



*AI Driven Analysis of Trade Tariff  
Impacts on Consumer Prices in the U.S.*

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# Do really Tariff cause Inflation?



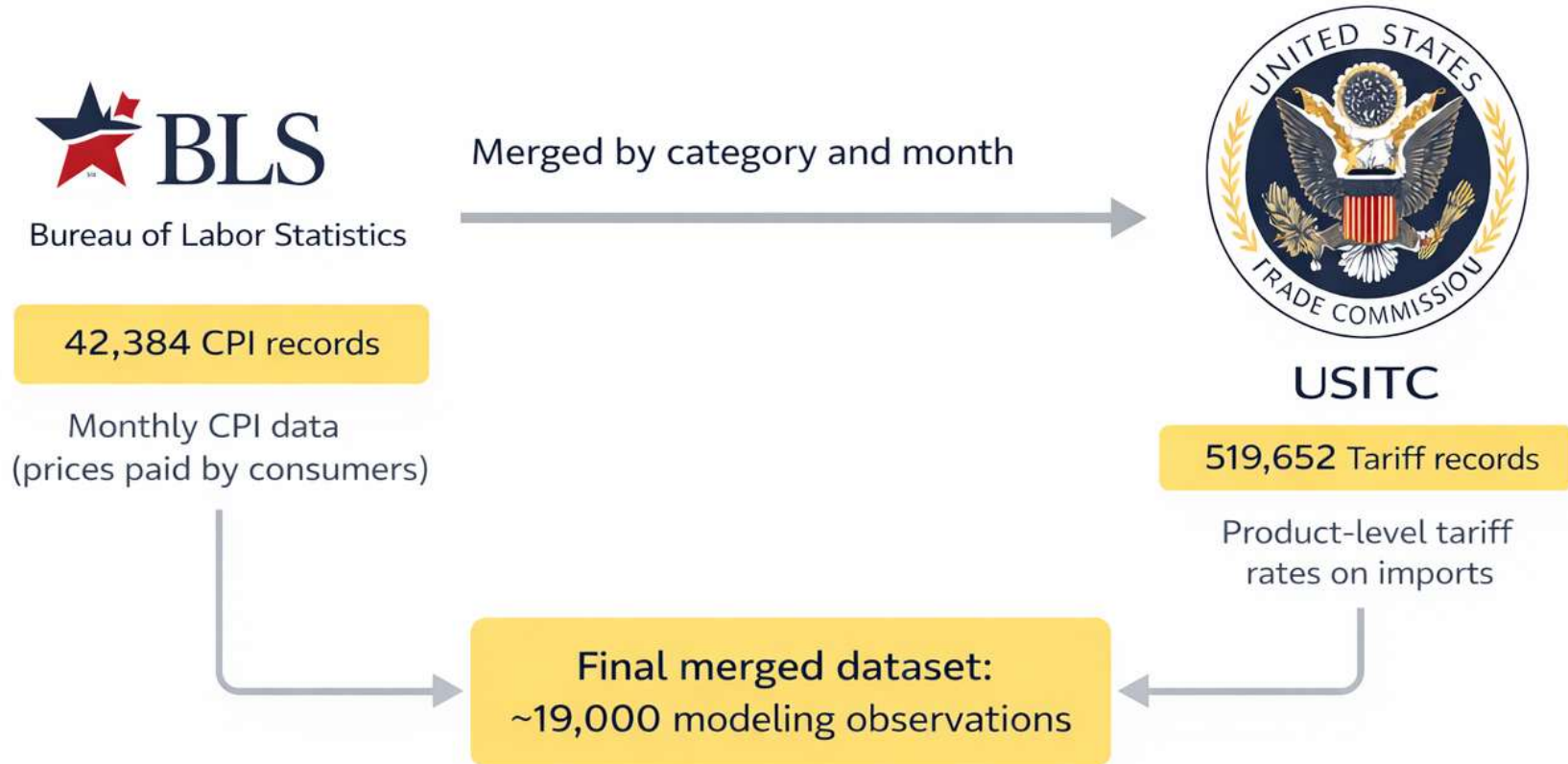
