

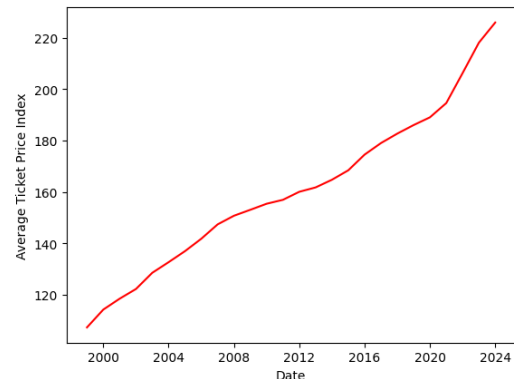
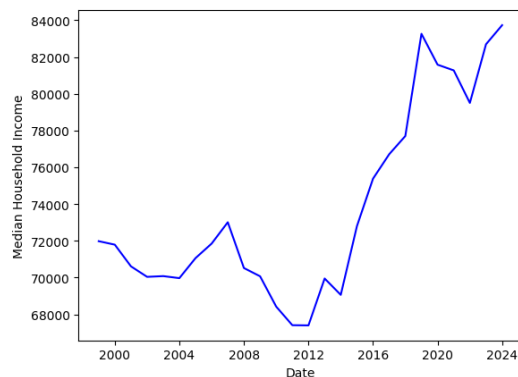
## Introduction

Household Income has a considerable influence on the prices of many things that people buy. Lower household income usually results in people buying less and can lead to a decrease in prices. One of these things that I expect to be impacted by changes in household income is ticket price. Does Household Income have an impact on Ticket Prices?

## Data Methods/Sources

To help me answer this question, I used two datasets from the Federal Reserve Bank of St Louis (FRED) website. The first dataset measured the annual median household income for the US from 1999-2024, while the second measured the annual average prices for movie, theater (plays), and concerts from 1999-2024

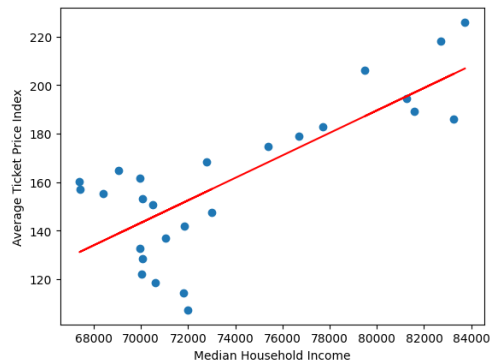
Average ticket prices greatly increased from around \$100 to around \$225 over the past 25 years while Median Household Income experienced many more decreases, especially during the recessions in 2008 and in 2020, but still increased by almost \$12,000 during the 25 year period.



## Statistical Methods

To answer my main question, I used a regression model to predict the impact that household income has on ticket prices.

$$\text{Ticket Price} = B_0 + B_1 \times \text{Household Income} + e$$



The graph above shows the relationship between Household Income and Ticket Prices from 1999-2024.

## Results

My linear regression produced the following output.

	coef	std err	t	P> t	[0.025	0.975]
Intercept	5.3e+04	3536.775	14.987	0.000	4.57e+04	6.03e+04
Average_Ticket_Price_Index	129.2106	21.622	5.976	0.000	84.585	173.836

This model shows that for the increase in household income over the 25 years, ticket prices have increased by \$129 during that same time period. The low p-value ( $< 0.01$ ) shows that this increase would only happen by chance less than 1% of the time.

## Conclusion

Through my linear regression of the two datasets, I found that household income has had an impact on ticket prices during the past 25 years, resulting in a positive relationship for the two variables (both have increased from 1999 - 2024).

## Sources

Ticket Prices Dataset: <https://fred.stlouisfed.org/series/CUSR0000SS62031>

Household Income Dataset: <https://fred.stlouisfed.org/series/MEHOINUSA672N#>

Code done in Google Python