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Public Debt and Inflation in OECD Economies: Evidence from Post-Crisis Macroeconomic Dynamics

[redacted]

Abstract

This paper examines the relationship between public debt and inflation across 27 OECD economies, extending the analysis through 2024 to capture the aftermath of the Global Financial Crisis, the COVID-19 pandemic, and the recent inflationary episode. Using panel-style regression models, the study tests whether higher debt-to-GDP ratios are associated with higher inflation after accounting for GDP growth and GDP per capita. Contrary to the conventional view that rising public debt necessarily produces inflationary pressure, the results reveal a statistically significant negative association between debt and inflation, although the explanatory power of the models remains limited. GDP growth is positively related to inflation, consistent with demand-pull mechanisms, while GDP per capita is statistically insignificant. The findings suggest that debt becomes inflationary only under specific institutional and macroeconomic conditions, particularly where monetary credibility is weak. The paper concludes that debt-inflation dynamics are conditional, heterogeneous, and shaped by policy credibility.

Keywords: debt-to-gdp; inflation; OECD; fiscal policy; GDP growth
JEL Codes: E31; H63; E62; C23

1. Introduction

1.1 Summary Paragraph

The dawn of the 21st century has been marked by an extraordinary accumulation of public debt across advanced and emerging economies, a trend catalyzed and intensified by successive global crises. The 2008 Global Financial Crisis (GFC) fundamentally altered fiscal trajectories, leading to large deficits and unprecedented public debt buildups in peacetime (Cherif & Hasanov, 2017; Akitoby et al., 2017). This pre-existing "fourth wave" of debt accumulation, already the largest and fastest in emerging markets and developing economies (EMDEs) in five decades, was turned into a veritable "tsunami" by the COVID-19 pandemic (Kose et al., 2021). In 2020 alone, global debt surged by 30 percentage points of GDP to 263%, the largest single-year increase since at least 1970. This confluence of events has placed the question of debt sustainability at the forefront of economic policy, with profound implications for growth, inequality, and financial stability.

Confronted with towering debt-to-GDP ratios, policymakers traditionally weigh three primary channels for debt reduction: fiscal consolidation (austerity), inflating away the real value of debt, and fostering economic growth. However, the contemporary economic landscape, characterized by secular stagnation, heightened financial globalization, rising market power, and a fragmented geopolitical order, has fundamentally complicated the efficacy and trade-offs of each lever. This literature review synthesizes a body of recent research to argue that while the traditional arithmetic of debt dynamics remains foundational, modern structural headwinds and global interdependencies severely constrain policy options. The path to debt sustainability in the 2020s and beyond likely requires a nuanced, multi-pronged approach that acknowledges the limitations of austerity, the blunt and potentially counterproductive nature of deliberate inflation, and the structural barriers to achieving high growth, possibly leaning on a modern iteration of financial repression as a gradualist strategy.

1.2 Literature Review

Fiscal consolidation is often the first prescription for elevated debt. Yet, empirical evidence strongly cautions that its benefits can be short-lived and its costs substantial. Cherif & Hasanov's (2017) seminal analysis using a Vector Autoregression (VAR) model with explicit debt feedback provides a critical insight: while an austerity shock initially reduces the debt-to-GDP ratio, this gain is eroded over time as the contractionary fiscal policy suppresses economic growth. Their impulse response analysis reveals that the debt ratio eventually returns to, or even overshoots, its pre-shock path, suggesting that front-loaded, rapid fiscal adjustment can be self-defeating. This finding underscores the non-linear dynamics of debt, where ignoring the feedback from fiscal policy to growth—as simpler linear models do—leads to overly optimistic forecasts of debt reduction.

The theoretical underpinning for this fiscal-monetary coordination problem is famously articulated in Sargent & Wallace's (1981) "Unpleasant Monetarist Arithmetic." They demonstrate that in an environment where the real interest rate exceeds the growth rate ($r > g$), unsustainable fiscal deficits will ultimately force the central bank to monetize debt, leading to higher inflation. This implies that without credible, long-term fiscal discipline, tight monetary policy today merely postpones inflation rather than preventing it. The contemporary relevance of this coordination is highlighted in debates over large-scale fiscal stimulus, such as the $1.9 trillion U.S. COVID-19 relief package. Blanchard (2021) argues that while multipliers are potent and immediate inflation risks may be muted, the sheer size of stimulus relative to estimated output gaps risks overheating, potentially forcing a harsh monetary response that could undermine growth. The collective lesson is that austerity must be

carefully calibrated, growth-sensitive, and embedded within a credible long-term fiscal framework to avoid becoming a futile exercise that sacrifices output without securing durable debt reduction.

Faced with political and economic constraints on austerity, policymakers and scholars have revisited the potential for inflation to erode the real value of public debt. The literature reveals a spectrum of views, from mechanistic simulations of its direct impact to analyses of its broader, often negative, economic consequences.

A series of simulation-based studies quantify the direct "debt erosion" effect. Akitoby et al. (2017), focusing on G7 countries, found that raising inflation to 6% for five years could reduce the average net debt-to-GDP ratio by 11-14 percentage points, while zero inflation would increase it by about 5 points. Similarly, Fukunaga et al. (2019) estimate that a 1 percentage point inflation shock reduces the debt ratio by only 0.5 to 1 percentage point across 19 advanced economies. These gains, while non-trivial, are deemed insufficient to solve a major debt overhang alone. Critically, these simulations rest on stringent assumptions: a full Fisher effect (where nominal interest rates adjust one-for-one with inflation), constant debt maturity, and no negative impact on output growth. Cherif and Hasanov's (2017) empirical VAR results reinforce these limitations, showing that the debt ratio falls only temporarily after an inflation shock before reverting to its pre-shock path, suggesting that markets and monetary policy reactions quickly neutralize the initial benefit.

The Congressional Budget Office analysis by Berkovich et al. (2021) provides a crucial counterpoint by examining inflation's impact beyond the government's balance sheet. They demonstrate that while higher inflation reduces the real value of outstanding debt, it simultaneously acts as a complex tax on the private sector. Non-indexed elements of the tax code, such as capital gains taxation and income tax brackets, lead to "bracket creep" and increase real tax liabilities. This raises the effective tax rate on capital, discouraging investment. Their model shows that a permanent increase in the inflation target from 2% to 3% would reduce the real obligation of federal debt by 7% by 2051, but also shrink the capital stock by 1% and GDP by 0.3%. The net effect is a wealth transfer to the government financed by savers and capital holders, with a likely long-term drag on economic capacity.

The feasibility of deliberately engineering higher inflation is itself questionable in a modern, globally integrated economy. Woodford (2001) argues that monetary policy's effectiveness relies not on surprising markets but on transparently managing expectations. This very transparency makes a sustained, surprise inflation difficult to orchestrate. Furthermore, as Obstfeld (2020) and Forbes (2019) elaborate, globalization has flattened the Phillips curve. Inflation is increasingly determined by global slack, commodity prices, and supply chains, while domestic labor market conditions have a diminished influence. The U.S. dollar's role as the global reserve currency further complicates matters, as Federal Reserve policy spills over powerfully into global financial conditions, which then spill back, altering domestic transmission mechanisms. In this environment, central banks may find it harder to generate domestically-driven inflation even if they wished to, making it an unreliable policy lever.

The post-World War II era offers an alternative model for debt liquidation that combines mild inflation with regulatory policy. Reinhart & Sbrancia (2015) document how "financial repression"—a policy regime of capital controls, interest rate ceilings, and regulatory mandates for domestic institutions to hold government debt—created a captive audience for bonds. This, combined with inflation, ensured real interest rates were negative roughly half the time from 1945 to 1980, liquidating significant debt burdens (2-3.5% of GDP annually in the U.S. and UK). Their analysis suggests debt reduction in that period

owed more to repressed interest rates than to inflation surprises. Notably, they observe the re-emergence of repressive elements post-2008, such as liquidity regulations that require banks to hold high-quality government debt. This suggests a gradual, financial-repression-based approach may be a more politically feasible and historically attested path for debt reduction than overt inflation targeting.

Growth is the most benign solution to high debt, as it increases the denominator (GDP) in the debt ratio. However, contemporary literature identifies deep structural headwinds that suppress potential growth, making this solution elusive.

Lawrence Summers (2014) resurrects the thesis of "secular stagnation," positing a chronic excess of desired saving over investment in advanced economies. This imbalance drives down the equilibrium real interest rate (r), persistently leaving monetary policy constrained at the effective lower bound (ELB). In a world where (r) is low or negative, the condition ($r < g$) can hold, making debt dynamics more favorable. However, this environment is also one of deficient demand and sluggish growth, which inherently limits the pace of nominal GDP expansion needed to outgrow debt.

Compounding this demand-side problem are adverse supply-side trends. De Loecker et al. (2020) document a dramatic rise in market power in the U.S. since 1980, with the average markup rising from 18% to 67% above marginal cost. This rise in monopolistic power reduces output, investment, and the labor share of income, directly depressing productivity and potential growth. It creates a perverse dynamic where measured productivity may appear stable due to higher prices, while real wages and investment stagnate. Thus, the very microeconomic structure of the economy may be inhibiting the growth necessary to ease macro-level debt burdens.

1.3 Structure of Paper

The rest of the paper is organized as follows: In the next section, all data and variables will be presented, the methods used to analyse the data will be presented in section 3. In section 4, the empirical results and statistical significance will be analysed. These results will guide a nuanced discussion in section 5, potential policy recommendations in section 6, then concluding remarks will be given in section 7.

2. Data and Methodology

2.1 Data

This study builds on Fukunaga et. al (2019), by expanding the database to 27 OECD countries, creating national subgroups, (G7, Nordic, Eurozone, etc.), and extending the data timeframe until 2024, to account for the effects and shocks of the COVID-19 pandemic. The analysis will also be deepened by assessing the interaction between debt reduction and inflation and through initial debt levels.

2.2 Descriptive Summary Statistics

Variable	Mean	Standard Deviation	Minimum	Maximum
Debt-to-GDP (%)	76.0	44.1	7.3	246.7

Inflation (%)	3.2	5.1	-4.5	72.3
GDP Per Capita ($)	44,872	21,660	10,228	155,750
GDP Growth (%)	1.9	3.6	-16.0	24.6

Table 1: Summary of the Mean, Standard Deviation, Minimum and Maximum values of Debt-to-GDP, Inflation, GDP per capita and GDP growth.

2.3 Methodology

To test the impacts of debt on inflation, regression models were constructed around 3 key macroeconomic variables:

- Debt-to-GDP ratio (ß1)
  - Total government debt divided by GDP. Expressed as a percentage (%).
- GDP growth (ß2)
  - Annual percentage change in economic output.
- GDP per capita (ß3)
  - Country's economic output per person. Measures the wealth of a nation.

Additionally, ß0 is the constant, and ε is the standard error.

3 multi-regression models were developed, where each model includes one new variable than the previous model. This enables us to test the extent to which debt influences inflation when accounting for additional macroeconomic determinants. Model 1 isolates Debt-to-GDP ratio with inflation, Model 2 introduces the variable of GDP growth, and Model 3 includes the variable of GDP per capita. The p-value for each variable will remain constant throughout the 3 models, from the point at which the variable was first introduced. This means once a variable is introduced in a model, its statistical significance (p-value) will not change regardless of modifications made to the model afterwards.

Across all 3 models, a change in the Debt-to-GDP ratio will be tied to the ß1 coefficient, a change in GDP growth will be tied to the ß2 coefficient, and a change in GDP per capita will be tied to the ß3 coefficient.

