



Amazon Net/Gross Profit Margins Effect On Inflation Rates

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1. Introduction

Amazon started as an online bookstore in 1994 but has since evolved into a global e-commerce giant, offering everything from groceries to cloud computing services. This paper delves into the intricate relationship between inflation and Amazon's profit margins, uncovering the broader implications for businesses and consumers alike. I chose this topic because inflation affects both consumers and businesses, but its impact on companies like Amazon isn't always obvious. By studying how inflation influences Amazon's profit margins, we can gain a better understanding of how economic changes affect major businesses. I hypothesize that rising inflation rates will lead to decreased profit margins for Amazon. As inflation drives up prices, consumers may reduce their spending, which could result in a decline in Amazon's profit margins.

2. Literature Review

One gap in this research is that it primarily focuses on inflation as the key factor affecting Amazon's profit margins, potentially overlooking other variables like changes in consumer preferences, supply chain disruptions, or increased competition. Additionally, external economic factors such as exchange rates or shifts in global trade policies could also influence profit margins, making it challenging to isolate the impact of inflation alone.

The article by Pancotti and Owens (2023) argues that corporate profits have significantly contributed to inflation, even as prices for essential goods and services remain elevated post-pandemic. They highlight that, despite a decrease in inflation rates from their peak, American consumers continue to face high costs due to profit-maximizing behaviors among corporations, which accounted for 53% of inflation in the second and third quarters of 2023—up from just 11% in the four decades prior. This contrasts with my research on Amazon's profit

margins, which explores how increases in Amazon's profitability may align with decreasing inflation rates during certain periods. While both analyses focus on the relationship between corporate profits and inflation, Pancotti and Owens (2023) emphasize a detrimental impact of corporate behavior on consumer prices, whereas my research suggests that Amazon's unique market position allows it to navigate inflationary pressures differently, indicating a more complex dynamic in the interplay between corporate profitability and inflation trends.

Josh Bivens examines how corporate profits have disproportionately driven inflation during the 2021-2022 period, noting that profit margins accounted for 53.9% of the price increase in the nonfinancial corporate sector, far exceeding the historical average of 11% from 1979 to 2019 (Bivens, 2023). He attributes this surge to the shift in demand from services to goods and ongoing supply chain disruptions, arguing that corporations have used their power to raise prices rather than suppress wages, as seen in previous recoveries. Bivens suggests that an excess profits tax could help counteract this pricing power. Similarly, my research on Amazon's profit margins and inflation rates shows that while high corporate profits align with Bivens' findings, Amazon's unique market strategies might result in different inflationary impacts compared to the broader corporate sector. This highlights the complexity of inflation dynamics and suggests that tailored policy responses are needed, considering both general corporate practices and specific market conditions of leading companies like Amazon.

In "Profits Do Not Cause Inflation," Peter C. Earle argues that the belief that corporations have driven inflation through price increases for higher profits is a flawed narrative, especially during the recent inflationary period (Earle, 2024). This idea gained popularity as inflation peaked in 2022 and has been historically common among those blaming producers rather than policymakers. Earle highlights that various entities, like gas station owners and international

actors, are often scapegoated for rising prices, which misrepresents the complex relationship between inflation statistics and consumer behavior. He points to data from the Federal Reserve Bank of San Francisco, showing that over 90% of prices rose between July 2021 and June 2023, emphasizing that significant increases in the money supply, particularly from Federal Reserve policies after the COVID-19 pandemic, are the primary cause of inflation (Earle, 2024). Additionally, he notes that rising prices do not guarantee higher profits for businesses, as input costs also rise and prices do not increase uniformly (Earle, 2024). Earle warns against confusing a decline in the rate of inflation with actual price reductions, reiterating that prices remain elevated compared to pre-pandemic levels (Earle, 2024). Ultimately, he argues that attributing inflation to corporate profits reflects a misunderstanding of economic principles and emphasizes the role of monetary policy as the main driver of financial distress for Americans (Earle, 2024).

3. Data and Methodology

The independent variable in my research is the year-over-year percent change in the Consumer Price Index, which shows how prices for goods and services change over time. My dependent variable is Amazon's profit margin. By exploring the relationship between inflation (as measured by the Consumer Price Index) and Amazon's profit margins, I am able to understand how these price changes affect the company's ability to make a profit. For collecting data, I utilized Yahoo Finance to access current economic indicators and trends related to inflation, alongside Amazon's annual and quarterly financial reports to analyze the company's profit margins over time. This methodology allowed me to combine real-time market data with detailed financial information, providing a comprehensive view of how inflation impacts Amazon's profitability.