**VS**



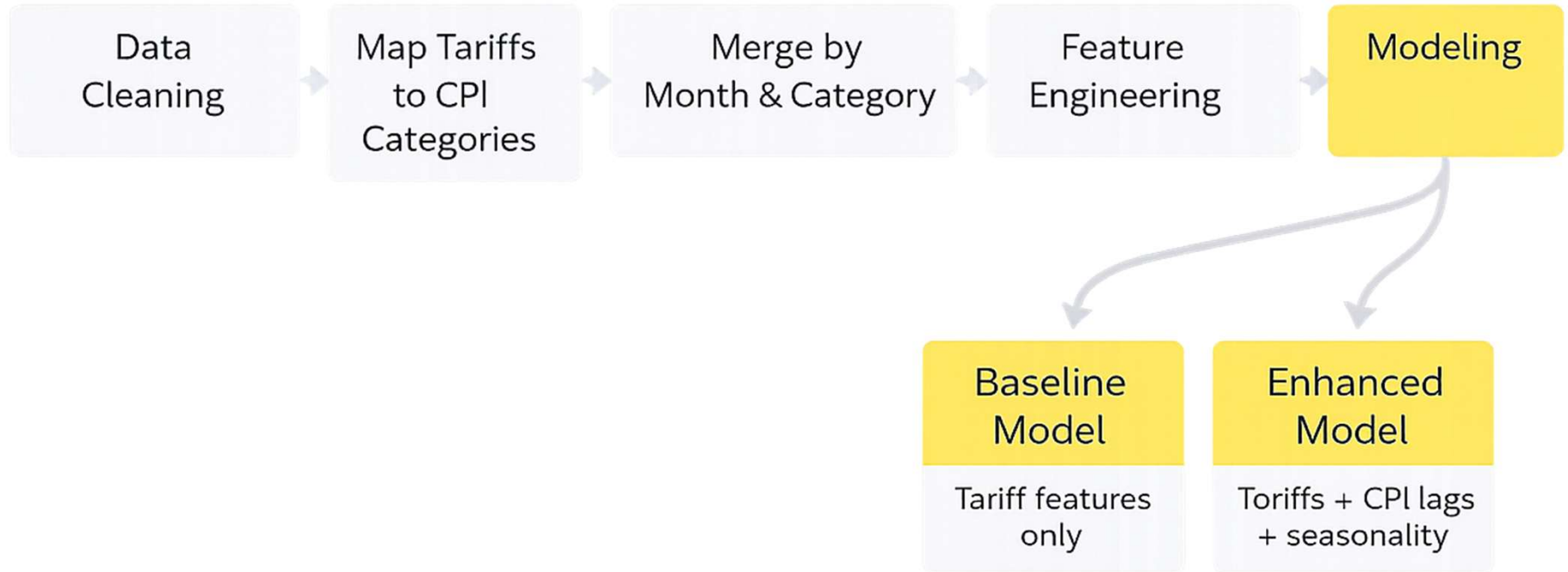
Inflation  
measures  
how fast the  
cost of living  
increases.

Tariffs can  
increase costs,  
but they are only  
one part of the  
price story.