The null hypothesis (μ0) asserts that higher debt (and related variables) leads to higher inflation. It will be proven true if all variables are not statistically significant, i.e. below the critical region.

The alternative hypothesis (μ1) suggests that higher debt (and related variables) leads to lower inflation. The alternative hypothesis will be proven true, if each variable either fully remains in the critical region or outside the critical region in all models.

3. Results

Table 2 presents the correlation matrix between the variables.

	Debt/GDP	Inflation	GDP Per Capita	GDP Growth
Debt-to-GDP	/	-0.20	-0.07	-0.17
Inflation	-0.20	/	-0.03	0.12

Table 2: Correlation matrix between each variable tested

3.1 Model 1

Model 1 explores an isolated relationship between Debt-to-GDP and inflation.

$$\text{Inflation} = ß0 + ß1(Debt\ to\ GDP) + \varepsilon$$

In this model, as inflation and the Debt-to-GDP ratio have been isolated, the model seeks to present a statistical relationship between the two variables. To verify the rigidity of any potential relationship, the significance level has been lowered for the debt-to-gdp ratio (ß1), from p<0.05 to p<0.001. This minimises Type II errors, whilst ensuring that the alternative hypothesis, which is a genuine relationship between inflation and debt, will only be accepted if there is evidence below a strong significance level.

Variable	Coefficient	Standard Error	P-value
Constant (ß0)	4.639	0.373	<0.001***
Debt-to-GDP (ß1)	-0.0214	0.004	<0.001***

R-squared value: 0.039 | Observations: 622 | *** Significant at 0.1% level (p<0.001)

Table 3: Regression Analysis Results of Model 1

3.2 Model 2

GDP growth (ß2) is added to account for the simultaneous growth of the economy from demand-pull inflation, where growing economies feature higher prices. This enables us to understand whether the discovered relationship between Debt-to-GDP ratio and inflation still holds true in the context of economic growth.

$$\text{Inflation} = ß0 + ß1(Debt\ to\ GDP) + ß2\ (GDP\ growth) + \varepsilon$$

Variable	Coefficient	Standard Error	P-value
Constant (ß0)	4.277	0.401	<0.001***
Debt-to-GDP (ß1)	-0.0196	0.004	<0.001***
GDP growth (ß2)	0.1228	0.051	0.016**

R-squared value: 0.048 | Observations: 622 | *** p<0.001 | ** p<0.05

Table 4: Regression Analysis Results of Model 2

3.3 Model 3

Model 3 introduces GDP per capita, which is how much each individual produces in an economy. This variable accounts for structural differences between developed and developing economies.

Inflation = ß0 + ß1($Debt\ to\ GDP$) + ß2 ($GDP\ growth$) + ß3 ($GDP\ per\ capita$) + ε

Table 5: Regression Analysis Results of Model 3

Variable	Coefficient	Standard Error	P-value
Constant (ß0)	4.703	0.568	<0.001***
Debt-to-GDP (ß1)	-0.0199	0.004	<0.001***
GDP growth (ß2)	0.1261	0.051	0.014**
GDP per capita (ß3)	-0.00001	0.00001	0.291

Note: The R-squared value is 0.050 for 622 observations. *** p<0.001, ** p<0.05

4. Empirical Results and Interpretation

4.1 Debt-to-GDP Ratio

Figure 1 shows a highly clustered dataset at low inflation levels and a low to moderate debt to GDP ratio. There are a few outliers, either with an abnormally high debt to GDP ratio, or extremely high inflation. From Table 3, the Debt-to-GDP ratio (ß1) is -0.0214, meaning that for every percentage point increase in the Debt-to-GDP ratio, inflation decreases by 0.02 percentage points. The p-value being less than 0.001 falls within the significance level, leading us to reject the null hypothesis and accept the alternative hypothesis, implying a statistically significant and extremely strong negative relationship between debt and inflation. The statistically significant relationship enables us to look at the R squared value, which signifies the level

of variation that one variable has on another. The R squared value being 0.039, suggests that Debt-to-GDP ratio only accounts for around 4% of the variation in inflation. This suggests that there are other factors that also impact inflation, which will be explained in subsequent sections of the paper.

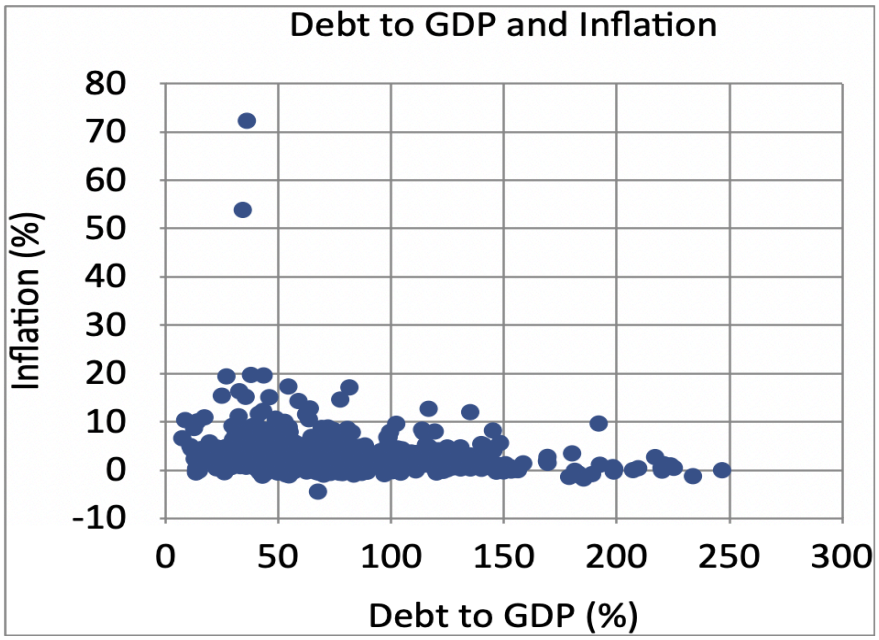


Figure 1: Scatter plot of Debt to GDP and Inflation

4.2 GDP Growth

Figure 2 shows data scattered around moderate GDP growth, both positive and negative, with relatively low levels of inflation. From Table 4, even with the addition of GDP growth (ß2) to the model, the debt-to-gdp ratio (ß1) remains consistent, as seen from the coefficient of -0.0196. Meaning that with GDP growth, an increase in debt by one percentage point leads to around a 2% decrease in inflation. The p-value remaining below 0.001 leads us to reject μ0 and accept μ1, reinforcing the relationship's statistical significance. From Table 2, GDP growth (ß2) also has a positive relationship with inflation, aligning with the demand-pull theory of inflation. The 0.1228 coefficient indicates that a 1% growth in GDP, leads to a 0.1228 increase in inflation. This confirms that economic expansion exerts upward pressure on prices. And because GDP growth is a variable that verifies the rigidity of the relationship between the debt-to-gdp ratio and inflation, the statistical significance threshold can be relaxed from 0.001 to 0.05. In this case, the p-value of 0.016 signifies that GDP growth positively influences inflation, as it falls within the $p<0.05$ region, hence rejecting μ0 and accepting μ1. At the same time, whilst a growing economy predicts increased inflation, the accumulation of public debt (Debt-to-GDP ratio) instead points to a deflationary scenario. Hence from the results of Model 2, we can assert that GDP growth are determinants of public debt that influence inflation, but debt-to-GDP ratio suggests that the inflationary effect may be conditional on monetary policy, rather than demand.

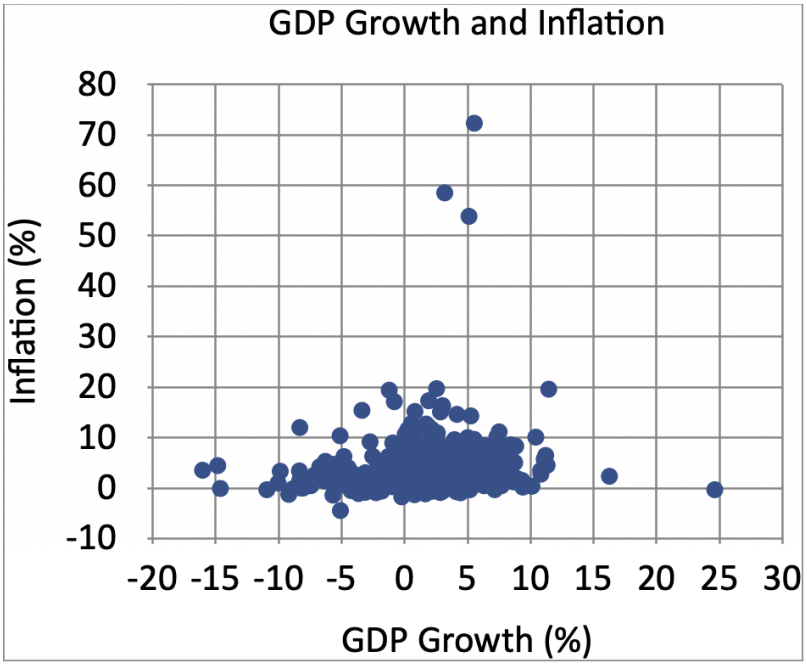


Figure 2: Scatter plot of GDP growth and Inflation

4.3 GDP Per Capita

Results in Figure 3 show a cluster of data points with low levels of inflation, with various levels of GDP per capita. The results in Table 5 show that GDP per capita has a statistically insignificant relationship with inflation, seen through the p-value of 0.291 (which is well beyond the threshold of $p<0.05$). With the coefficient also effectively being zero (-0.0001), this suggests that GDP per capita does not contribute to short run inflation and rather impacts an economy in the long run. Importantly, the addition of GDP per capita does not affect the other variables tested. Debt-to-GDP remains similar at -0.0199 whilst being statistically significant at the 0.1% level, the same holds true for GDP growth at 0.1261 whilst being statistically significant at the 5% level. The stability of these coefficients across all 3 models reinforces the robustness of the findings. The R squared value of 0.05 suggests that debt-to-GDP, GDP growth, and GDP per capita account for around 5% of the variation of inflation, with other factors (notably, monetary policy) likely playing a role in the effects of inflation.

