Comprehensive Analytical Report on Nigeria's Economy: Performance & Way Forward

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Tools Used: Python, Matplotlib, Numpy

Summary
Overall inflation shows varied correlations with different GDP sectors; some sectors like Financial Services appear positively correlated, while others like Agriculture and Other Services show negative correlations.
Inflation in specific categories (Food, Transport, Housing/Utilities) also has mixed and non-uniform relationships with related GDP sectors, with some showing negative associations (e.g., Food inflation and Agriculture growth).
Individual company profitability correlates differently with their sector's GDP; some companies' PAT strongly aligns positively with sector GDP, while others show negative or weak relationships, highlighting the influence of company-specific factors.

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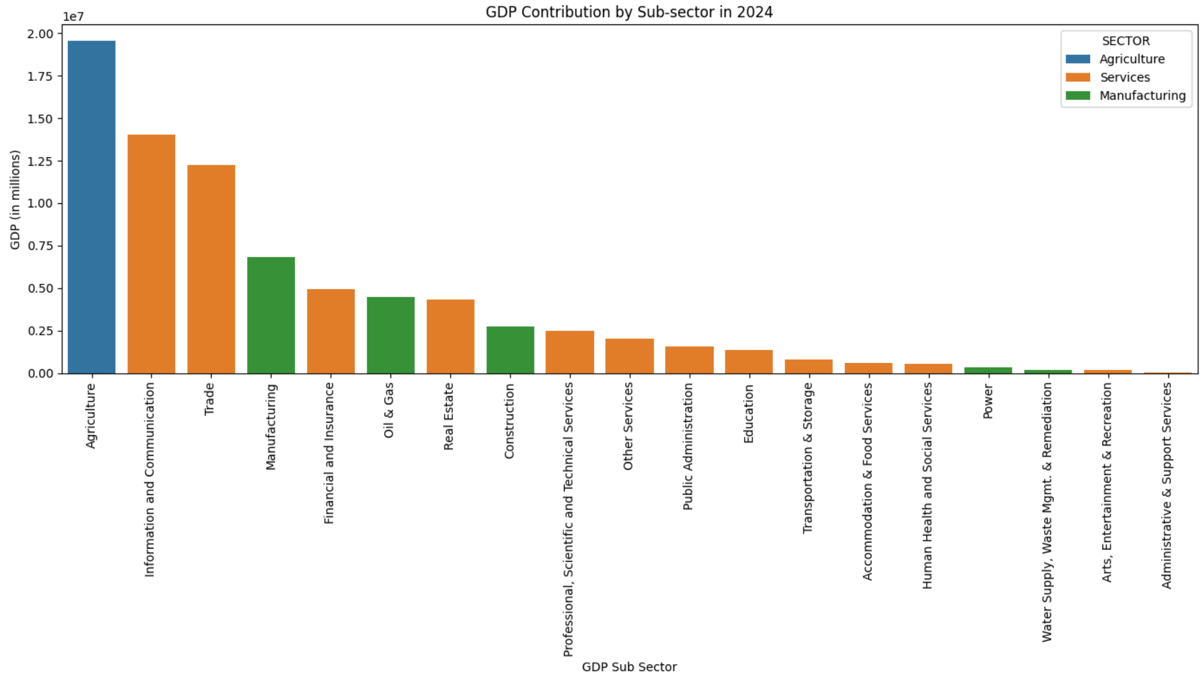
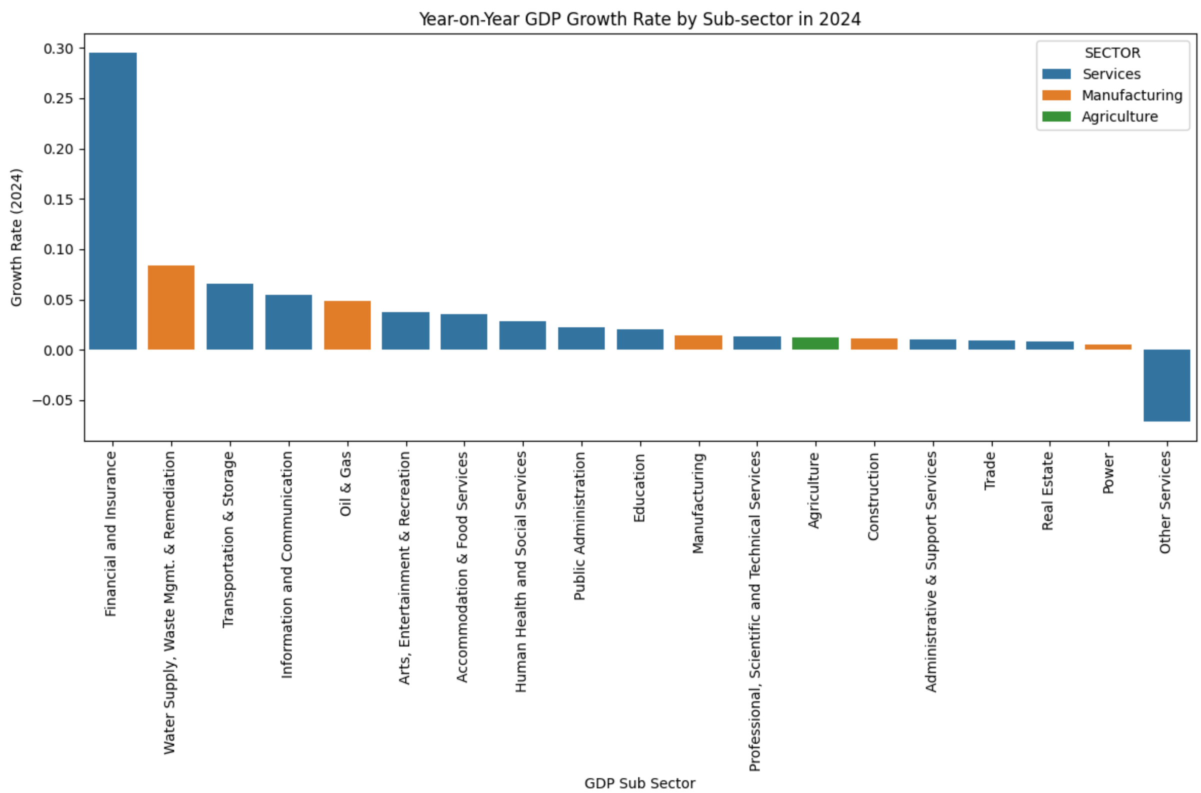
Introduction