# Two Federal Data Sources

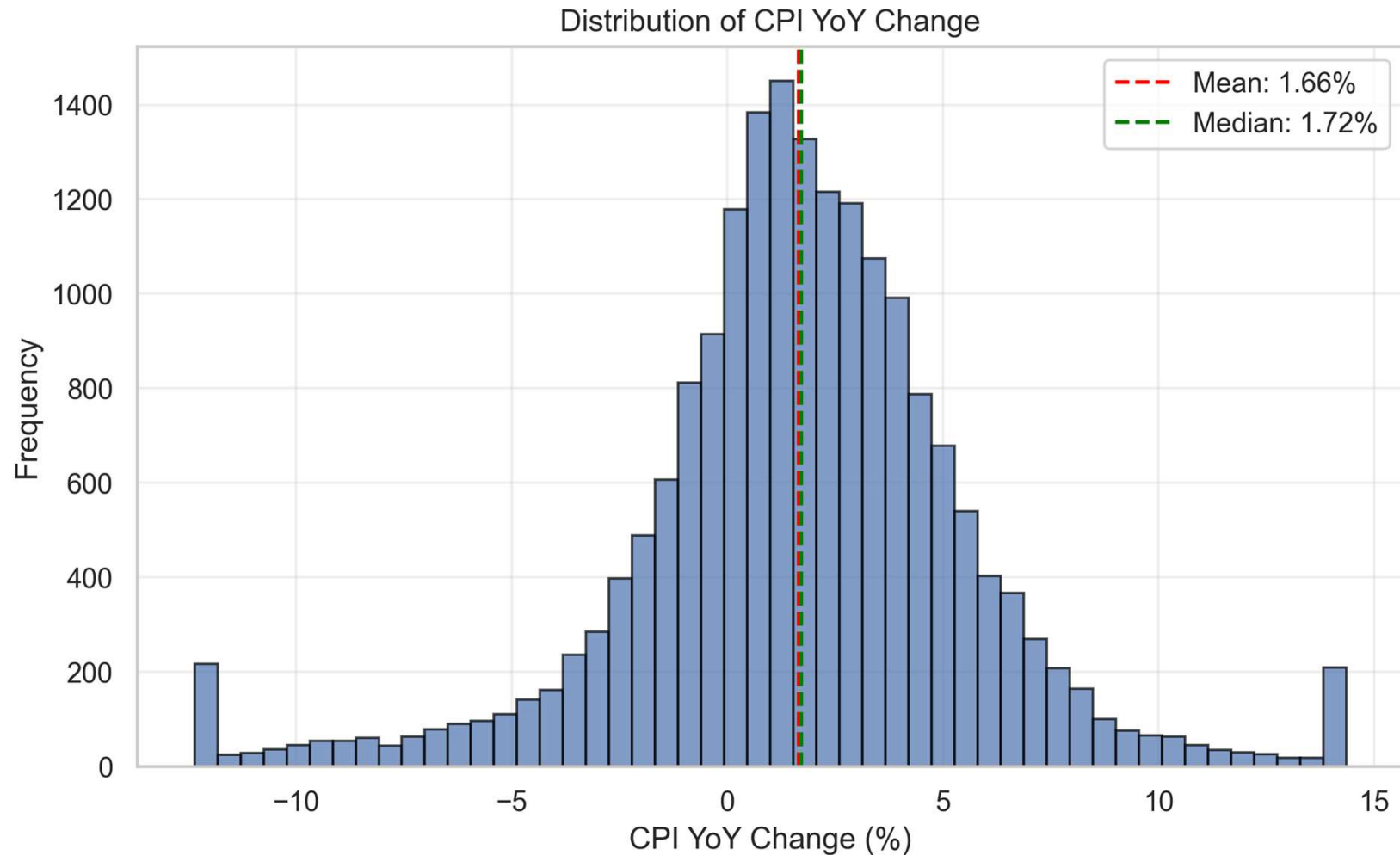


# Pipeline



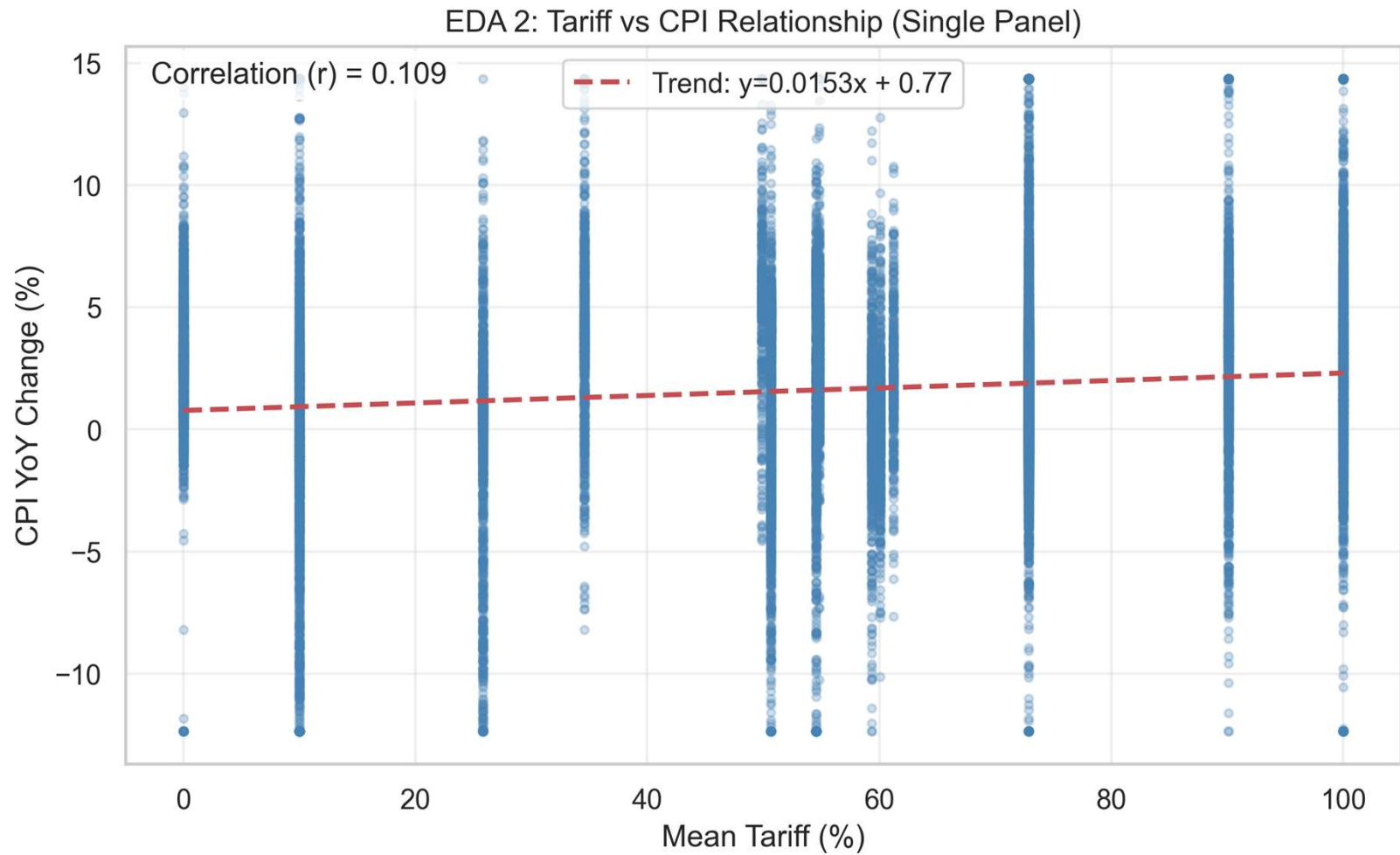
Turning raw federal data into predictive models

# Data Before Modeling



Most CPI changes were modest, centered around 1–2%,  
with a few extreme shocks

# Is There a Strong Direct Relationship?

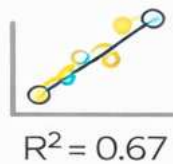


Direct tariff–CPI relationship appears **weak**

# Models Used in This Study

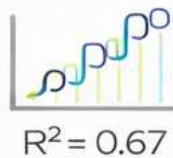
## Linear Models

(simple relationships)



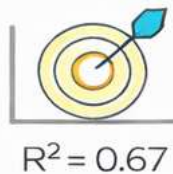
### Linear Regression

Basic baseline model



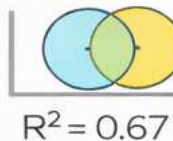
### Ridge

Controls overfitting



### Lasso

Feature selection



### Elastic Net

Combines Ridge & Lasso

**VS**

## Tree-Based Models

(complex relationships)