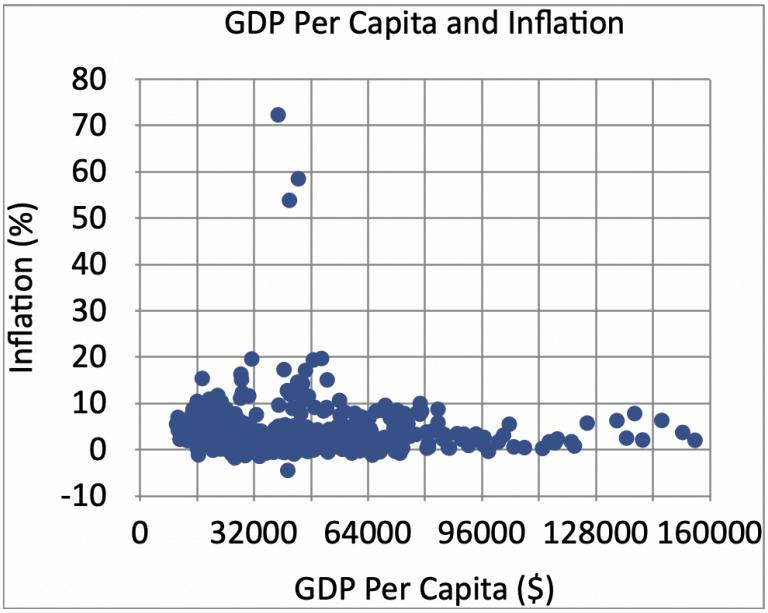


Figure 3: Scatter plot of GDP per Capita and Inflation

4.4 Debt-to-GDP vs GDP per Capita

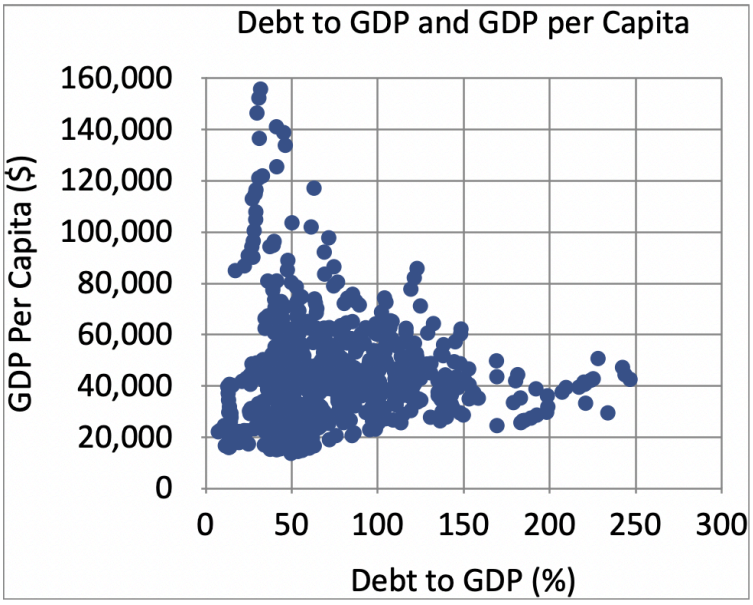


Figure 4: Scatter plot of Debt to GDP and GDP per Capita

Additionally, Debt-to-GDP was also plotted against GDP per Capita. Figure 4 enables us to see whether the debt to GDP ratio is systematically correlated to GDP per capita, which complements the full regression model (Model 3). Figure 4 shows a clustered relationship between debt to GDP ratio, and GDP per capita. Most countries are concentrated between 20%-120% debt to GDP, with GDP per capita between $20,000 and 60,000. At lower debt to GDP ratios (<~50%), GDP per capita spans a very wide range, including nations with ~$140,000 GDP per capita. As debt to GDP ratio increases, the income band of the observed country tends to increase, settling at between $40,000 and $60,000 for GDP per capita. At around 150% debt to GDP, the number of observations drops sharply. Based on these observations, the graph does not show a strong correlation between the debt to GDP ratio with inflation. This is verified by Table 2's correlation matrix, showing that debt to GDP ratio and GDP per capita only has a correlation value of -0.07, which is weak.

5. Nuanced Discussion

Contrary to the belief that high debt paves the way for greater inflation, the results show the opposite. As seen from Table 1, the relationship between debt and inflation is negative. From Model 1 (Table 3), we can also see that the debt-to-GDP to inflation relationship is strongly significant ($p<0.001$), with a low R^2 value. This suggests the debt-to-GDP ratio can only partially account for the variation in inflation. Within Figures 1,2,3 (with each variable being plotted against inflation), most of the data is clustered at a low inflation level, suggesting that increasing public debt does not always lead to increasing inflation. The small number of outliers (either extremely high debt-to-GDP/GDP growth/GDP per capita or inflation), suggest that the selected OECD observations fall within a low-inflation, high institutional credibility bracket. This further silences any previously assumed direct links between debt and inflation.

5.1 Model Robustness and Growth Dynamics

The stability of the model with the addition of variables reinforces this interpretation. Debt-to-GDP remaining constant in both the coefficients and significance level highlights the robustness of the model, enabling us to use the variable of GDP growth. It shows expected positive demand pull effects ($ß_2 > 0$, $p < 0.05$). High debt usually stems from recessions (Global Financial Crisis, COVID), where sectors deleverage instead of deficit spending. Central banks respond aggressively to this, so most observations are high debt and low inflation.

5.2 Institutional Frameworks

The negative relationship between debt and inflation found in this paper could be attributed to the policies and institutional frameworks of the selected OECD countries. These countries all have independent central banks, following inflation target mandates, robust fiscal rules and market discipline without triggering inflationary spirals. For example, Eurozone nations such as Austria, Belgium, Germany, Netherlands follow the Maastricht treaty, with oversight from the European Central Bank (ECB). Despite those nations exceeding the Maastricht treaty's 60% debt reference value, the ECB compliments the treaty by focusing on medium term inflation at 2%. This anchors expectations away from the short run, leading governments to prioritize fiscal credibility over deficit spending that could further fuel demand pull inflation. Therefore, ECB and Maastricht treaty creates market discipline that anchors inflation, as seen in Figure 5.

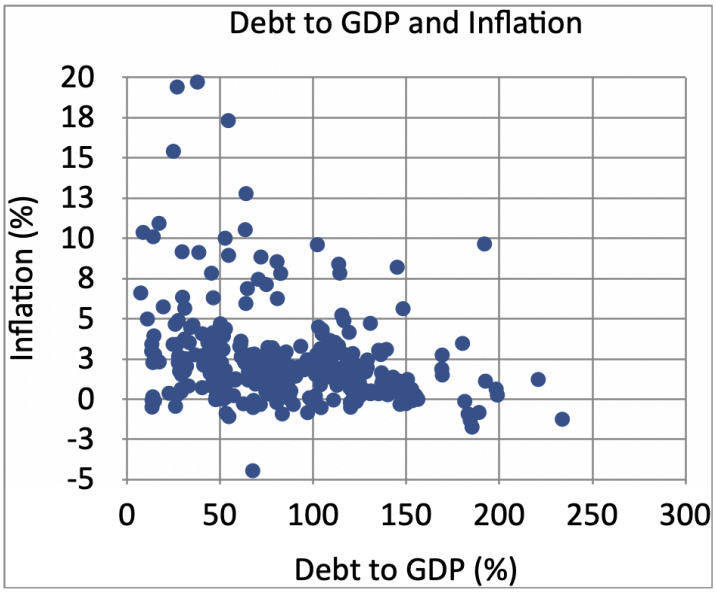


Figure 5: Scatter plot of Debt to GDP and Inflation in Eurozone nations (also part of OECD)

Most starkly, Japan's debt to GDP ratio has increased from 153% to 246% between 2007 and 2020, yet inflation only averaged 0.34%. Japan's aging population, combined with persistent output gap, and the fact that 90% of Japan's debt is domestic, the debts are serviceable without the need for inflationary financing, explaining the growth in Japan's debt to GDP ratio.

5.3 Endogeneity

Importantly, these are reduced form results, which runs the risk of endogeneity. Within the debt and GDP data, inflation erodes the nominal debt's real value, while boosting nominal GDP, which automatically reduces debt to GDP ratios. Therefore solely looking at annual data may result in reverse causality. Moreover, the models visualise correlations without accounting for government policy responses, such as primary surpluses or windfalls from taxes. This analysis covers robust, conditional correlations within OECD, rather than claiming causality.

5.4 Regime Heterogeneity

In regions with monetary dominance, such as the Eurozone and Japan, inflation is able to be anchored by credible financial institutions, regardless of debt. However, in fiscally dominant environments, such as Turkey, inflation spikes at moderate debt levels due to lessened central bank independence.

6. Policy Implications

The impact of debt levels on inflation is rarely linear. Instead, it is a dynamic process, shaped by sociopolitical stability, as well as both fiscal and monetary policy. The extent of the debt's impact is dictated by currency sovereignty (whether debt is

denominated domestically or foreign), productivity of the debt (productive debt offsets inflation, unproductive debt fuels demand side inflation). Additionally, each nation's economic output gap, demographic shifts, and its institutional credibility also determines whether debt contributes to inflation or simply eroded by global demand. Ultimately, debt becomes inflationary when it outgrows the economy's productive capacity or trust in the long term value of the currency is eroded.

Japan is the prime example for a nation having high debt and low inflation. The exchange rate mechanism in Japan acted as a pressure release valve for inflation. During the first two decades of the new millennium, the status of the Yen as a safe-haven currency ensured that it appreciated during times of trouble in other countries, thus reducing the price of foreign raw materials and perpetuating deflation. Even after the Bank of Japan attempted to weaken the currency through its famous "Abenomics" policy since 2013, no significant increase in inflation occurred, as Japanese companies, aware of people's deflationary mindset, opted to pay higher import costs themselves rather than risk market loss by increasing retail prices. Only in 2022-2024, when an enormous interest rate differential took place, did the value of the Yen become so low that importing goods could not be absorbed by the company's profit margins anymore, resulting in the currently observed inflation.

Turkey is an obvious case study for a nation carrying moderate debt and high inflation. The erosion of the independence of the Turkish Central Bank became the reality check of "unorthodox" economic policy, which saw political beliefs override institutions. Through a centralization of power in the new executive presidential system implemented in 2018, the government has converted the institution that used to focus on tackling inflation into a mechanism for cheap loans. This was based on the assumption that interest rates were what caused inflation and not a solution to it, which is the theory under which there have been dismissals of no fewer than four governors within five years for trying to steer the institution toward conventional policies. Hence, as the credibility of the bank's policies has deteriorated, so has the Turkish Lira.

Greece is the epitome of the debt crisis. It brought into focus how vulnerable were the financial ties of the Eurozone economies. The debt crisis started after the disclosure that the Greek government had grossly misrepresented its country's budget deficits. With the loss of investor confidence resulting in skyrocketing bond yields, the debt problem soon became an emergency situation that necessitated the intervention of the Troika (European Commission, the European Central Bank, and the International Monetary Fund) through a record-breaking €110 billion bail-out deal. At the cost of strict austerity programs that cut down spending and raised taxes leading to multiple years of recession, the country was saved from defaulting on its loans.

Overall, a high level of debt, combined with the appropriate monetary and fiscal policy, can enable governments to turn debt to be positive for a country's development in the long run, including infrastructure improvements and research and development innovation. However, if inadequate policies are enacted, a high level of debt could be detrimental to a country's economy. Therefore, policymakers have to optimise their monetary and fiscal policies with regards to debt, to ensure the stability and growth of the economy in the long run.

7. Conclusion

This paper examines whether higher public debt is associated with higher inflation in the post global financial crisis era. The results do not support the null hypothesis, where higher public debt automatically or directly leads to higher inflation. Instead, the analysis finds a statistically significant negative relationship between debt-to-GDP ratio and inflation, GDP

growth showing a positive association with inflation. GDP per capita is not statistically significant. Despite this, the final model's R^2 value of 0.05 suggests that debt levels are not the sole factor in debt-inflation dynamics, and there are various other macroeconomic and institutional factors that shape it.

The data shows that high public debt does not necessarily generate inflation in economies with credible financial institutions. Rather, inflation may be influenced by short-run demand pressures and policy directions. Future research could extend this analysis through increasing the number of countries in the dataset, or through direct measurements of debt maturity structure, central bank independence scores, financial development indices, and openness to trade.

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Data & Code Availability Statement

The full data set can be accessed below:

[redacted for peer review]

Acknowledgements

[redacted]

Author Biography

[redacted]

Mentor Contribution Statement

[redacted]

AI Usage Statement

I hereby attest that I have not used Artificial Intelligence (or any Large Language Models) in any other way, other than for brainstorming and minor editing support purposes.

Reviewer Report

Recommendation: Revise and Resubmit (Major Revision)

This manuscript investigates the relationship between public debt and inflation across OECD economies using macroeconomic data. The topic is timely, particularly given the fiscal expansions following the Global Financial Crisis and the COVID-19 pandemic. The manuscript is generally well organized. However, the manuscript contains several important shortcomings that substantially weaken the reliability of the empirical findings. Therefore, I recommend major revision.