This report presents an analysis of the relationship between key macroeconomic indicators, sector-level economic performance, and individual company profitability. Utilizing comprehensive data on Gross Domestic Product (GDP) by sector and sub-sector, the Consumer Price Index (CPI) as a measure of inflation, and the Profit After Tax (PAT) of a selection of companies, this study investigates how inflationary pressures may influence economic growth and corporate financial health across different segments of the economy. The primary objective is to identify potential correlations and trends that illustrate the impact of rising prices on the performance of various sectors and the companies operating within them, thereby contributing to a better understanding of the complex economic landscape.

Historical GDP Data Findings

In 2024, the top contributors to Nigeria's GDP were Agriculture, Information & Communication, Trade, Manufacturing, and Financial & Insurance, while the fastest-growing sectors were Financial & Insurance, Water Supply & Waste Management, Transportation & Storage, Information & Communication, and Oil & Gas. Notably, Financial & Insurance and Information & Communication ranked high in both contribution and growth, underscoring their economic significance.





Best and Least Performing Sectors (10-Year Overview)

Over the last decade, Information & Communication and Financial & Insurance emerged as the best-performing sectors. Both have shown strong GDP contributions and consistent growth, with Financial & Insurance recording the highest growth in 2024 (29.6%) and strong resilience to inflation. Information & Communication also maintained steady growth and a significant share of GDP.

On the other hand, Agriculture, Other Services, and parts of Manufacturing appear to be underperforming. Agriculture had low growth in 2024 (1.2%) and a negative correlation with inflation, indicating vulnerability. Other Services showed the strongest negative correlation with inflation (-0.68), suggesting performance is hindered by rising costs.

