

# States Comparator

## A Guide for Relocation

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## Team 2: Team Logic

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# Hypothesis

Not All States Are Equal

Would it be better living in Virginia or Maryland?

Maryland would have a better cost of living.

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# Objective

Virginia vs Maryland

OR

*any 2 of your choice*

Compare two States and give insight on which is the better state in following categories:

- Personal income and personal expenditure (per capita)
  - In 2019
  - From 1997 to 2019
- Public transport usage and personal expenditure on public transportation
- Public transport vs carpool usage
- 2025 income and expenditure projection
- Outstanding states since 1997

# Data Cleaning

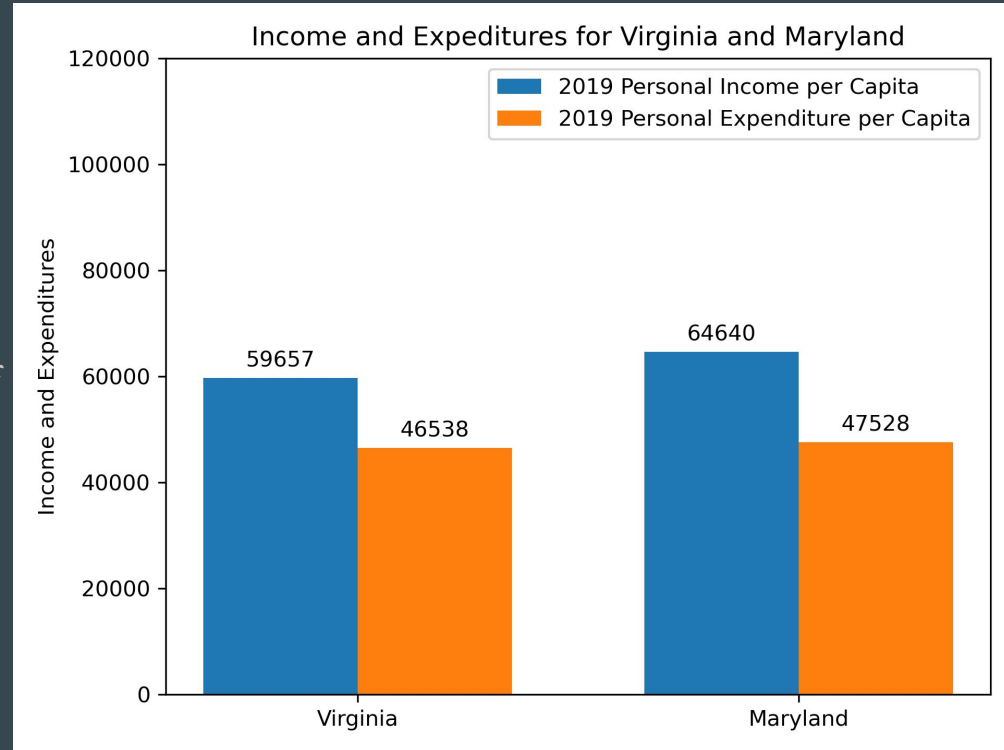
- Analyse raw data
  - Multiple CSV files - *Bureau of Economic Analysis*
  - API - *The United States Census Bureau*
- Create dataframes
  - Income
  - Expenditures
  - Population
- Drop irrelevant data
  - Columns
  - Headings
- Normalize data
  - Convert to per capita data
- Merge dataframes
  - 28 categories
  - 50 states + United States
  - Multilevel indices
- Perform analysis

# Income and Expenditure Comparison in 2019

## Summaries:

- Personal Income and expenditure per capita of Virginia is less than that of Maryland in the year 2019.
- However the people of Maryland (26% of total income) saves more than the people of Virginia (22% of total income).