Major Comments

1. **The empirical methodology requires clearer justification.**

The paper states that it employs "panel-style regression models"; however, the estimation procedure is not described in sufficient detail. It remains unclear whether the paper used pooled OLS, fixed-effects estimation, random-effects estimation, or another specification. Since the dataset combines multiple countries over time, the authors should explicitly describe the econometric framework and justify why the selected estimation approach is appropriate for the research question.

2. **The hypothesis section should be reformulated.**

The statistical hypotheses are currently presented in a way that is inconsistent with standard statistics framework. The manuscript states that the null hypothesis is "proven true" when variables are not statistically significant and that the alternative hypothesis is "proven true" otherwise. Hypothesis testing does not establish proof; rather, the null hypothesis is either rejected or fails to be rejected. This section should therefore be rewritten using standard statistical terminology.

3. The interpretation of statistical significance should be more precise.

The interpretation of the results could be improved. The debt-to-GDP coefficient is statistically significant in all models, which is an important finding. However, phrases such as "extremely strong relationship" may be too strong because the R^2 values are quite low. This means that the model explains only a small part of the changes in inflation. I suggest using more cautious language when discussing the results.

4. Discussion and Interpretation

Some conclusions are a little stronger than the results can support. For example, the discussion suggests that institutional credibility explains the relationship between debt and inflation, but this is not directly tested in the regression models.

7. Robustness discussion should be moderated.

The manuscript presents the stability of coefficients across three models as evidence of robustness. However, adding two additional control variables does not eliminate omitted-variable bias or establish that the reported associations are independent of other macroeconomic factors.

Minor Comments

- If regression diagnostic tests were performed, please briefly mention them in the methodology or results section.
- Please use the same notation throughout the paper.
- The manuscript would benefit from one final proofread to improve grammar and writing style.
- In the discussion and conclusion, it would be better to consistently describe the results as associations rather than causal relationships.

Review of "Public Debt and Inflation in OECD Economies: Evidence from Post-Crisis Macroeconomic Dynamics"

1. Overview

This paper asks whether higher public debt is associated with higher inflation across OECD economies since 2008, using a literature review, a panel regression of inflation on debt-to-GDP (plus GDP growth and GDP per capita), and case studies of Japan, Turkey, and Greece. The literature review in Section 1.2 is the standout: a sophisticated, well-sourced synthesis of Cherif & Hasanov, Sargent & Wallace, the Akitoby/Fukunaga debt-reversal simulations, Reinhart & Sbrancia on financial repression, Summers on secular stagnation, and De Loecker et al. on market power. The case studies are equally strong and show real command of the economics—particularly the treatment of monetary versus fiscal dominance and the yen as a safe-haven currency. The author writes clearly and, tellingly, spots the key endogeneity and mechanical-ratio problems in the data themselves.

My recommendation is revise and resubmit. The reason is that the empirical core (Sections 2–4) does not yet support its conclusions, and fixing it is a rebuild rather than a polish: the hypothesis-testing framework is internally inconsistent and non-standard; the regression is pooled OLS on panel data with no fixed effects or clustering; the headline negative debt–inflation relationship is likely driven partly by a mechanical accounting link and partly by two outlier clusters (Turkey and Japan); several coefficient interpretations are wrong, one by a factor of 100; and several extensions promised in Section 2.1 never appear. Because the central finding may not survive a correct treatment, acceptance cannot be guaranteed—hence R&R rather than conditional acceptance. This is nonetheless a promising paper by an author clearly capable of publishable work, and the detail below reflects that the project is worth investing in.

2. Specific Feedback

What kind of paper is this?

- Section 1.1 calls the paper a "literature review," but Sections 2–4 are an original empirical study framed as building on Fukunaga et al. (2019). The manuscript is caught between the two: the review is close to publishable on its own, while the empirical component is underdeveloped relative to it. Deciding which paper this is would help. One route is to lean into the review—its real strength—and present the regression as a modest, clearly-labelled illustration; the other is to commit to it as an empirical paper, which requires the overhaul below. The current halfway position undersells the review and oversells the regression.

The hypothesis-testing framework

- As written, the hypotheses are not testable as stated and do not match standard practice. The alternative's condition (a variable "either fully remains in the critical region or outside" it) covers every possible outcome, so it can never fail; the null is said to be "proven true" if variables are insignificant, but failing to reject H0 is not evidence for it; and the directional claims ("debt raises inflation" vs. "debt lowers inflation") are used where the standard null is simply that a coefficient equals zero. Section 2.3's claim that "the p-value for each variable will remain constant throughout the 3 models" is also incorrect—adding regressors generally changes existing coefficients and their p-values (indeed the debt coefficient itself moves, $-0.0214 \rightarrow -0.0196 \rightarrow -0.0199$).
- The conventional setup is H0: $\beta 1 = 0$ against H1: $\beta 1 \neq 0$ (or one-sided H1: $\beta 1 < 0$). A significant negative coefficient then rejects H0 in favour of a negative association—

exactly the paper's finding, stated cleanly. I'd also drop the μ notation, which conventionally denotes a population mean, for H0/H1.

The regression should use panel methods

- With 622 observations across (per Section 2.1) 27 OECD countries, this is a country-by-year panel estimated as pooled OLS. Two problems follow. The standard errors are almost certainly too small, since inflation is serially correlated within a country—they should at least be clustered by country. And pooled OLS blends cross-country variation (why Japan differs from Turkey) with within-country variation (how a country's inflation moves over time), which can tell opposite stories. Country fixed effects would isolate the within-country relationship and year fixed effects would absorb common shocks (the GFC, the 2021–22 surge). I'd strongly encourage re-estimating with country and year fixed effects and clustered standard errors, and reporting how the debt coefficient changes. Relatedly, the sample period and panel structure are never stated—one sentence specifying the years and whether the panel is balanced is essential.

The mechanical debt-to-GDP / inflation link (the central issue)

- This is the most important problem, and to the author's credit Section 5.3 already half-identifies it: because debt-to-GDP has nominal GDP in its denominator, and nominal GDP rises with inflation, higher inflation mechanically lowers the ratio. A negative debt–inflation relationship is therefore partly built into the accounting, independent of behaviour, so the headline result may be an artefact of construction rather than evidence that "debt does not cause inflation." The paper notes this but proceeds as if it were not decisive; it needs to be tackled head-on. Standard fixes: use lagged debt-to-GDP (last year's debt cannot be driven by this year's inflation), or debt in levels/per capita, or first-differences. If the relationship survives lagging, it is real and interesting; if it weakens, that reshapes the conclusion. Furthermore, countries with recurrent high inflation tradionally struggle to sell their debt and rely more frequently on "money printing" as an alternative source of financing.
- Figure 1 reinforces the concern: the negative slope appears driven by two clusters—Turkey (moderate debt ~35%, inflation of 54% and 72%) at the upper-left, and Japan plus high-debt Europe (>150% debt, near-zero inflation) at the lower-right—with a largely flat cloud between. A relationship resting on two identifiable clusters is fragile; show the result with and without them, and with fixed effects that absorb the level gap between, say, Japan and Turkey.

Coefficient interpretations

- **A factor-of-100 error:** Section 4.1 correctly reads the debt coefficient (−0.0214) as "inflation decreases by 0.02 percentage points" per point of debt-to-GDP, but Section 4.2 restates −0.0196 as "around a 2% decrease in inflation"—100 times too large. The 4.1 reading is the correct one.
- **"Extremely strong" overstates it:** With $R^2 = 0.039$ the model explains under 4% of the variation and the coefficient is tiny; "statistically significant but economically small" is accurate, and fits the paper's own honest acknowledgement that most variation is unexplained.
- **"Deflationary" is imprecise:** High-debt countries show lower but still positive inflation, not deflation. "Disinflationary" or "lower inflation" is the right word.

Promised extensions that do not appear

- Section 2.1 promises national subgroups (G7, Nordic, Eurozone), an analysis of "the interaction between debt reduction and inflation," and results "through initial debt levels." None materialises—there are no subgroup regressions (only a single Eurozone scatter), no interaction terms, and no initial-debt analysis. These are exactly where the paper could add value over Fukunaga et al., so either deliver them or drop the claims. (A related point: Fukunaga estimates how inflation reduces debt, i.e. debt is the outcome; this paper puts inflation on the left-hand side, so "building on Fukunaga" slightly mischaracterises the exercise.)

3. Minor Formatting and Clarity

- The correlation matrix (Table 2) is incomplete—it shows only the Debt-to-GDP and Inflation rows, omitting GDP per capita and GDP growth.
- The figures are present and legible, but some titles don't match the in-text captions (the image titled "Debt to GDP and GDP per Capita" is Figure 4; Figure 5 is described as Eurozone-only but its title reads simply "Debt to GDP and Inflation"—worth confirming it is restricted to Eurozone observations).
- Reporting the GDP-per-capita coefficient as −0.00001 (SE 0.00001) is hard to read; rescale the variable (e.g., per $1,000).
- The OECD has 38 members; the paper uses 27. Naming the 27, or the inclusion criterion, would aid replication.
- Minor grammar: "GDP growth are determinants" (4.2) should be singular; a few sentences in Sections 5–6 run long and could be split.

4. Final Recommendation

Revise and resubmit.

The literature review and case studies are already close to publishable, but the empirical section—the paper's claimed original contribution—rests on a regression whose central finding may be a mechanical artefact and is estimated without the panel methods the data require. Until the debt measure is lagged (or otherwise purged of the denominator effect) and the models are re-estimated with fixed effects and clustered standard errors, we cannot know whether the result holds, so acceptance should not be guaranteed yet.

A successful revision would: (1) decide whether this is a review or an empirical paper and frame it accordingly; (2) rewrite the hypotheses in standard H0/H1 terms and drop the claim that p-values are fixed across models; (3) re-estimate with country and year fixed effects and clustered standard errors, stating the sample period; (4) address the mechanical debt-to-GDP link directly (at minimum via lagged debt) and show the result with and without the Turkey/Japan clusters; (5) correct the coefficient interpretations; and (6) either deliver the promised subgroup, interaction, and initial-debt analyses or remove the claims.

None of this is beyond the author, who has written a review section of real quality, shown a sophisticated grasp of the economics, and—notably—already spotted the endogeneity and mechanical-ratio issues. The gap is between a strong conceptual command of the topic and the specific techniques needed to test it cleanly, which is a normal and closable gap at this stage. I would be glad to see a revised version and expect it could become a genuine contribution.

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Public Debt and Inflation in OECD Economies: Evidence from Post-Crisis Macroeconomic Dynamics

[redacted]

Abstract

The dawn of the 21st century has been marked by an extraordinary accumulation of public debt across advanced and emerging economies, a trend catalyzed and intensified by successive global crises. The first part of this paper is related to debt sustainability. It reviews whether the traditional debt reduction channels, namely fiscal consolidation (austerity), inflating away the real value of debt, and fostering economic growth, are still effective through literature review. The second part examines the relationship between inflation and public debt by empirical analysis. Data cover 37 OECD countries over the period from 2007 to 2024. Policy implications related to debt level and inflation with examples of Japan, Turkey and Greece are included.