Figure 1 illustrates a stacked bar chart depicting net product and service sales from 2017 to 2023, highlighting that net service sales have consistently outperformed net product sales throughout this period. As the years progress, net service sales have experienced significant growth, while net product sales have gradually increased at a slower pace. This chart is important for Amazon as it reflects the company's successful expansion into service-based offerings, which often yield higher profit margins compared to product sales. The strong growth in net service sales can positively impact both gross and net profit margins, especially in the context of inflation, as services typically have lower variable costs than products, allowing for better cost control. The outcomes indicate that Amazon's strategic focus on enhancing its service offerings is crucial for maintaining robust profitability, particularly as inflationary pressures may increase operational costs. Understanding this sales dynamic matters because it informs Amazon's future business strategies, suggesting that continued investment in service expansion could provide a buffer against inflation while driving overall profitability. By leveraging the increasing demand for services, Amazon can further strengthen its financial position and better adapt to changes in the market.

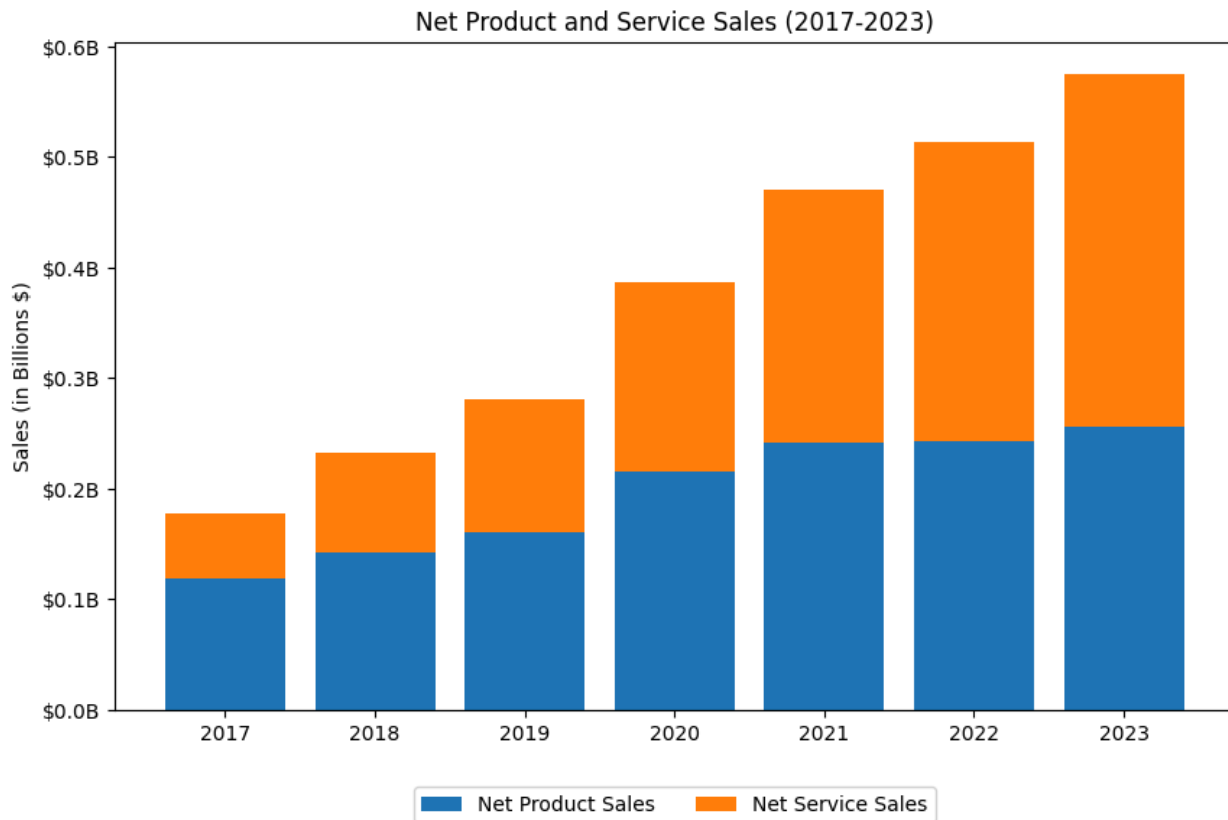
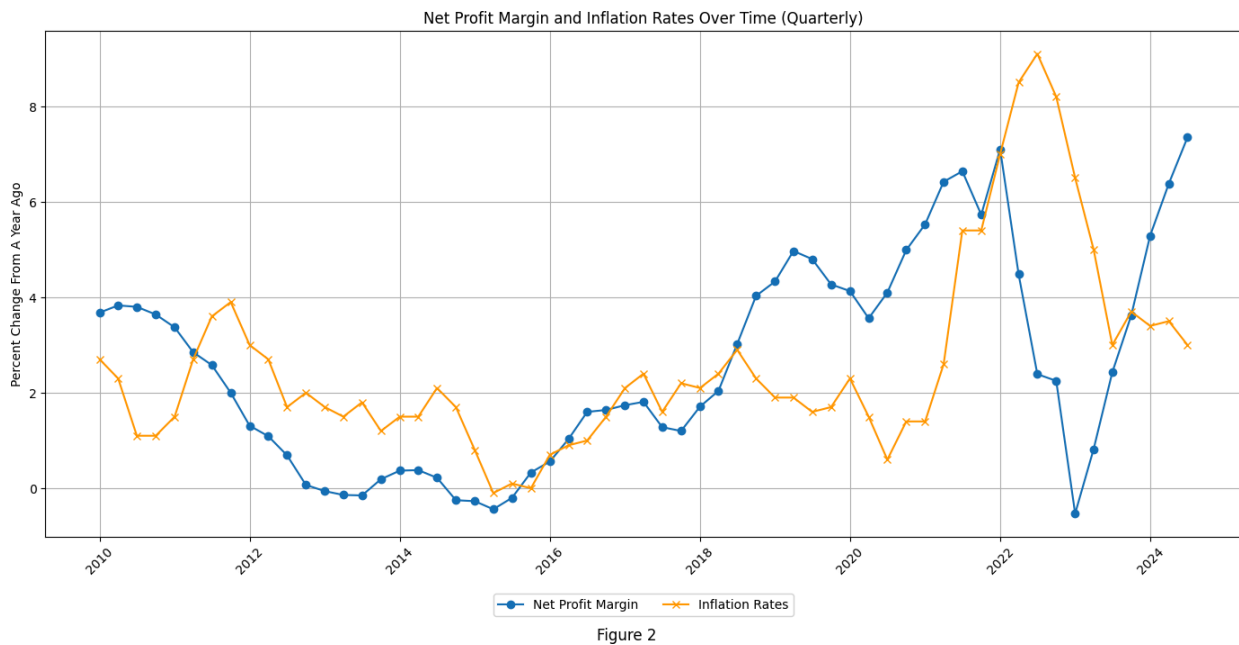