## Reflecting Questions:



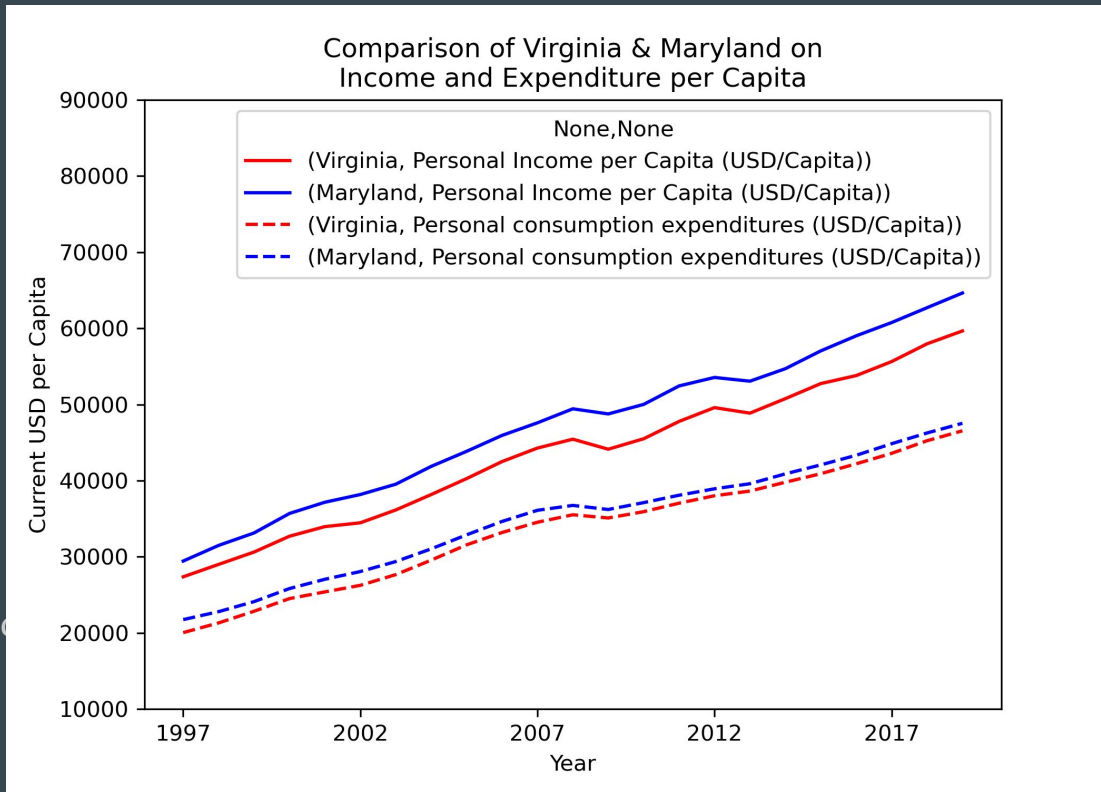
# Income and Expenditure for Two Decades

## Summaries:

- From the graph, as the income increases the expenditure also increases in the last two decades.

## Reflecting Questions:

- Is there going to be a change in income and expenditure over the years?



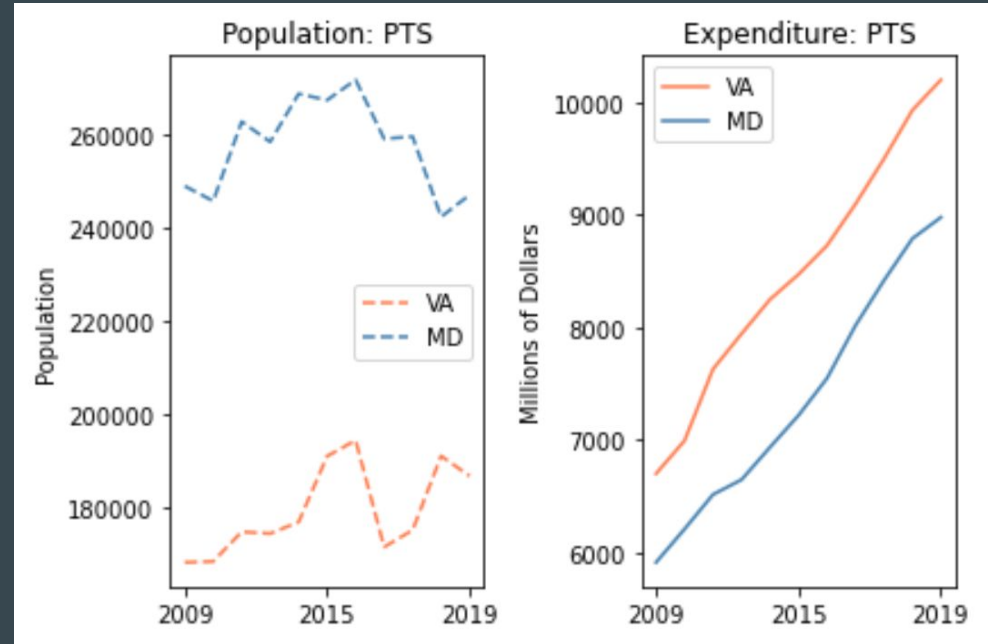
# Population and Expenditure in Public Transportation Service