Keywords: public debt; debt sustainability; inflation; OECD; fiscal policy; GDP growth
JEL Codes: E31; H63; E62; C23

1. Introduction

1.1 Summary Paragraph

The dawn of the 21st century has been marked by an extraordinary accumulation of public debt across advanced and emerging economies, a trend catalyzed and intensified by successive global crises. The 2008 Global Financial Crisis (GFC) fundamentally altered fiscal trajectories, leading to large deficits and unprecedented public debt buildups in peacetime (Cherif & Hasanov, 2017; Akitoby et al., 2017). This pre-existing "fourth wave" of debt accumulation, already the largest and fastest in emerging markets and developing economies (EMDEs) in five decades, was turned into a veritable "tsunami" by the COVID-19 pandemic (Kose et al., 2021). In 2020 alone, global debt surged by 30 percentage points of GDP to 263%, the largest single-year increase since at least 1970. This confluence of events has placed the question of debt sustainability at the forefront of economic policy, with profound implications for growth, inequality, and financial stability. The increase in public debt may cause price increases.

1.2 Research Questions

Confronted with towering debt-to-GDP ratios, policymakers traditionally weigh three primary channels for debt reduction: fiscal consolidation (austerity), inflating away the real value of debt, and fostering economic growth. The first question reviews the effectiveness of traditional channels via the literature review.

Question 1: Do the traditional debt reduction levers remain effective to the path of debt sustainability without triggering price fluctuation or recession?

As it is a general belief that high debt will cause inflation, the second question seeks to uncover the relationship between public debt and inflation. Data of OECD countries over the period from 2007 to 2024 will be collected for empirical analysis.

Question 2: What is the relationship between public debt and inflation in OECD countries?

1.3 Structure of paper

The rest of the paper is organized as follows: In the next section, literature review will cover public debt, fiscal reduction, inflation and economic growth for Question 1. Sections 3-6 cover the components of the empirical analysis for Question 2. All data and variables will be presented, the methods used to analyse the data and the empirical results will be presented in section 4. These results will guide a nuanced discussion in section 5, potential policy recommendations in section 6. Then, concluding remarks will be given in section 7.

2. Literature Review

Fiscal consolidation is often the first prescription for elevated debt. Yet, empirical evidence strongly cautions that its benefits can be short-lived and its costs substantial. Cherif & Hasanov's (2017) seminal analysis using a Vector Autoregression (VAR) model with explicit debt feedback provides a critical insight: while an austerity shock initially reduces the debt-to-GDP ratio, this gain is eroded over time as the contractionary fiscal policy suppresses economic growth. Their impulse response analysis reveals that the debt ratio eventually returns to, or even overshoots, its pre-shock path, suggesting that front-loaded, rapid fiscal adjustment can be self-defeating. This finding underscores the non-linear dynamics of debt, where ignoring the feedback from fiscal policy to growth—as simpler linear models do—leads to overly optimistic forecasts of debt reduction.

The theoretical underpinning for this fiscal-monetary coordination problem is famously articulated in Sargent & Wallace's (1981) "Unpleasant Monetarist Arithmetic." They demonstrate that in an environment where the real interest rate exceeds the growth rate ($r > g$), unsustainable fiscal deficits will ultimately force the central bank to monetize debt, leading to higher inflation. This implies that without credible, long-term fiscal discipline, tight monetary policy today merely postpones inflation rather than preventing it. The contemporary relevance of this coordination is highlighted in debates over large-scale fiscal stimulus, such as the $1.9 trillion U.S. COVID-19 relief package. Blanchard (2021) argues that while multipliers are potent and immediate inflation risks may be muted, the sheer size of stimulus relative to estimated output gaps risks overheating, potentially forcing a harsh monetary response that could undermine growth. The collective lesson is that austerity must be carefully calibrated, growth-sensitive, and embedded within a credible long-term fiscal framework to avoid becoming a futile exercise that sacrifices output without securing durable debt reduction.

Faced with political and economic constraints on austerity, policymakers and scholars have revisited the potential for inflation to erode the real value of public debt. The literature reveals a spectrum of views, from mechanistic simulations of its direct impact to analyses of its broader, often negative, economic consequences.

A series of simulation-based studies quantify the direct "debt erosion" effect. Akitoby et al. (2017), focusing on G7 countries, found that raising inflation to 6% for five years could reduce the average net debt-to-GDP ratio by 11-14 percentage points, while zero inflation would increase it by about 5 points. Similarly, Fukunaga et al. (2019) estimate that a 1 percentage point inflation shock reduces the debt ratio by only 0.5 to 1 percentage point across 19 advanced economies. These gains, while non-trivial, are deemed insufficient to solve a major debt overhang alone. Critically, these simulations rest on stringent assumptions: a full Fisher effect (where nominal interest rates adjust one-for-one with inflation), constant debt maturity, and no negative impact on output growth. Cherif and Hasanov's (2017) empirical VAR results reinforce these limitations, showing that the debt ratio falls only temporarily after an inflation shock before reverting to its pre-shock path, suggesting that markets and monetary policy reactions quickly neutralize the initial benefit.

The Congressional Budget Office analysis by Berkovich et al. (2021) provides a crucial counterpoint by examining inflation's impact beyond the government's balance sheet. They demonstrate that while higher inflation reduces the real value of outstanding debt, it simultaneously acts as a complex tax on the private sector. Non-indexed elements of the tax code, such as capital gains taxation and income tax brackets, lead to "bracket creep" and increase real tax liabilities. This raises the effective tax rate on capital, discouraging investment. Their model shows that a permanent increase in the inflation target from 2% to 3% would reduce the real obligation of federal debt by 7% by 2051, but also shrink the capital stock by 1% and GDP by 0.3%. The net effect is a wealth transfer to the government financed by savers and capital holders, with a likely long-term drag on economic capacity.

The feasibility of deliberately engineering higher inflation is itself questionable in a modern, globally integrated economy. Woodford (2001) argues that monetary policy's effectiveness relies not on surprising markets but on transparently managing expectations. This very transparency makes a sustained, surprise inflation difficult to orchestrate. Furthermore, as Obstfeld (2020) and Forbes (2019) elaborate, globalization has flattened the Phillips curve. Inflation is increasingly determined by global slack, commodity prices, and supply chains, while domestic labor market conditions have a diminished influence. The U.S. dollar's role as the global reserve currency further complicates matters, as Federal Reserve policy spills over powerfully into global financial conditions, which then spill back, altering domestic transmission mechanisms. In this environment, central banks may find it harder to generate domestically-driven inflation even if they wished to, making it an unreliable policy lever.

The post-World War II era offers an alternative model for debt liquidation that combines mild inflation with regulatory policy. Reinhart & Sbrancia (2015) document how "financial repression"—a policy regime of capital controls, interest rate ceilings, and regulatory mandates for domestic institutions to hold government debt—created a captive audience for bonds. This, combined with inflation, ensured real interest rates were negative roughly half the time from 1945 to 1980, liquidating significant debt burdens (2-3.5% of GDP annually in the U.S. and UK). Their analysis suggests debt reduction in that period owed more to repressed interest rates than to inflation surprises. Notably, they observe the re-emergence of repressive elements post-2008, such as liquidity regulations that require banks to hold high-quality government debt. This suggests a gradual, financial-repression-based approach may be a more politically feasible and historically attested path for debt reduction than overt inflation targeting.

Growth is the most benign solution to high debt, as it increases the denominator (GDP) in the debt ratio. However, contemporary literature identifies deep structural headwinds that suppress potential growth, making this solution elusive.

Lawrence Summers (2014) resurrects the thesis of "secular stagnation," positing a chronic excess of desired saving over investment in advanced economies. This imbalance drives down the equilibrium real interest rate (r), persistently leaving monetary policy constrained at the effective lower bound (ELB). In a world where (r) is low or negative, the condition ($r < g$) can hold, making debt dynamics more favorable. However, this environment is also one of deficient demand and sluggish growth, which inherently limits the pace of nominal GDP expansion needed to outgrow debt.

Compounding this demand-side problem are adverse supply-side trends. De Loecker et al. (2020) document a dramatic rise in market power in the U.S. since 1980, with the average markup rising from 18% to 67% above marginal cost. This rise in monopolistic power reduces output, investment, and the labor share of income, directly depressing productivity and potential growth. It creates a perverse dynamic where measured productivity may appear stable due to higher prices, while real wages and investment stagnate. Thus, the very microeconomic structure of the economy may be inhibiting the growth necessary to ease macro-level debt burdens.

3. Data and Methodology

3.1 Data

In this section, an empirical analysis is carried out to examine whether there is a relationship between public debt (as a percentage of GDP) and inflation. Data cover 37 OECD countries over the period from 2007 to 2024,accounting for the effects and shocks of the COVID-19 pandemic. A total of 622 country-year observations after removing missing values are included.

3.2 Methodology

To analyze the data, the first step is to generate descriptive statistics, such as mean, standard deviation, maximum and minimum, of each variable.

Then, a correlation analysis for the four variables is generated to understand which pair(s) of variables move together or not.

To verify the rigidity of the relationship between inflation and debt-to-GDP (variable $\beta 1$), its statistical significance will be tested at the $p < 0.001$ significance level as follows:
$H0: \beta 1 = 0$, $H1: \beta 1 \neq 0$

For variables $\beta 2$ and $\beta 3$, its statistical significance will be tested at the $p < 0.05$ significance level as follows:
$H0: \beta 2 = 0$, $H1: \beta 2 \neq 0$; $H0: \beta 3 = 0$, $H1: \beta 3 \neq 0$

Ordinary Least Squares (OLS) regression analysis will be applied in the model development. It aims to understand the relationship between variables.

In addition to regression analysis, the countries will be divided into groups by the level of debt-to-GDP ratio and compared the average inflation rate.

4. Results

4.1 Descriptive Summary Statistics

Variable	Mean	Standard Deviation	Minimum	Maximum
Debt-to-GDP (%)	76.0	44.1	7.3	246.7
Inflation (%)	3.2	5.1	-4.5	72.3
GDP Per Capita ($)	44,872	21,660	10,228	155,750
GDP Growth (%)	1.9	3.6	-16.0	24.6

Table 1: Summary of the Mean, Standard Deviation, Minimum and Maximum values of Debt-to-GDP, Inflation, GDP per capita and GDP growth.

From Table 1, the average debt-to-GDP is 76.0% and it ranges between 7.3% to 246.7%. Average Inflation is 3.2%. Some countries experience deflation (-4.5%) while some face hyper-inflation (72.3%). Average GDP per capita and average GDP growth are $44,872 and 1.9% respectively.

4.2 Correlation Analysis

Table 2 presents the correlation matrix between the variables. The correlation between debt-to-GDP and inflation is -0.20. This means that countries with higher debt-to-GDP tend to have lower inflation.