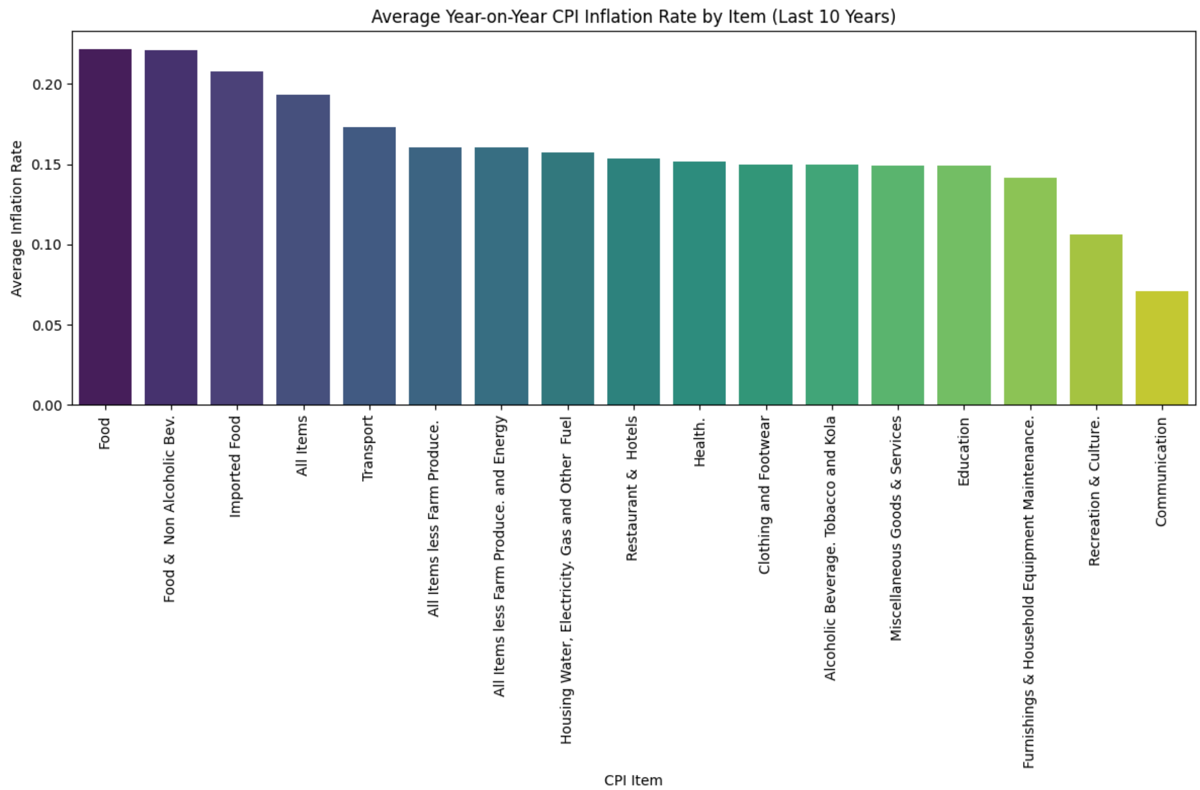
Recommendations to Improve Underperforming Sectors

- Mitigate Inflation Impact:
- Subsidize Inputs in Agriculture (e.g., fertilizers, seeds).
- Improve Supply Chains to lower transport and distribution costs.
- Support SMEs with affordable credit, training, and business services.
- Boost Productivity and Innovation:
- Promote technology adoption in Agriculture and Manufacturing.
- Invest in skills training to improve workforce efficiency.
- Promote Value Addition & Market Access:
- Encourage processing and manufacturing of raw materials.
- Help businesses explore new domestic and export markets.
- Enhance Access to Finance:
- Develop sector-specific financial products.
- Offer government-backed loan guarantees to reduce lending risk.

These targeted actions can improve resilience, productivity, and long-term growth in struggling sectors.