Figure 1

$$\text{Net Profit Margin} = \frac{(\text{Service Sales} + \text{Product Sales}) - (\text{Cost of Sales} + \text{Fulfillment})}{(\text{Service Sales} + \text{Product Sales})}$$

The data in **Figure 2** demonstrates a generally positive correlation between net profit margins and inflation rates. As inflation increases, net profit margins also tend to rise, although there is a subtle dip in profit margins as inflation reaches higher levels. This suggests that while businesses may initially benefit from inflationary conditions, there is a point at which further increases in inflation could start to erode profitability. Notably, after 2022, both metrics experienced a dramatic decrease, indicating a significant shift in economic conditions. However, in recent years, profit margins have significantly increased since 2022, while inflation rates have remained at a moderate level. For Amazon, this trend suggests that improved profit margins, alongside controlled inflation, may enhance profitability and operational efficiency. Overall, the

results signify a positive trend for the company, as the combination of rising profit margins and moderate inflation favorably place Amazon for sustained financial health and competitiveness in the market.



4. Results

4.1 Net Profit Margin Results

Figure 3 presents a scatter chart with a line of best fit comparing inflation rates and net profit margins, revealing a positive coefficient of 0.33, which indicates that profit margins tend to increase as inflation rates rise, albeit slowly. With a y-intercept of 1.71, profit margins start at this value when inflation is at a baseline of zero. The R^2 value of 0.09 suggests that only 9% of the variance in profit margins is explained by inflation, indicating a weak relationship between the two. For Amazon, this data signifies a positive trend, as previously indicated by **Figure 2**; moderate inflation could correlate with rising profit margins, thereby enhancing profitability. The p-value being less than 0.05 indicates that the relationship between inflation and Amazon's

profit margin is statistically significant. However, despite this significance, the positive slope observed in the regression analysis suggests that while inflation has some influence on profit margins, other factors likely play a more substantial role in determining profitability.