## Summaries:

- The population that used public transportation service (PT) in MD were higher than in VA, but the expenditure in this area in MD is lower than in VA.

## Reflecting Questions:

- How often do people in VA/MD use PT?
- What are the average travelling distance?
- How do frequency and distance affect expenditures in this area?



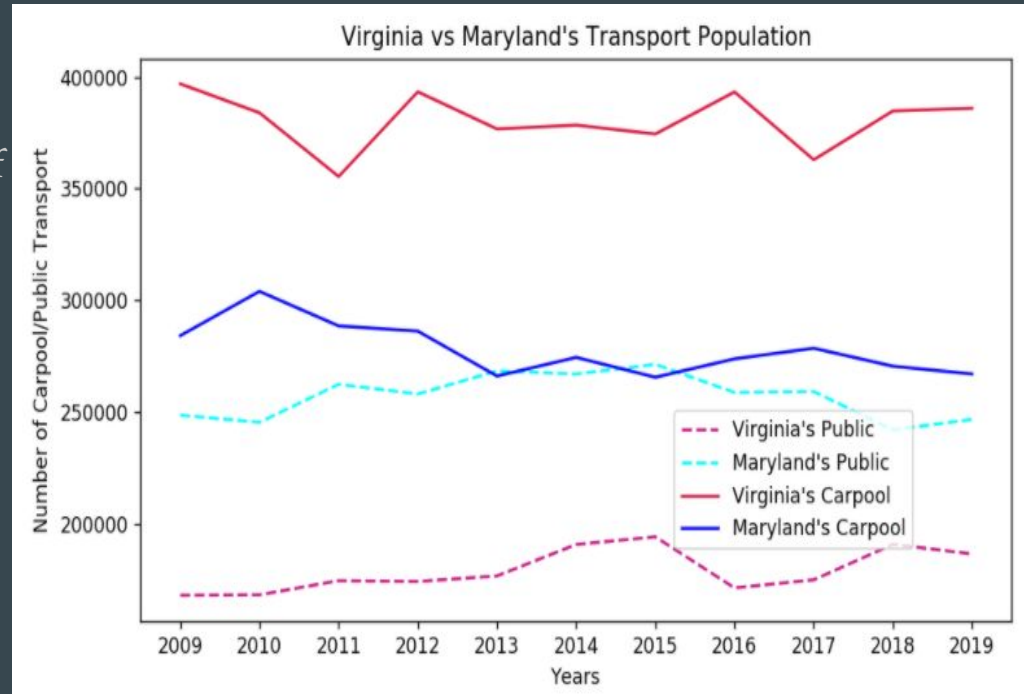
# Means of Transportation in VA and MD

## Summaries:

- Higher use of Carpool in the Commonwealth of Virginia and less use of Public Transit. Unlike the State of Maryland, where there is a somewhat close correlation between the two transport means.

## Reflecting Questions:

- What could be the reason for this trend?
- Is this something that will continue into the future?