	Debt/GDP	Inflation	GDP Per Capita	GDP Growth
Debt-to-GDP	/	-0.20	-0.07	-0.17
Inflation	-0.20	/	-0.03	0.12

Table 2: Correlation matrix between each variable tested

4.3 Regression Analysis (Ordinary Least Squares (OLS) Regression)

To further understand the relationship between inflation and other variables, regression models are constructed around 3 key macroeconomic variables:

- Debt-to-GDP ratio
- GDP growth
- GDP per capita

4.3.1 Model 1

Model 1 examines the relationship between Debt-to-GDP and inflation.

$$\text{Inflation} = ß0 + ß1(Debt\ to\ GDP) + \varepsilon$$

Variable	Coefficient	Standard Error	P-value
Constant (ß0)	4.639	0.373	<0.001***
Debt-to-GDP (ß1)	-0.0214	0.004	<0.001***

R-squared value: 0.039 | Observations: 622 | *** Significant at 0.1% level (p<0.001)

Table 3: Regression Analysis Results of Model 1

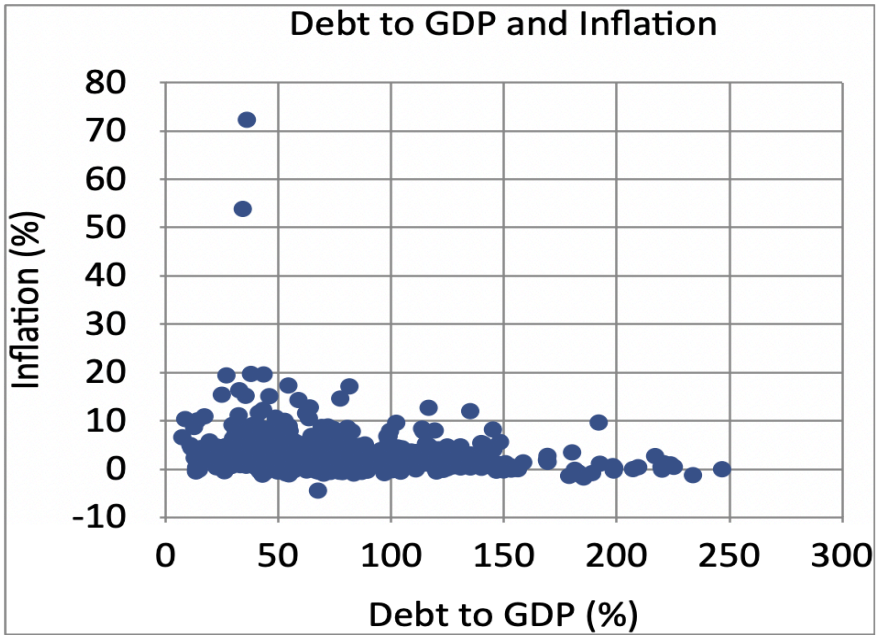


Figure 1: Scatter plot of Debt to GDP and Inflation

The coefficient of Debt-to-GDP (ß1) is -0.0214, which means that inflation decreases 0.0214 percentage point on average if debt-to-GDP increases 1 percentage point. Given that the p-value of Debt-to-GDP (ß1) is <0.001, the null hypothesis H0: ß1=0 is rejected.

Given that R-squared is 0.039, debt-to-GDP explains less than 4% of the variation in inflation. In addition to debt-to-inflation, there may be other macroeconomic factors which can explain the variation.

4.3.2 Model 2

GDP growth (ß2) is added as a control. This variable accounts for the differences in economic growth.

$$\text{Inflation} = ß0 + ß1(Debt\ to\ GDP) + ß2\ (GDP\ growth) + \varepsilon$$

Variable	Coefficient	Standard Error	P-value
Constant (ß0)	4.277	0.401	<0.001***
Debt-to-GDP (ß1)	-0.0196	0.004	<0.001***
GDP growth (ß2)	0.1228	0.051	0.016**

R-squared value: 0.048 | Observations: 622 | *** p<0.001 | ** p<0.05

Table 4: Regression Analysis Results of Model 2

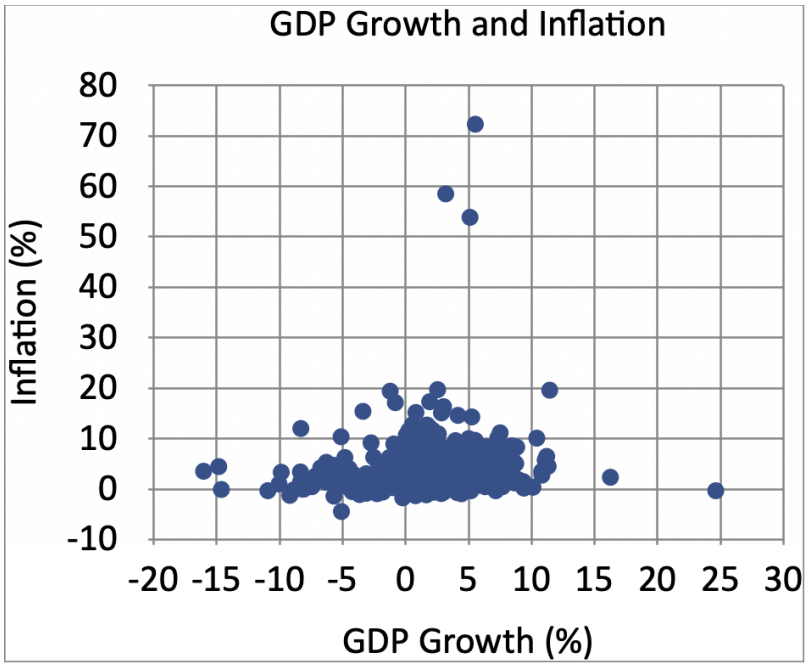


Figure 2: Scatter plot of GDP growth and Inflation

In the model, the negative relationship between debt-to-GDP and inflation remains significant, as the coefficient is -0.0196, meaning if the debt-to-GDP ratio increases by 1 percentage point, inflation should decrease by 0.02 percentage points. The coefficient of GDP growth is 0.1228. If the GDP growth increases 1 percentage point, inflation is likely to increase 0.1228 percentage point. The p-values of Debt-to-GDP (ß1) and GDP growth (ß2) are <0.001 and 0.016 respectively, which means they are statistically significant and the null hypothesis H0 is rejected.

Compared against Model 1, Model 2's R-squared value is 0.048. Although the value of R-squared increases, the model explains only 4.8% of the variation in inflation. There may be other macroeconomic factors which can explain the variation.

4.3.3 Model 3

Model 3 introduces GDP per capita, which is how much each individual produces in an economy. This variable accounts for structural differences between developed and developing economies.

$$\text{Inflation} = ß0 + ß1(Debt\ to\ GDP) + ß2\ (GDP\ growth) + ß3\ (GDP\ per\ capita) + \varepsilon$$

Variable	Coefficient	Standard Error	P-value
Constant (ß0)	4.703	0.568	<0.001***
Debt-to-GDP (ß1)	-0.0199	0.004	<0.001***
GDP growth (ß2)	0.1261	0.051	0.014**
GDP per capita (ß3)	-0.00001	0.00001	0.291

R-squared value: 0.050 | Observations: 622 | *** p<0.001 | ** p<0.05

Table 5: Regression Analysis Results of Model 3

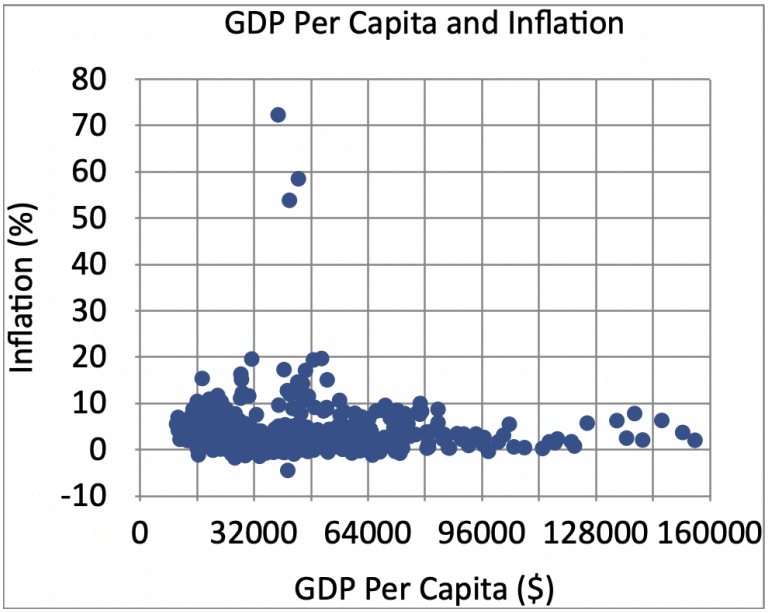


Figure 3: Scatter plot of GDP per Capita and Inflation

As the p-value of GDP per capita is 0.291, this variable is not statistically significant. The null hypothesis H0 fails to be rejected. This means that whether a country is rich or poor does not have a relationship with inflation after controlling debt-to-GDP and GDP growth.

4.3.4 Debt Level Comparison

To further understand the relationship between debt and inflation, each observation is grouped by the level of debt-to-GDP. There are four groups: Low (0-40%), Medium (40-80%), High (80-120%) and Very High (>120%).

A t-test comparing Low Debt Group (0-40%) with High Debt Group (80-120%) shows the difference in inflation (5.19% vs. 2.54%) is statistically significant ($t=3.39$, $p<0.001$), which is consistent with the negative relationship between debt-to-GDP and inflation in the Model 1 and 2.

Debt Group	Average Inflation	Average Debt-to-GDP	Observations
Low (0-40%)	5.19%	27.9%	107
Medium (40-80%)	2.91%	57.4%	278
High (80-120%)	2.54%	98.8%	147
Very High (>120%)	1.48%	155.2%	90

Table 6: Debt Group Analysis

5. Nuanced Discussion

Contrary to the belief that high debt paves the way for greater inflation, the results show the opposite. As seen from Table 1, the relationship between debt and inflation is negative. From Model 1 (Table 3), we can also see that the debt-to-GDP to inflation relationship is statistically significant ($p<0.001$), with a low R^2 value. This suggests the debt-to-GDP ratio can only partially account for the variation in inflation.

From Figure 1, most of the data is clustered at a low inflation level, suggesting that increasing public debt may not always lead to increasing inflation, contrary to popular belief that there is a direct link between debt and inflation.

5.1 Model Robustness and Growth Dynamics

The stability of the model with the addition of variables reinforces this interpretation. Debt-to-GDP remaining constant in both the coefficients and significance level highlights the robustness of the model, enabling us to use the variable of GDP growth. It shows expected positive demand pull effects ($ß_2 > 0$, $p < 0.05$). High debt usually

stems from recessions (Global Financial Crisis, COVID), where sectors deleverage instead of deficit spending. Central banks respond aggressively to this, so most observations are high debt and low inflation.

5.2 Institutional Frameworks

The negative relationship between debt and inflation found in this paper may be attributed to the policies and institutional frameworks of the selected OECD countries. These countries all have independent central banks, following inflation target mandates, robust fiscal rules and market discipline without triggering inflationary spirals. For example, Eurozone nations such as Austria, Belgium, Germany, Netherlands follow the Maastricht treaty, with oversight from the European Central Bank (ECB). Despite those nations exceeding the Maastricht treaty's 60% debt reference value, the ECB compliments the treaty by focusing on medium term inflation at 2%. This anchors expectations away from the short run, leading governments to prioritize fiscal credibility over deficit spending that could further fuel demand pull inflation. Therefore, ECB and Maastricht treaty creates market discipline that anchors inflation, as seen in Figure 4.

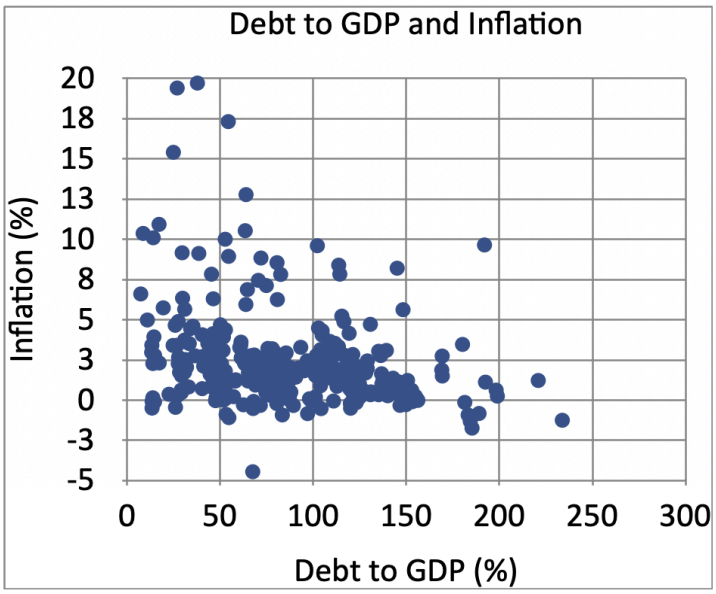


Figure 4: Scatter plot of Debt to GDP and Inflation in Eurozone nations (also part of OECD)

Most starkly, Japan's debt to GDP ratio has increased from 153% to 246% between 2007 and 2020, yet inflation only averaged 0.34%. Japan's aging population, combined with persistent output gap, and the fact that 90% of Japan's debt is domestic, the debts are serviceable without the need for inflationary financing, explaining the growth in Japan's debt to GDP ratio.

