

## Macroeconomic Impact on Chipotle's Financial Performance (2015–2025)

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### Project Topic/Objective

#### Summary:

- Analyzed how GDP, unemployment, and inflation in the US, Canada, UK, France, and Germany influence Chipotle's revenue, net income, and stock price.
- Used regression, inflation adjustment, and stock-market clustering to assess economic sensitivity and financial performance.

#### Project Objectives:

- Measure Chipotle's Reliance on the US Economy
- Determine "Real" Profitability Adjusted for Inflation
- Explain What Drives the Chipotle Stock Price

#### Why We Chose This Topic

- Strong personal interest in Chipotle as both consumers and followers of the stock.
- Chipotle is a fast-growing, high-valuation company making it ideal to analyze through a macroeconomic lens.

**Video Link:**  
<https://youtu.be/xEPx7KTjYPY>

### Insights

Prediction Accuracy (R-squared): 0.421  
 42.1% of the variance in Chipotle's Revenue Growth is explained by these 3 macro factors.

Coefficient
GDP growth (percent) 2.612691
Unemployment Rate (%) 1.982135
Inflation Rate (%) -0.667328

A Linear Regression model ( $R^2 = 42\%$ ) shows GDP growth has the strongest positive impact on revenue (+2.61%). Unemployment also shows a surprising positive effect (+1.98), suggesting Chipotle benefits when consumers trade down during economic slowdowns.

Year	CPI	Nominal Income (Billions)	Real Income (Billions)
0 2015	237.88	0.48	0.48
1 2016	248.00	0.62	0.62
2 2017	257.17	0.78	0.37
3 2018	261.10	0.93	0.37
4 2019	255.65	0.95	0.32
5 2020	258.86	0.36	0.33
6 2021	278.97	0.65	0.57
7 2022	282.22	0.70	0.73
8 2023	304.70	1.23	0.96
9 2024	313.70	1.53	1.16
10 2025	323.07	1.62	1.19

	Difference (Billions)	Percent Difference (%)
0	0.80	0.00
1	0.80	0.00
2	0.01	5.56
3	0.01	5.00
4	0.03	5.57
5	0.03	8.33
6	0.08	12.31
7	0.17	18.89
8	0.27	23.95
9	0.37	24.18
10	0.43	26.54

Total % Difference: 18.67%
\$1 in 2025 was worth \$0.73 in 2015

K-Means clustering identified four phases in CMG's stock history, with the 2024 stock split marking a new era. Post-split trading volume jumped to 312M shares, confirming the 50-for-1 split greatly increased accessibility and liquidity.

Cluster	Avg Price	Min Price	Max Price	Avg Volume	Min Volume
0	535.95	62.65	1003.91	1.963568e+07	6555620
1	2506.57	2067.62	3159.60	5.143283e+06	3371680
2	58.14	31.63	61.52	3.157141e+08	165561762
3	1541.92	1052.36	1962.28	6.008137e+06	3767928

Cluster	Max Volume	Count
0	84327316	66
1	6811628	10
2	493788343	17
3	9880785	38

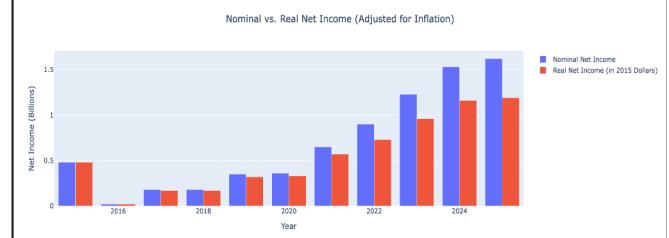
Clusters:
0: Steady Growth Period
1: Pre-Split Period
2: Post-Split Period
3: High Growth Period

Cluster Timeline Distribution:
Cluster 0: 2015-01 to 2024-06
Cluster 1: 2023-04 to 2024-05
Cluster 2: 2024-07 to 2025-11
Cluster 3: 2028-06 to 2023-10

Comparing Nominal vs. Real Net Income (2015 base year) shows much of Chipotle's reported profit growth is inflation-driven. The widening gap highlights that real purchasing power grew far slower than nominal earnings.

### Visualizations



Proof for Insight 2: Grouped Bar Chart showing the widening gap between reported (Nominal) profit and inflation-adjusted (Real) profit, clearly demonstrating the effect of rising CPI on the company's true value.



Proof for Insight 3: Candlestick chart overlaid with a line showing US Unemployment Rate. It visually confirms the disconnect, illustrating how the stock price can fall despite an improving economy (2015-2017) or surge during high unemployment (2020), driven by market expectations.