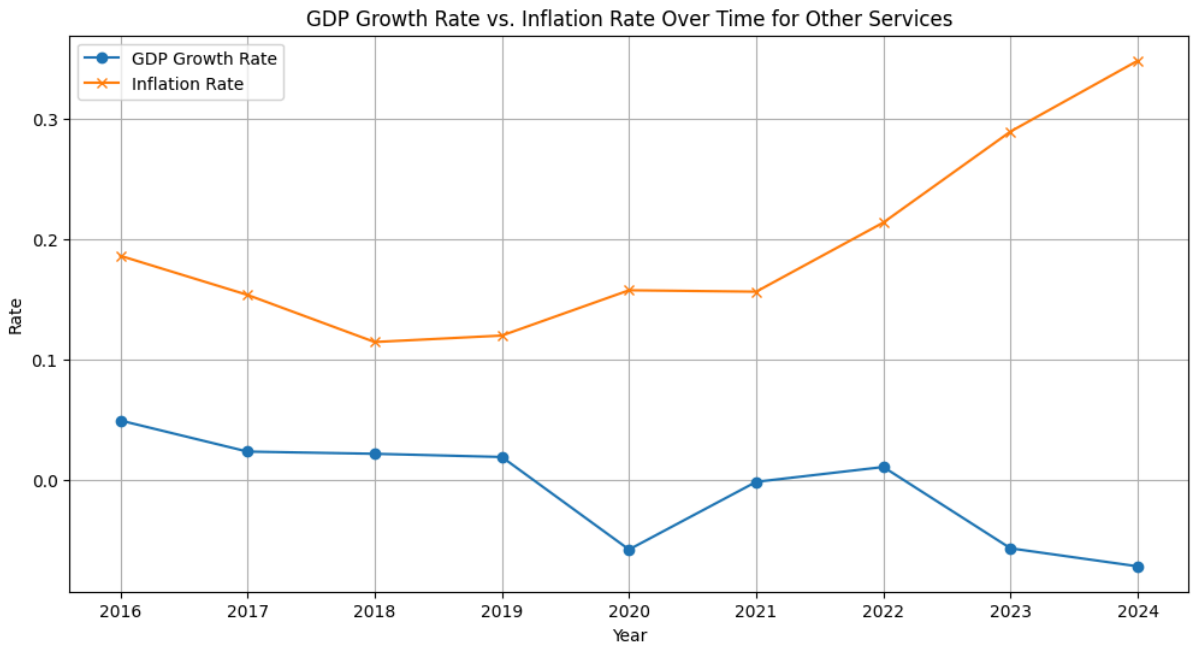
Consumer Price Index (CPI) Data Findings

Analysis of CPI over the past decade identified Food, Imported Food, Transport, and Housing, Water, Electricity, and Fuel as the highest inflation categories. These areas significantly affect sectors like Agriculture, Trade, Transportation, Real Estate, and Power through increased input and operational costs. Food inflation, for instance, negatively correlates with Agriculture GDP growth (≈ -0.63), while Transport inflation weakly impacts Transportation & Storage (≈ -0.29), and utility-related inflation moderately affects Power (≈ -0.42) but has a weak positive effect on Real Estate (≈ +0.29).