### Random Forest

Captures nonlinear patterns

$R^2 = 0.78$



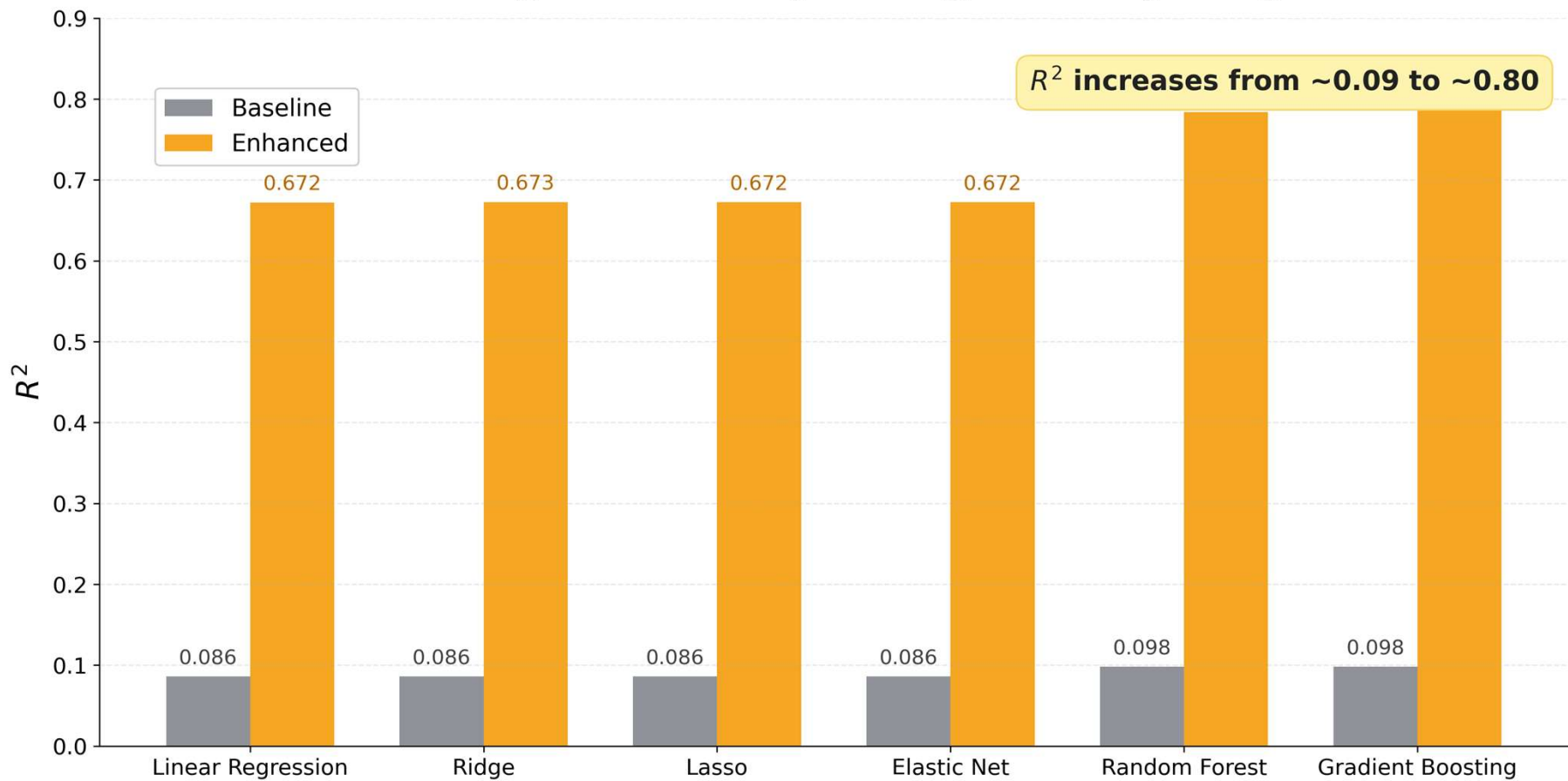
### Gradient Boosting

Strong predictive model

$R^2 = 0.80$







# Model Comparison

## Adding CPI History Changes Everything



This shows inflation momentum is much stronger than tariffs alone

## Tariff Sensitivity by Category

CPI Category	Tariff Sensitivity
Housing	 Moderate
Apparel	 Moderate
Food	 Moderate
Transportation	 High
Services	 Minor
Medical	 Minor

Prices move more

Tariff influence is uneven across categories, but overall predictive power remains weak.

# How Our Results Compare to Real-World Inflation Research





Thank you for you  
attention