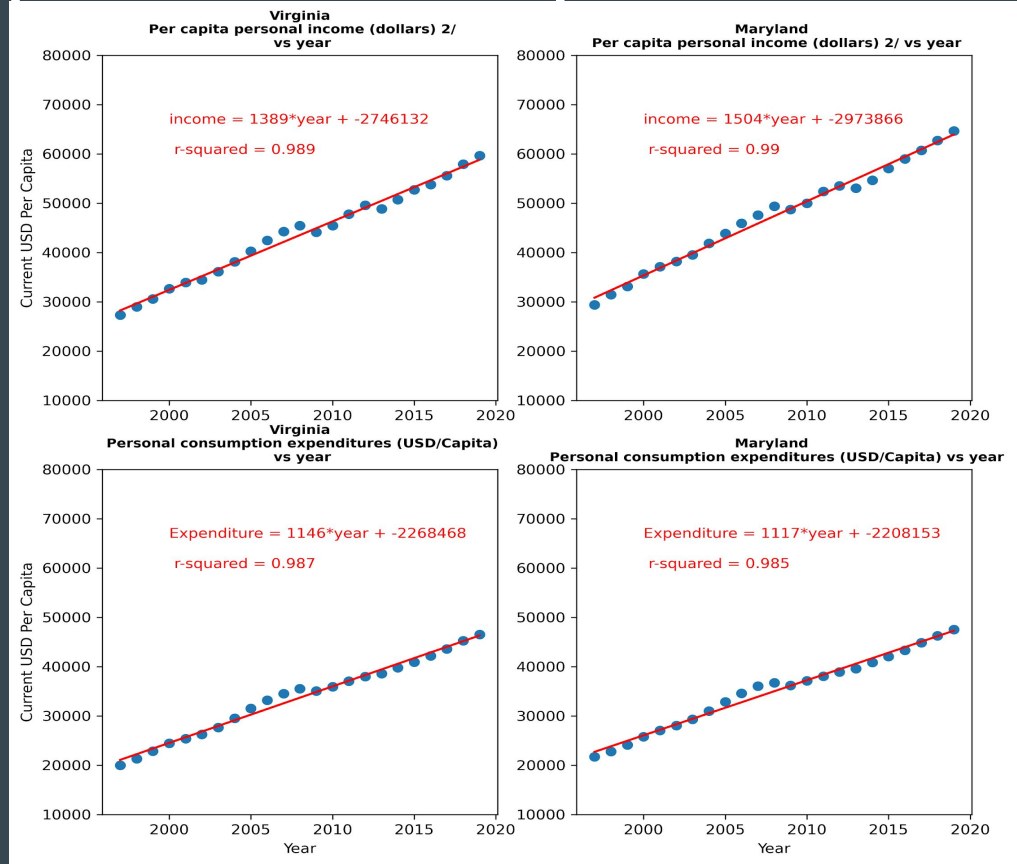
# Correlation of Income and Expenditure with Respect to Time

## Summaries:

- Income increases over time
- Expenditure increases over time

## Reflecting Questions:

- What are the effects of inflation on income and expenditure?



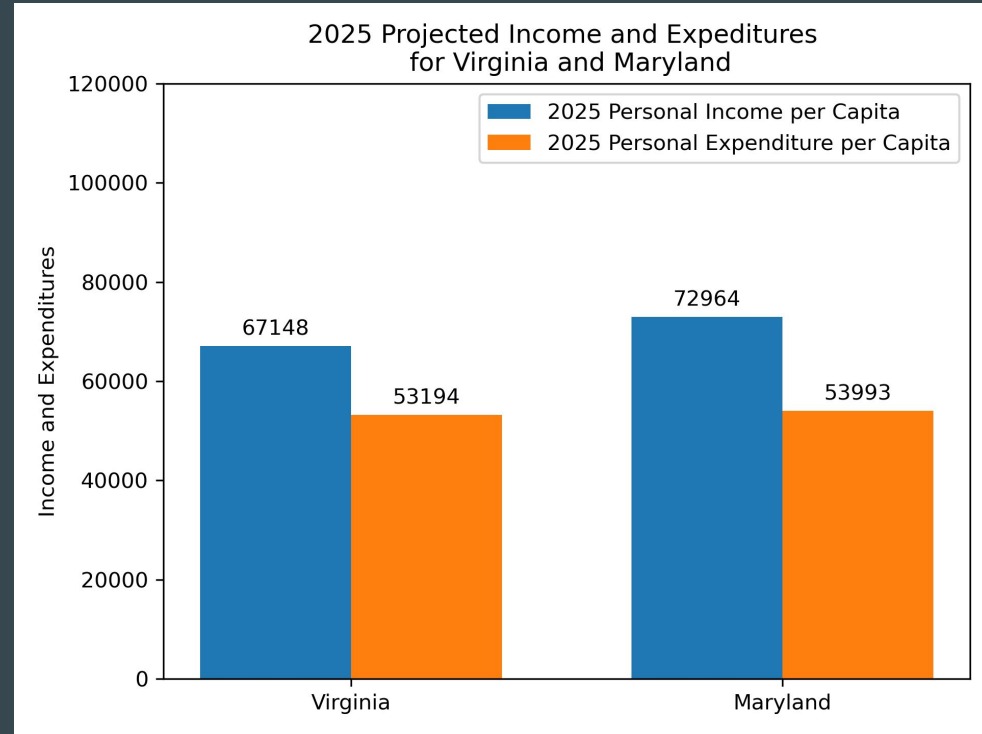
# Income and Expenditure Projection in 2025