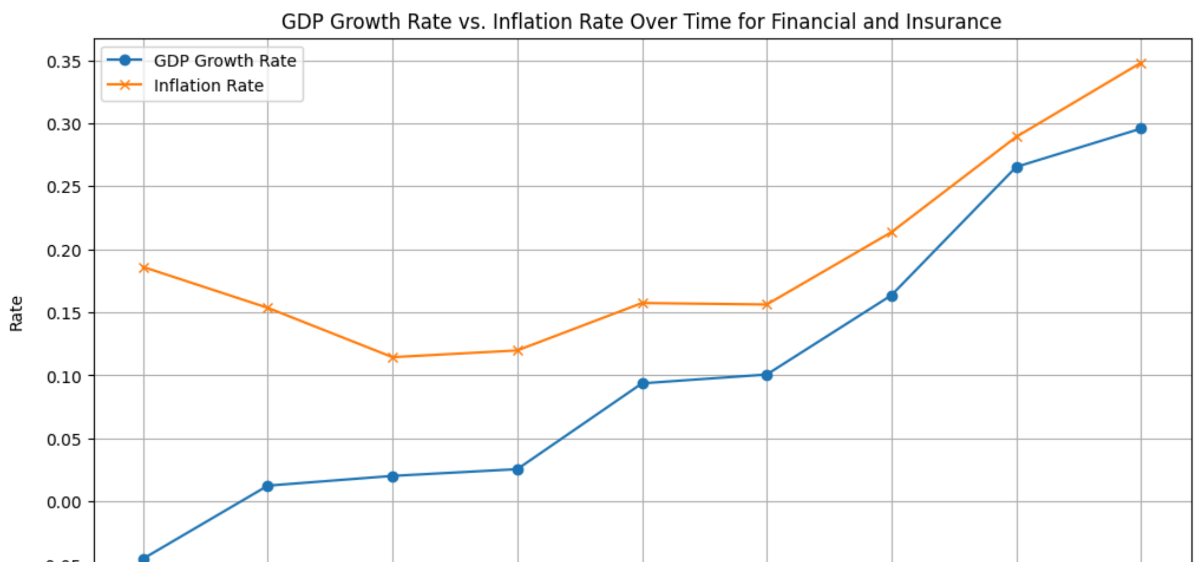


High Inflation Items vs. GDP Contribution: We saw that "Food" and "Food & Non Alcoholic Bev." had the highest average inflation rates over the last 10 years. Looking at the GDP contribution in 2024, "Agriculture" (which produces food) was the largest contributor to GDP. This could indicate a potential link where increased costs in the agricultural sector (reflected in food inflation) might impact a significant portion of the economy's output. However, it's also possible that strong demand in a large sector like agriculture contributes to price increases.

Our analysis reveals that rising inflation negatively impacts sectors like Other Services (-0.68), Agriculture (-0.55), and Transportation & Storage (-0.32), where higher prices are linked to slower GDP growth—likely due to increased costs or reduced consumer demand. Specific CPI item analysis supports this, with food inflation strongly affecting agriculture. Conversely, sectors that benefit or show resilience to inflation include Financial & Insurance (0.87), Public Administration (0.68), and Real Estate (0.48), likely due to pricing power or inflation-linked gains. Sectors like Oil & Gas (0.04), Manufacturing (0.12), and Construction (0.17) show minimal correlation, indicating resilience, with their performance driven more by sector-specific factors than inflation.



Correlation analysis between sectoral GDP growth and inflation (CPI) revealed mixed relationships. Sectors like Financial & Insurance (≈ +0.87), Public Administration (≈ +0.68), and Real Estate (≈ +0.48) showed strong positive correlations with inflation, suggesting resilience or adaptability in inflationary periods. Conversely, Other Services (≈ -0.68), Agriculture (≈ -0.55), and Transportation & Storage (≈ -0.32) showed negative correlations, indicating vulnerability to rising prices. Sectors like Oil & Gas, Manufacturing, and Construction had weak or negligible correlations.



Company Profit After Tax (PAT) Data Findings

Trend Alignment between Company PAT and Sector GDP:

Based on our correlation analysis and visualizations, the trends between company PAT and their respective sector's GDP show varying degrees of alignment.

Alignment: Alignment likely occurs when a company's revenue streams and cost structures are highly sensitive to the overall economic conditions and activity within their sector. For example, a bank's profitability is closely tied to lending activity and economic transactions within the financial sector. Companies with a strong positive correlation (like Zenith Bank with a 0.97 correlation to the Financial and Insurance sector, and Seplat Energy with a 0.87 correlation to the Oil & Gas sector) tend to have PAT trends that closely align with their sector's GDP trend over time. This alignment suggests that the macro-level economic performance of their sector is a significant driver of their profitability. When the sector grows, the company's profits tend to grow as well, and vice versa. This could be because the company's business is highly dependent on the overall activity and health of the sector.

Divergence: Divergence can be attributed to several factors -

Company-Specific Performance: Internal factors such as management efficiency, market share changes, new product launches, or operational challenges can cause a company's profitability to move independently of the broader sector.

Competitive Landscape: Intense competition within a sector can pressure profit margins even if the sector is growing.

Specific Market Segments: A company might operate in a niche within a broader sector, and that niche's performance may not mirror the overall sector GDP.

Global Factors: For companies in sectors like Oil & Gas or Manufacturing, international commodity prices or global supply chain issues can have a significant impact on profitability, sometimes overriding domestic sector GDP trends.

