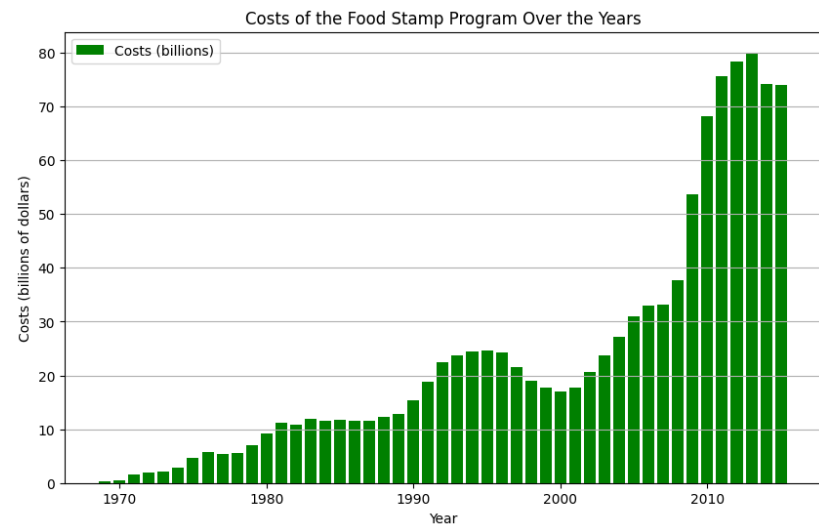
# Trend of Participants Over Time

- The number of participants in the food stamp program generally increased from 1969 to 2015.
- Certain years saw sharp rises, possibly due to economic downturns or policy changes.
- This shows that more people rely on food stamps during tough times.



# Trend of Costs Over Time

- The program's costs also increased over time, with notable peaks during specific years.
- These peaks indicate periods of high demand or increased benefits.
- Costs rose as more participants joined, showing a direct link between participation and expenses.





# Distribution of Participants

- A histogram showed that most years had lower participant numbers.
- A few years had higher numbers, reflecting times of increased need.
- This distribution helps highlight years when the program was especially needed.

# Distribution of Costs

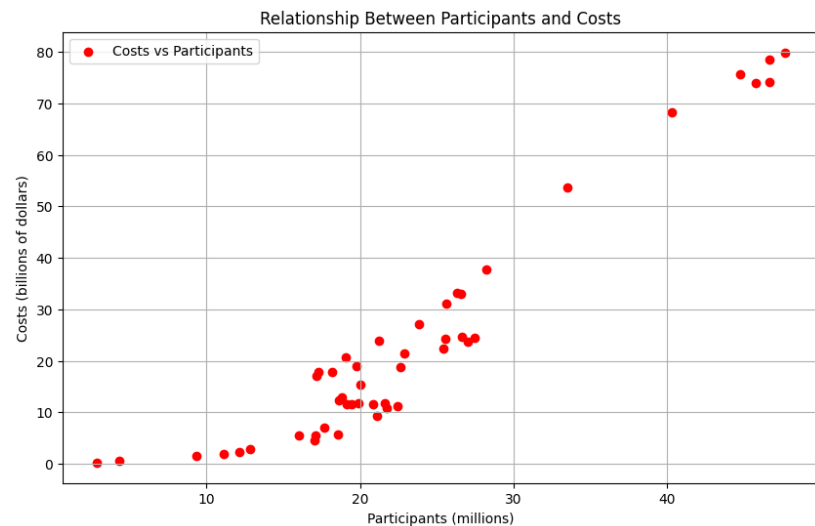
- Similar to participants, most years had lower costs.
- Higher costs appeared in years with more participants, likely due to economic factors.
- This distribution shows how costs vary based on program demand.





# Relationship Between Participants and Costs

- A scatter plot showed a strong positive correlation between participants and costs.
- As more people used the program, the costs increased proportionally.
- This relationship shows that costs scale with the number of people needing assistance.



# Key Observations

1. Both participants and costs have generally increased over time.
2. The program's costs are strongly linked to the number of participants.
3. Certain years show higher demand, likely due to economic changes or policy adjustments.



# Conclusion

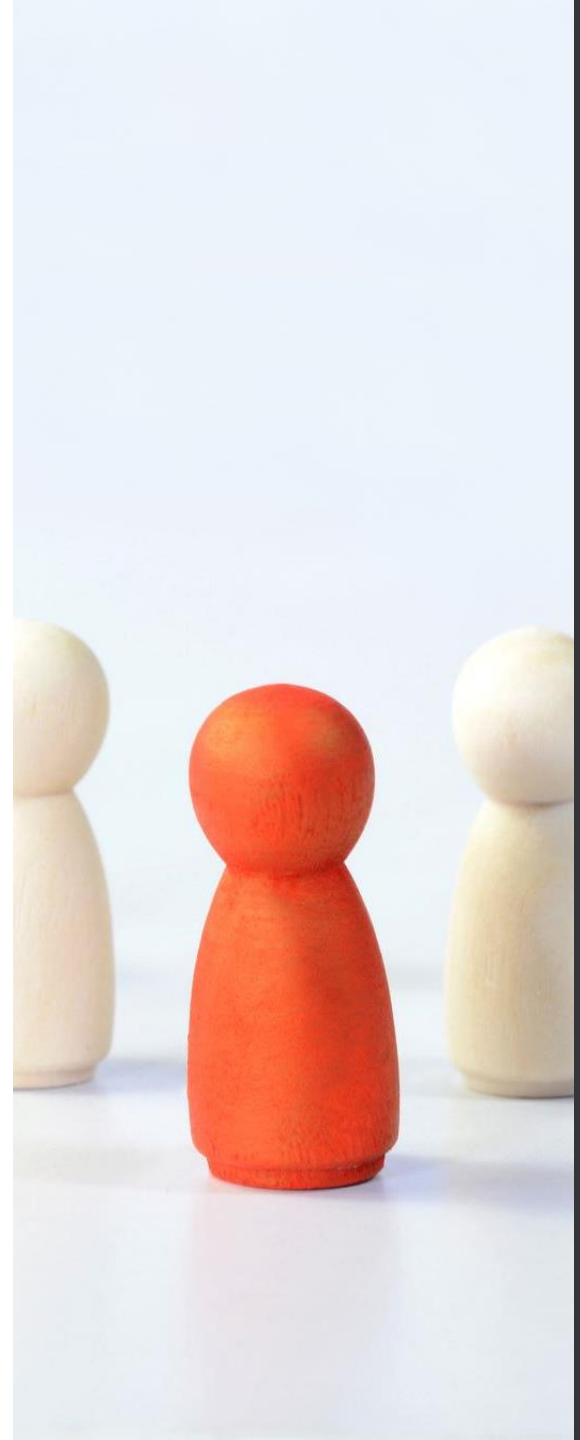
The analysis shows that the food stamp program has grown in both costs and participants.

The program acts as a safety net during hard economic times, helping more people when needed.

Further research could explore:

Specific economic events causing high demand.

Differences in usage by region or demographic.



# Thank You!

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This concludes the analysis of the food stamp program data.