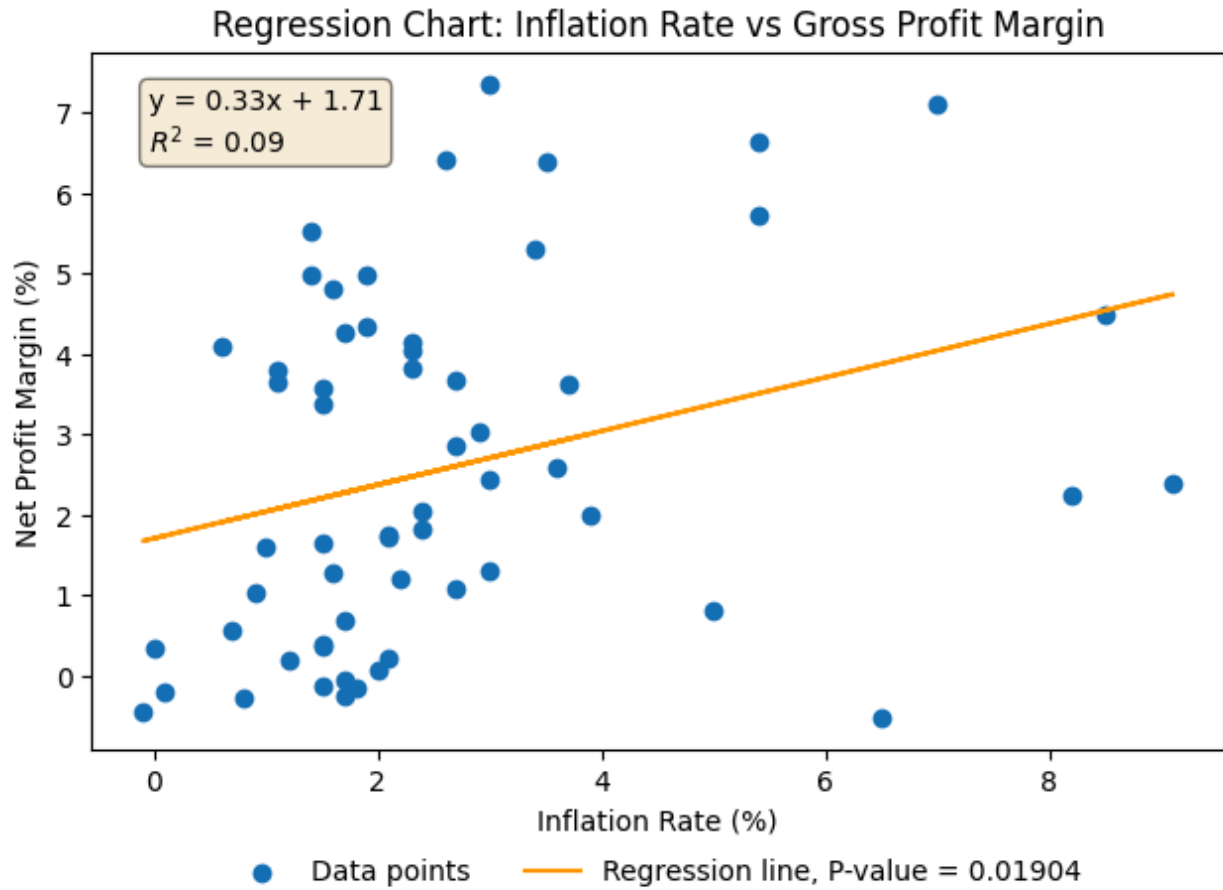


Figure 3

Table 1

Variable	Coefficient	Standard Error	P-Value	R-Squared
Intercept	1.706	0.451	0.0003	0.093
CPI	0.333	0.138	0.0191	0.093

4.2 Gross Profit Margin Results

In **Figure 4**, the data shows a distinct trend compared to **Figure 2**: as inflation subtly increases and decreases over the years, Amazon's gross profit margin consistently grows, while net profit margins fluctuate, indicating that the company is effectively managing its cost structure and pricing strategies. The ability to achieve consistent growth in gross profit margins, despite the challenges posed by changing inflation rates, highlights Amazon's operational resilience. The continuous growth in gross profit margins signifies a positive trend for the company, positioning it well for future competitiveness and profitability. While my initial hypothesis anticipated that higher inflation rates would lead to lower profit margins, the data reveals that gross profit margins can remain strong despite inflation fluctuations, emphasizing that effective management practices and cost controls may reduce the negative impact of inflation on overall profitability.