5.3 Endogeneity

Importantly, these are reduced form results, which runs the risk of endogeneity. Within the debt and GDP data, inflation erodes the nominal debt's real value, while boosting nominal GDP, which automatically reduces debt to GDP ratios. Therefore solely looking at annual data may result in reverse causality. Moreover, the models visualise correlations without accounting for government policy responses, such as primary surpluses or windfalls from taxes. This analysis covers robust, conditional correlations within OECD, rather than claiming causality. To address the risk of endogeneity, it is recommended that lagged variables should be considered in the model in the future.

5.4 Regime Heterogeneity

In regions with monetary dominance, such as the Eurozone and Japan, inflation is able to be anchored by credible financial institutions, regardless of debt. However, in fiscally dominant environments, such as Turkey, inflation spikes at moderate debt levels due to lessened central bank independence.

6. Policy Implications

The impact of debt levels on inflation is rarely linear. Instead, it is a dynamic process, shaped by sociopolitical stability, as well as both fiscal and monetary policy. The extent of the debt's impact is dictated by currency sovereignty (whether debt is denominated domestically or foreign), productivity of the debt (productive debt offsets inflation, unproductive debt fuels demand side inflation). Additionally, each nation's economic output gap, demographic shifts, and its institutional credibility may also determine whether debt contributes to inflation or simply eroded by global demand. Ultimately, debt becomes inflationary when it outgrows the economy's productive capacity or trust in the long term value of the currency is eroded.

Japan is the prime example for a nation having high debt and low inflation. The exchange rate mechanism in Japan acted as a pressure release valve for inflation. During the first two decades of the new millennium, the status of the Yen as a safe-haven currency ensured that it appreciated during times of trouble in other countries, thus reducing the price of foreign raw materials and perpetuating deflation/disinflation. Even after the Bank of Japan attempted to weaken the currency through its famous "Abenomics" policy since 2013, no significant increase in inflation occurred, as Japanese companies, aware of people's deflationary/disinflationary mindset, opted to pay higher import costs themselves rather than risk market loss by increasing retail prices. Only in 2022-2024, when an enormous interest rate differential took place, did the value of the Yen become so low that importing goods could not be absorbed by the company's profit margins anymore, resulting in the currently observed inflation.

Turkey is an obvious case study for a nation carrying moderate debt and high inflation. The erosion of the independence of the Turkish Central Bank became the reality check of "unorthodox" economic policy, which saw political beliefs override institutions. Through a centralization of power in the new executive presidential system

implemented in 2018, the government has converted the institution that used to focus on tackling inflation into a mechanism for cheap loans. This was based on the assumption that interest rates were what caused inflation and not a solution to it, which is the theory under which there have been dismissals of no fewer than four governors within five years for trying to steer the institution toward conventional policies. Hence, as the credibility of the bank's policies has deteriorated, so has the Turkish Lira.

Greece is the epitome of the debt crisis. It brought into focus how vulnerable were the financial ties of the Eurozone economies. The debt crisis started after the disclosure that the Greek government had grossly misrepresented its country's budget deficits. With the loss of investor confidence resulting in skyrocketing bond yields, the debt problem soon became an emergency situation that necessitated the intervention of the Troika (European Commission, the European Central Bank, and the International Monetary Fund) through a record-breaking €110 billion bail-out deal. At the cost of strict austerity programs that cut down spending and raised taxes leading to multiple years of recession, the country was saved from defaulting on its loans.

Overall, a high level of debt, combined with the appropriate monetary and fiscal policy, can enable governments to turn debt to be positive for a country's development in the long run, including infrastructure improvements and research and development innovation. However, if inadequate policies are enacted, a high level of debt could be detrimental to a country's economy. Therefore, policymakers have to optimise their monetary and fiscal policies with regards to debt, to ensure the stability and growth of the economy in the long run.

7. Conclusion

This paper addresses two areas related to public debt.

The first one is related to the effectiveness of traditional debt reduction levers to the path of debt sustainability. The path to debt sustainability in the 2020s and beyond likely requires a nuanced, multi-pronged approach that acknowledges the limitations of austerity, the blunt and potentially counterproductive nature of deliberate inflation, and the structural barriers to achieving high growth, possibly leaning on a modern iteration of financial repression as a gradualist strategy.

The second one is to examine the relationship between public debt and inflation. Based on the results of multiple regression, it shows a statistically significant negative relationship between debt-to-GDP ratio and inflation, while GDP growth shows a positive relationship with inflation in Model 2. However, the value of R-squared is 0.048, which means there may be other factors that influence inflation. Policy implications are discussed. Future research could use lagged variables, consider more macroeconomic variables, increase the number of countries in the dataset and apply more sophisticated statistical tools or methods for data analysis to address the limitations of this research.

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Data & Code Availability Statement

The full data set can be accessed below:

https://drive.google.com/file/d/1Ezg8z0Huw8L37kKiq98hiTm9IG-1HE1z/view?usp=sharing

Acknowledgements

I would like to thank my mentor Dr. Ceyhun Elgin for supervising the entire research process, and providing me with invaluable feedback throughout this time.

Author Biography

[redacted]

Mentor Contribution Statement

Dr. Ceyhun Elgin is an internationally recognized economist and dedicated mentor with over 15 years of teaching and supervision experience. He currently serves as a Professor of Economics at Boğaziçi University in Istanbul and as a Lecturer in Economics at Columbia University, an Ivy League institution where he has taught since 2019. At Columbia, he also directed the Master's Program in Economics, working closely with students at one of the world's most competitive graduate programs.

Dr Elgin's role as a mentor is to provide consistent feedback and guidance regarding the research direction, as well as providing suggestions to improve the overall quality of the paper. Dr. Elgin and I brainstormed the research topic together.

AI Usage Statement

I hereby attest that I have not used Artificial Intelligence (or any Large Language Models) in any other way, other than for brainstorming and minor editing support purposes.

Reviewer #1

Comments	Reply
1. **The empirical methodology requires clearer justification.** The paper states that it employs "panel-style regression models"; however, the estimation procedure is not described in sufficient detail. It remains unclear whether the paper used pooled OLS, fixed-effects estimation, random-effects estimation, or another specification. Since the dataset combines multiple countries over time, the authors should explicitly describe the econometric framework and justify why the selected estimation approach is appropriate for the research question.	Ordinary Least Squares (OLS) regression is employed in this analysis. (Please refer to 3.2 Methodology.) OLS can help to establish a transparent, unmanipulated baseline. This allows us to see the raw correlations in the data before applying complex econometric transformations. This paper provides an insight for future research. It is recommended that more sophisticated statistical tools/methods could be applied for data analysis. (Please refer to 7. Conclusion.)
2. **The hypothesis section should be reformulated.** The statistical hypotheses are currently presented in a way that is inconsistent with standard statistics framework. The manuscript states that the null hypothesis is "proven true" when variables are not statistically significant and that the alternative hypothesis is "proven true" otherwise. Hypothesis testing does not establish proof; rather, the null hypothesis is either rejected or fails to be rejected. This section should therefore be rewritten using standard statistical terminology.	Following the comments, the section of Regression Analysis is re-written using standard statistical terminology. (Please refer to 4.3.)
3. The interpretation of statistical significance should be more precise. The interpretation of the results could be improved. The debt-to-GDP coefficient is statistically significant in all models, which is an important finding. However, phrases such as "extremely strong relationship" may be too strong because the R^2 values are quite low. This means that the model explains only a small part of the changes in inflation. I suggest using more cautious	Following the comments, the wordings are revised accordingly.

language when discussing the results.	
4. Discussion and Interpretation Some conclusions are a little stronger than the results can support. For example, the discussion suggests that institutional credibility explains the relationship between debt and inflation, but this is not directly tested in the regression models.	Following the comments, the wordings are revised or removed accordingly.
7. Robustness discussion should be moderated. The manuscript presents the stability of coefficients across three models as evidence of robustness. However, adding two additional control variables does not eliminate omitted-variable bias or establish that the reported associations are independent of other macroeconomic factors.	In view of the R-squared values in Model 1 and 2, the models can explain around 3.9%-4.8% of the variation in inflation. There may be other macroeconomic factors that are associated with inflation. Please refer to 4.3.1 and 4.3.2. For future research, more macroeconomic factors should be considered in model development. Please refer to 7. Conclusion.

Reviewer #2

Comments	Reply
What kind of paper is this? • Section 1.1 calls the paper a "literature review," but Sections 2–4 are an original empirical study framed as building on Fukunaga et al. (2019). The manuscript is caught between the two: the review is close to publishable on its own, while the empirical component is underdeveloped relative to it. Deciding which paper this is would help. One route is to lean into the review—its real strength—and present the regression as a modest, clearly-labelled illustration; the other is to commit to it as an empirical paper, which requires the overhaul below. The current halfway position undersells the review and oversells the regression.	After revision, this paper now consists of 2 mini-papers. The first question is centered around the literature review, the second question focuses on the data presentation and analysis, nuanced discussion and policy implications. The first question reviews the effectiveness of traditional channels via the literature review. Question 1: Do the traditional debt reduction levers remain effective to the path of debt sustainability without triggering price fluctuation or recession? As it is a general belief that high debt will cause inflation, the second question seeks to uncover the relationship between public debt and inflation. Data of OECD countries over

	the period from 2007 to 2024 will be collected for empirical analysis. Question 2: What is the relationship between public debt and inflation in OECD countries?
The hypothesis-testing framework • As written, the hypotheses are not testable as stated and do not match standard practice. The alternative's condition (a variable "either fully remains in the critical region or outside" it) covers every possible outcome, so it can never fail; the null is said to be "proven true" if variables are insignificant, but failing to reject H0 is not evidence for it; and the directional claims ("debt raises inflation" vs. "debt lowers inflation") are used where the standard null is simply that a coefficient equals zero. Section 2.3's claim that "the p-value for each variable will remain constant throughout the 3 models" is also incorrect—adding regressors generally changes existing coefficients and their p-values (indeed the debt coefficient itself moves, −0.0214 → −0.0196 → −0.0199). • The conventional setup is H0: β1 = 0 against H1: β1 ≠ 0 (or one-sided H1: β1 < 0). A significant negative coefficient then rejects H0 in favour of a negative association—exactly the paper's finding, stated cleanly. I'd also drop the μ notation, which conventionally denotes a population mean, for H0/H1.	Following the comments, the section of methodology is re-written. In addition, for each model, the result is presented with the standard wordings of Statistics. Please refer to 3. Data and Methodology and 4. Results.
The regression should use panel methods • With 622 observations across (per Section 2.1) 27 OECD countries, this is a country-by-year panel estimated as pooled OLS. Two problems follow. The standard errors are almost certainly too small, since inflation is serially correlated within a country—they should at least be clustered by country. And pooled OLS blends cross-country variation (why Japan differs	Ordinary Least Squares (OLS) regression is employed in this analysis. (Please refer to 3.2 Methodology.) OLS can help to establish a transparent, unmanipulated baseline. This allows us to see the raw correlations in the data before applying complex econometric transformations. This paper provides an insight for future research. It is recommended that more sophisticated statistical tools/methods could be applied for data analysis. (Please refer to 7.