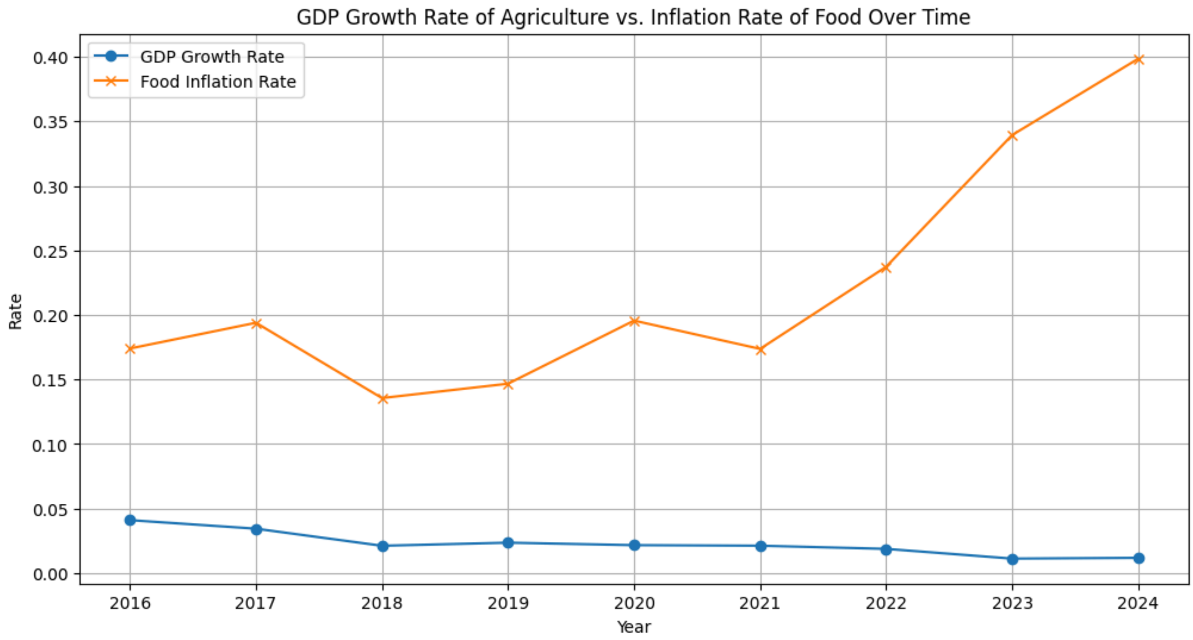
Data Aggregation: Sector GDP is an aggregate measure, and individual companies within that sector can have very different business models and financial outcomes.Companies with negative or weak correlations (like Nestle Niger with a -0.66 correlation to Manufacturing, Conoil with a -0.82 correlation to Oil & Gas, and Information & Communication – MTN with a -0.32 correlation to Information and Communication) show PAT trends that diverge from their sector's GDP trend. This divergence indicates that factors other than, or in addition to, the overall sector performance are influencing their profitability.

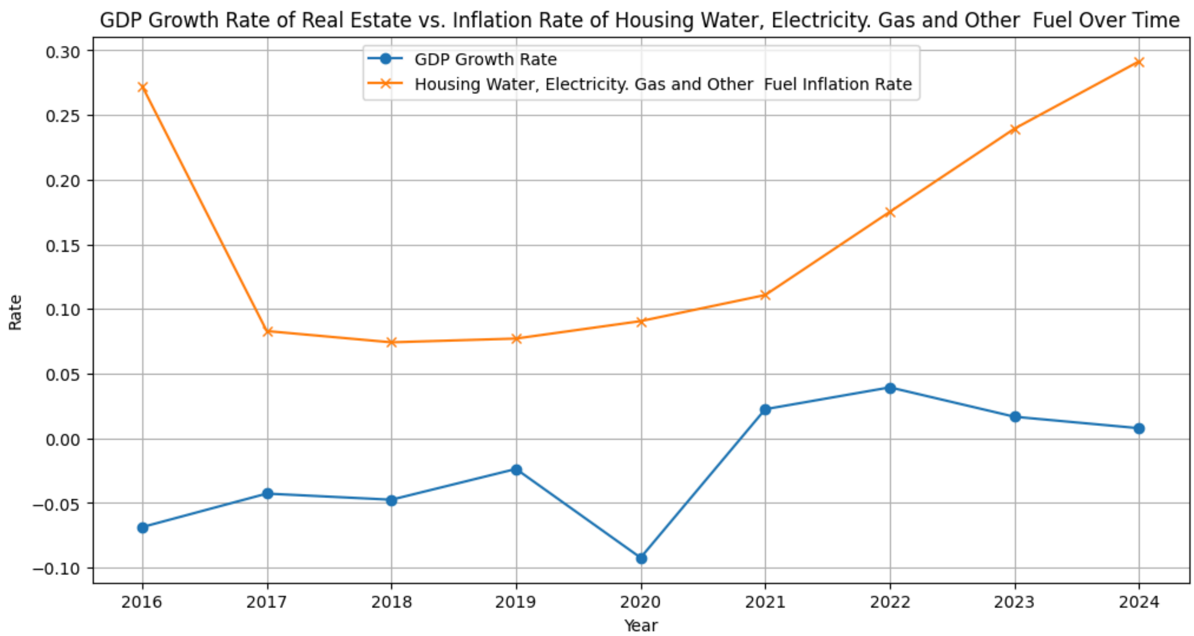
How Overall Inflation and Sector Inflation Affect Profitability:

Our analysis of the correlation between CPI inflation and GDP growth and provides insights into how inflation might indirectly affect company profitability through its impact on sector growth:

Sectors with Positive Correlation to Overall Inflation: For companies in sectors that showed a positive correlation with overall inflation (like Financial and Insurance), it's plausible that these companies may be better positioned to pass on increased costs to consumers or benefit from rising asset values or interest rates in an inflationary environment, leading to potential resilience or even growth in profitability.

Sectors with Negative Correlation to Overall Inflation: Companies in sectors with a negative correlation to overall inflation (like Agriculture and Other Services) may experience reduced profitability as inflation rises. This could be due to increased input costs that cannot be fully passed on, or reduced consumer demand as purchasing power erodes due to inflation. For example, high food inflation (a specific CPI category) showed a negative correlation with Agriculture GDP growth, suggesting that rising costs or other factors associated with food inflation may hinder the agricultural sector's performance, which would likely impact the profitability of companies within that sector like Okomu Oil (although Okomu Oil showed a positive correlation with overall GDP, indicating the complexity of these relationships).
Impact of Specific CPI Inflation: Inflation in specific categories directly impacts companies as both costs and potentially revenue drivers. For example, high transport inflation increases operating costs for companies across many sectors, potentially reducing their profitability. For a transportation company, it could impact fuel costs but also potentially allow for increased service pricing.





As an Investor: Which Industry and Company to Invest In?

Based on the data and our analysis, and considering growth, resilience to inflation (inferred from the correlation analysis with CPI), and GDP contribution, here's an insight from an investor's perspective:

Looking at the Financial and Insurance sector:

Growth: This sector is a significant contributor to GDP (Top 5 in 2024 GDP Contribution) and also showed the highest year-on-year GDP growth rate in 2024 (Top 5 in 2024 GDP Growth). This indicates strong recent performance and potential for continued expansion.

Resilience to Inflation: The Financial and Insurance sector showed a strong positive correlation with overall "All Items" inflation (approximately 0.87 - cell 8caab403). This suggests that the sector's growth tends to be positively associated with inflation, implying a degree of resilience or even potential benefit in an inflationary environment, which is a crucial consideration for investors during periods of rising prices.
Company Performance: Zenith Bank, a company within this sector, exhibits a very strong positive correlation (0.97 - cell 378109b7) between its PAT and the Financial and Insurance sector GDP. This indicates that Zenith Bank's profitability is closely tied to a high-growth, inflation-resilient sector.

Investment Insight:

From an investor's perspective focused on growth and resilience to inflation based on this data, the Financial and Insurance sector appears attractive. Within this sector, Zenith Bank stands out due to its strong positive correlation with the sector's GDP, suggesting its profitability is likely to benefit from the sector's positive growth trend and its apparent resilience in inflationary conditions.

Therefore, based on the analysis of growth, inferred resilience to inflation, and GDP contribution from our data, an investor might consider the Financial and Insurance industry and specifically Zenith Bank. The data suggests a positive outlook for this sector and a strong alignment between Zenith Bank's performance and the sector's economic health, particularly in the context of inflation.

Code Link:
https://colab.research.google.com/drive/1xP8xNmsElwGtYsnzvuumfqf9FaCq8Gs6?usp=sharing