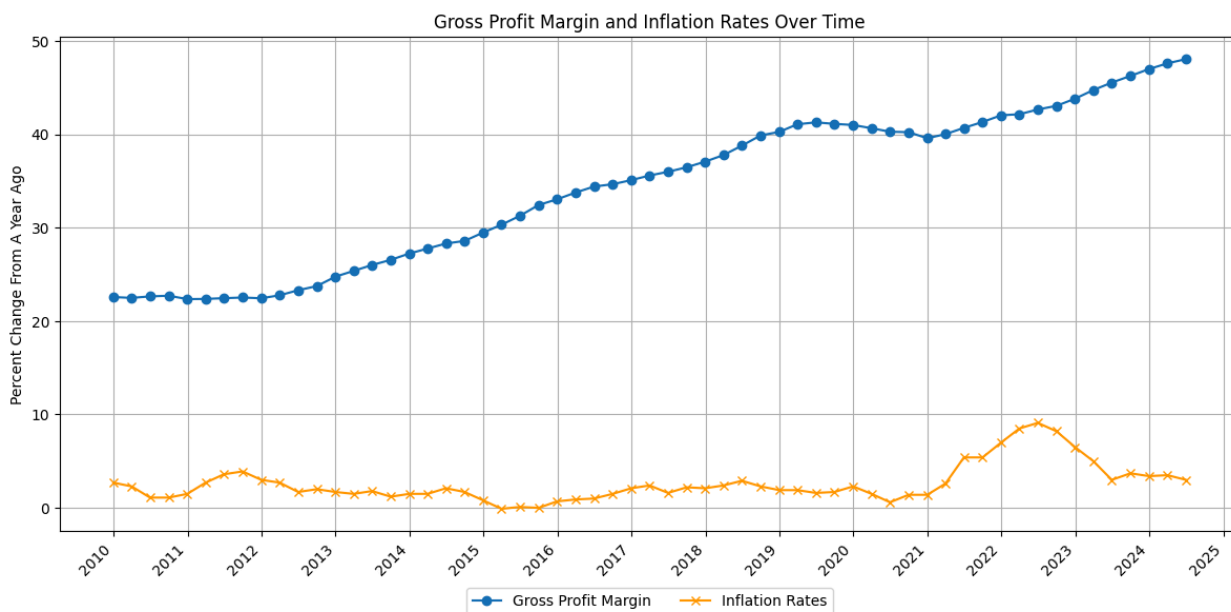


Figure 4

$$\text{Gross Profit Margin} = \frac{(\text{Revenue} - \text{Cost of Goods Sold})}{\text{Revenue}}$$

Figure 5 depicts a scatter plot with a line of best fit of inflation versus gross profit margin, revealing a positive relationship characterized by a coefficient of 1.69 and a y-intercept of 29.91. This indicates that as inflation increases, gross profit margins also tend to rise, suggesting that for each unit increase in inflation, gross profit margins increase by approximately 1.69 percent. The positive slope demonstrates Amazon's capacity to effectively manage costs and potentially enhance profitability in an inflationary environment. With a R^2 value of 0.17, the relationship indicates a moderate level of correlation, meaning that while inflation has some impact on gross profit margins, other factors also play a significant role. For Amazon, these results signify a positive trend, as the ability to maintain and potentially increase gross profit margins despite inflation reflects strong operational resilience and strategic pricing capabilities. This finding contradicts my initial hypothesis, which anticipated that higher inflation rates would lead to lower profit margins. Instead of showing a negative impact, the data suggests that inflation can be leveraged to improve profitability. Understanding this dynamic allows Amazon to strategically plan its pricing and cost management, confidently navigating potential price adjustments while optimizing operational efficiencies. This insight will enable the company to maintain robust financial performance even in fluctuating economic conditions, positioning itself favorably for

future market challenges.