## Summaries:

- income is projected to increase in Virginia by 12.56% by 2025, while expenditure is projected to increase by 14.30% by 2025
- Maryland income is projected to increase by 11.90% by 2025, while the expenditure is projected to increase by 13.36% by 2025

## Reflecting Questions:

- How will population growth affect income and expenditure?
- How will technological advancement affect projected income?



# Outperforming States Since 1997

## Summaries:

- Outperforming States for income
  - Connecticut
  - Washington, DC
- State with the most expenditure
  - Washington, DC

## Reflecting Questions:

- Would the result be different with a shorter time frame?

2 States are potential outliers in terms of Income Per Capita from 1997 to 2019 as listed:

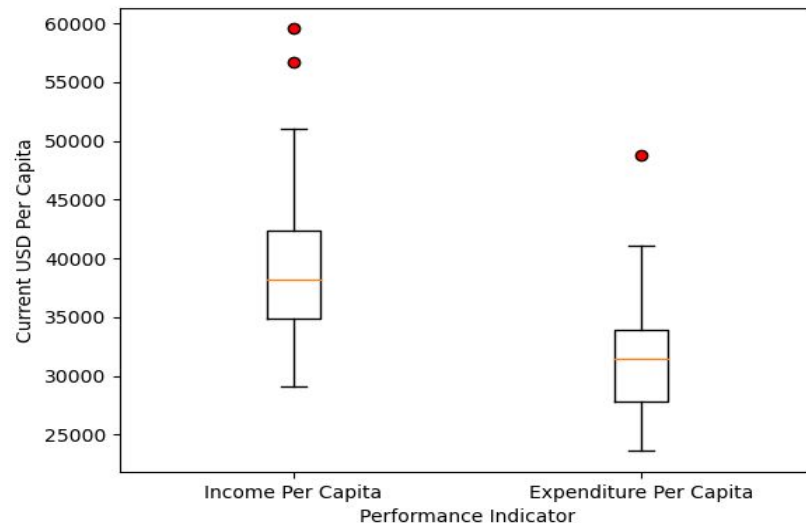
	Income Per Capita
Connecticut	56730
District of Columbia	59543

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1 States are potential outliers in terms of Expenditure Per Capita from 1997 to 2019 as listed:

	Expenditure Per Capita
District of Columbia	48737

**Personal Income Vs Personal Expenditure  
Average Performance from 1997 to 2019**



# Conclusion

Hypothesis confirmed - Not all states are the same

## Maryland

- Higher income and expenditures
  - 2019 and 1997 - 2007
  - 2025 (projected)
- Higher usage of public transportation
- Lower cost of public transportation
- Less carpool usage

## Virginia

- Lower income and expenditures
  - 2019 and 1997 - 2007
  - 2025 (projected)
- Lower usage of public transportation
- Higher cost of public transportation
- Higher carpool usage

Users can compare any two states

Questions?

# References:

- The Bureau of Economic Analysis <https://www.bea.gov/>
- API - United States Census Bureau