from Turkey) with within-country variation (how a country's inflation moves over time), which can tell opposite stories. Country fixed effects would isolate the within-country relationship and year fixed effects would absorb common shocks (the GFC, the 2021–22 surge). I'd strongly encourage re-estimating with country and year fixed effects and clustered standard errors, and reporting how the debt coefficient changes. Relatedly, the sample period and panel structure are never stated—one sentence specifying the years and whether the panel is balanced is essential.	Conclusion.)
The mechanical debt-to-GDP / inflation link (the central issue) • This is the most important problem, and to the author's credit Section 5.3 already half-identifies it: because debt-to-GDP has nominal GDP in its denominator, and nominal GDP rises with inflation, higher inflation mechanically lowers the ratio. A negative debt–inflation relationship is therefore partly built into the accounting, independent of behaviour, so the headline result may be an artefact of construction rather than evidence that "debt does not cause inflation." The paper notes this but proceeds as if it were not decisive; it needs to be tackled head-on. Standard fixes: use lagged debt-to-GDP (last year's debt cannot be driven by this year's inflation), or debt in levels/per capita, or first-differences. If the relationship survives lagging, it is real and interesting; if it weakens, that reshapes the conclusion. Furthermore, countries with recurrent high inflation traditionally struggle to sell their debt and rely more frequently on "money printing" as an alternative source of financing. • Figure 1 reinforces the concern: the negative slope appears driven by two clusters— Turkey (moderate debt ~35%, inflation of 54% and 72%) at the upper-left, and Japan plus high-debt Europe (>150% debt, near-zero inflation) at the	In 5.3 Endogeneity, the potential issue has been acknowledged. As mentioned above, this paper aims to establish a transparent, unmanipulated baseline. This allows us to see the raw correlations in the data before applying complex econometric transformations. This paper provides an insight for future research. It is agreed that lagged variables should be considered in the model in the future. In addition, future research should further look into the issue of Turkey, Japan and high-debt Europe.

lower-right—with a largely flat cloud between. A relationship resting on two identifiable clusters is fragile; show the result with and without them, and with fixed effects that absorb the level gap between, say, Japan and Turkey.	
Coefficient interpretations • **A factor-of-100 error:** Section 4.1 correctly reads the debt coefficient (−0.0214) as "inflation decreases by 0.02 percentage points" per point of debt-to-GDP, but Section 4.2 restates −0.0196 as "around a 2% decrease in inflation"—100 times too large. The 4.1 reading is the correct one. • **"Extremely strong" overstates it:** With $R^2 = 0.039$ the model explains under 4% of the variation and the coefficient is tiny; "statistically significant but economically small" is accurate, and fits the paper's own honest acknowledgement that most variation is unexplained. • **"Deflationary" is imprecise:** High-debt countries show lower but still positive inflation, not deflation. "Disinflationary" or "lower inflation" is the right word.	Following the comments, the wordings are revised accordingly.
Promised extensions that do not appear• Section 2.1 promises national subgroups (G7, Nordic, Eurozone), an analysis of "the interaction between debt reduction and inflation," and results "through initial debt levels." None materialises—there are no subgroup regressions (only a single Eurozone scatter), no interaction terms, and no initial-debt analysis. These are exactly where the paper could add value over Fukunaga et al., so either deliver them or drop the claims. (A related point: Fukunaga estimates how inflation reduces debt, i.e. debt is the outcome; this paper puts inflation on the left-hand side, so "building on Fukunaga" slightly mischaracterises the exercise.)	Following the comments, these extensions are removed to avoid any confusion.

Post-Review Critical Feedback

I appreciate the opportunity to review the revised version of this manuscript. The authors have made a clear effort to address the comments of the reviewers and the revised manuscript is improved in a number of respects. In particular, the research questions and overall structure are now clearer, the hypothesis testing terminology has been revised, the interpretation of the regression coefficients is more precise and the discussion of the relatively low explanatory power of the models is appropriately more cautious. I also like the fact that some of the extensions mentioned but not implemented in the original version have now been removed, improving consistency between stated objectives and actual analysis.

However, I believe that some important methodological issues remain to be resolved before the manuscript is ready for publication. The crucial issue is the econometric specification. The revised manuscript clarifies that OLS is employed as a transparent benchmark. Although pooled OLS can be useful as an initial descriptive specification, the data set has a clear country-year panel structure. Pooled OLS alone is not satisfactory in capturing unobserved country-specific heterogeneity or common time shocks. This is especially important for a sample that spans the Global Financial Crisis, COVID-19 pandemic, and the subsequent inflation spike. Therefore, I propose to extend the existing OLS results with country fixed effects and year fixed effects. Also, we cluster standard errors at the country level to control for potential within-country serial correlation. The current OLS estimates could remain in the paper as a benchmark, but the additional panel specifications would go a long way to increase the credibility of the empirical findings.

Another important problem is the potential mechanical relationship between inflation and the debt-to-GDP ratio. Since nominal GDP is in the numerator of the debt-to-GDP ratio, inflation alone may reduce the measured ratio mechanically. Thus, the negative coefficient on debt-to-GDP ratio and inflation could be, at least in part, an artifact of the variable construction rather than a characterization of an underlying economic relationship. It is good that the new manuscript points out this limitation, but just mentioning it doesn't really address the concern. A relatively simple robustness test would be to replace contemporaneous debt-to-GDP with a one-year lag of debt-to-GDP. If the negative relationship is statistically significant under this specification, the central empirical result would be considerably more convincing.
I would also suggest the author check that the main finding is not too heavily dominated by unusual country observations, especially Turkey and Japan/high-debt European economies.

A simple robustness check dropping these observations, or reporting results with and without these observations, would help establish whether the negative association is broadly present across the sample, or driven by a small number of extreme country-year observations.

Finally, the manuscript should clearly distinguish association and causation. The empirical design here is better suited to identifying conditional correlations than establishing that higher public debt causes lower inflation. Thus the conclusion and policy implications throughout should be couched in cautious language.

In general, the revision is extensive and the literature review and economic discussion remain important strengths of the manuscript. However, since the main methodological issues affect the main empirical finding of the paper, I recommend another round of revision/peer review rather than acceptance at this stage (one more reviewer). The fixed-effects specification, the clustered standard errors, the lagged debt measure, and the sensitivity to influential observations. Addressing these would go a long way toward making the study more reliable and publishable.

Post-Review Comments — Submission 100207

“Public Debt and Inflation in OECD Economies”

Decision

Accept, conditional on the points below. I don’t think another round of review is needed. Both referees have already identified what remains . Point 1 is substantive rather than cosmetic, but it is narrow enough to check editorially, and if the author declines it a second time the fallback is to soften the sentence it supports.

Comments to the author

This is a responsive revision. The hypothesis section is now correctly specified, the coefficient interpretations are fixed, the two-question structure resolves the earlier ambiguity about what kind of paper this is, and Section 5.3 sets out the endogeneity problem properly. The debt-band comparison in 4.3.4 is a useful addition. A few things I would still like to see.

1. The lagged specification should be run rather than deferred to future work. The reply describes OLS as a “transparent, unmanipulated baseline” preferable to “complex econometric transformations”. I would resist that framing. Lagging a regressor does not transform anything; it is one line of code, and it tests directly whether the headline result is an accounting artefact. Section 5.3 already sets out the mechanism, namely that inflation raises nominal GDP and so lowers the debt ratio by construction. Last year’s debt cannot be driven by this year’s inflation, so the lagged regression separates that channel from the economics. If the coefficient holds up, the paper can say so with far more confidence. If it doesn’t, the opening sentence of Section 5 needs to come down a notch. Both are worth knowing before publication.

2. Standard errors should be clustered by country. With 37 countries over 18 years, and inflation strongly persistent within each of them, 622 observations are nowhere near 622 independent draws, and $p < 0.001$ is almost certainly too generous. Clustering doesn’t touch the coefficients at all, only their precision, so it costs nothing even if fixed effects are left aside for now.

3. Section 5.1 still claims more than the models support. The sentence about a stable Debt-to-GDP coefficient “highlighting the robustness of the model” survives unchanged, although both referees raised it and the change log lists it as addressed. What the three nested models show is that the estimate is insensitive to those two controls on the same 622 observations. Omitted variables outside the model are untouched by this. Something along the lines of “the coefficient is stable across specifications, suggesting it is not sensitive to these two controls, though omitted factors cannot be ruled out” would be closer to what the results show.

4. Section 4.3.4 reads as independent confirmation of Models 1 and 2, which it isn’t. It uses the same data in discretised form, so the mechanical concern carries straight over; a monotonic gradient across debt bands is roughly what the identity alone would generate. The 5.19% mean in the low-debt band also owes a good deal to Turkey. I would either report the comparison without Turkey or present it as description rather than corroboration.

5. On deepening the paper, the most promising idea is already in it. Section 5.4 distinguishes monetary from fiscal dominance and gets three sentences. Splitting the sample by central bank independence, and showing that the debt–inflation relationship differs across the two regimes, would give the empirical section a result of its own rather than a correlation most readers would have predicted. The Japan and Turkey discussions already do the interpretive work for it.

Minor:

- Table 2 is still missing the GDP per capita and GDP growth rows.

- The GDP per capita coefficient reads as −0.00001 with a standard error of 0.00001. Rescaling to $1,000 units would make it legible.
- A sentence on regression diagnostics would cover the other referee's minor point.

The manuscript has improved a good deal since the first submission, and the literature review remains its strongest section.

Action Editor's Feedback - Submission 100207

Decision: Accept subject to minor revisions

The revised manuscript has improved substantially and is now suitable for publication subject to a small number of targeted amendments. The hypothesis specification and coefficient interpretations have been corrected, the research questions are clearer, the discussion of endogeneity is more explicit, and the added debt-band comparison strengthens the descriptive analysis. I do not believe another round of peer review is necessary.

Before publication, please address the following points:

1. **Cluster the regression standard errors by country:** Because the dataset contains repeated observations for the same countries over time, the observations should not be treated as fully independent. Please report country-clustered standard errors alongside the existing coefficients.
2. **Soften the claim about "robustness" in Section 5.1.** Stability of the Debt-to-GDP coefficient across the three specifications shows that the estimate is not especially sensitive to the two controls added, but it does not establish overall model robustness or rule out omitted variables. A clearer formulation would be: 'The coefficient remains stable across specifications, suggesting that it is not sensitive to these two controls, although omitted factors cannot be ruled out.'
3. **Clarify the interpretation of the debt-band analysis in Section 4.3.4;** This analysis uses the same underlying observations as the regression models, so it should not be presented as independent confirmation of the regression result. Please either describe it explicitly as a **descriptive comparison**, or additionally report the comparison excluding Turkey to show whether the pattern is strongly influenced by that observation.
4. **Correct Table 2:** Add the currently missing rows for **GDP per capita** and **GDP growth**.
5. **Improve the presentation of the GDP-per-capita coefficient.** Rather than reporting the coefficient per $1, rescale GDP per capita into **$1,000 units** and report the corresponding coefficient and standard error.
6. **Add a brief statement on regression diagnostics:** One or two sentences explaining what diagnostic checks were conducted, and whether any important problems were identified, would complete the methodological presentation.

All the above are targeted revisions rather than a request for substantial redevelopment of the paper. Once addressed, the manuscript should be ready to proceed to publication.