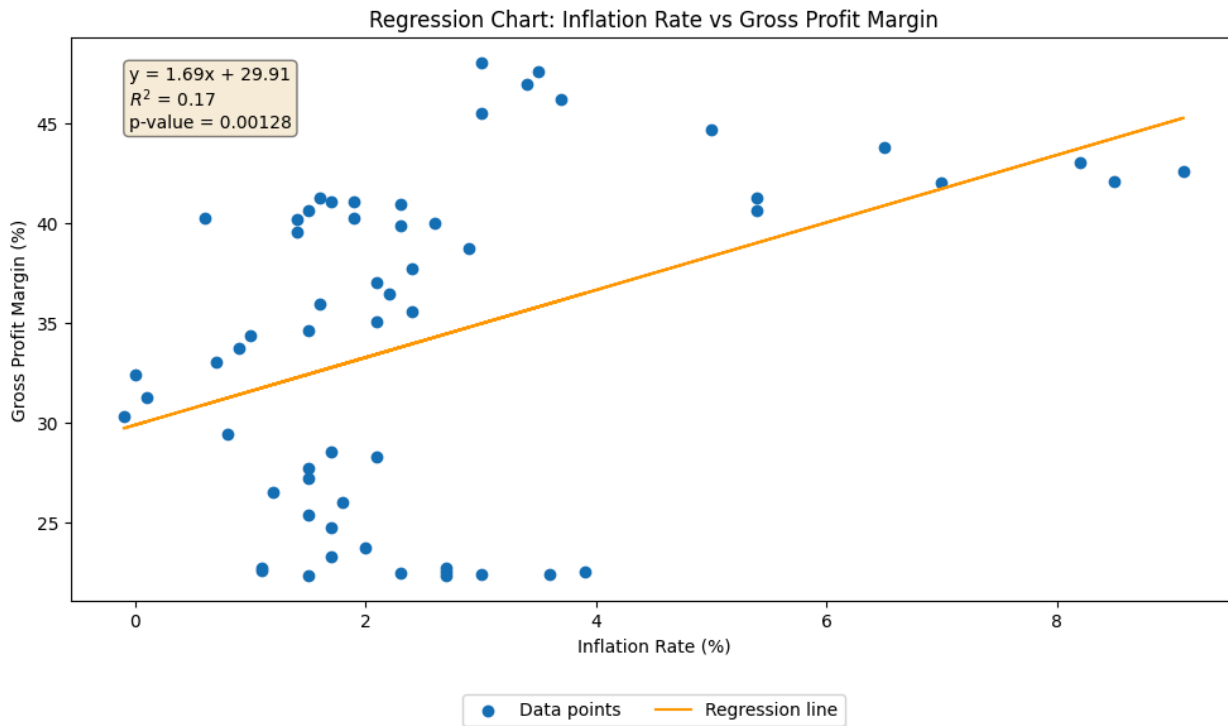


Figure 5

Table 2

Variable	Coefficient	Standard Error	P-Value	R-Squared
Intercept	29.91	1.63	1.281×10^{-25}	0.168
CPI	1.69	0.499	1.278×10^{-3}	0.168

Table 3

Variable	Count	Mean	Standard Deviation	Minimum	25th Percentile	Median (50th)	75th Percentile	Maximum
Gross Profit Margin	59	34.39	8.26	22.35	26.275	35.58	41.03	48.04
Net Profit Margin	59	2.57	2.19	-0.53	0.625	2.25	4.115	7.35
Inflation Rate	59	2.59	2.00	-0.10	1.500	2.10	3	9.10

5. Conclusion

In conclusion, this research highlights the nuanced relationship between inflation, gross and net profit margins, and Amazon's evolving sales landscape, emphasizing the importance of strategic management in response to economic fluctuations. The findings indicate that despite initial hypotheses suggesting a negative correlation between inflation and profit margins, data analysis reveals a positive relationship, particularly with gross profit margins, underscored by a coefficient of 1.69 in the regression analysis. Notably, Amazon's significant growth in net service sales compared to net product sales showcases the company's successful pivot towards higher-margin service offerings, which are crucial for sustaining profitability in an inflationary environment. However, limitations such as the relatively small dataset and the need for a longer time frame suggest that future research could benefit from exploring additional factors, including market competition and consumer behavior, to gain a deeper understanding. Expanding the scope of data could yield deeper insights into the dynamics affecting Amazon's profitability and its responses to inflation. This exploration is vital not only for Amazon but also for other companies seeking to navigate similar economic challenges, as it provides a framework for



leveraging service growth and effective cost management strategies. By connecting these insights to broader business practices, organizations can better position themselves for success in an increasingly complex market. The primary audience for this research includes business leaders, economists, and investors who are keen to understand the intricate interplay of inflation and profitability, as well as those looking to apply these findings to enhance their strategic decision-making processes. Ultimately, these insights can empower companies to adapt effectively, leading to sustained growth and success in a dynamic economic landscape.

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