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

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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, inflation, debt-to-GDP ratio, OECD economies, fiscal policy, monetary credibility, macroeconomic dynamics, GDP growth

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 for the path of debt sustainability without triggering price fluctuations 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 from 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, the 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, and 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 and 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, offers a critical insight: while an austerity shock initially reduces the debt-to-GDP ratio, this gain erodes over time as 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 show that when 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 the 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 $\beta 1$), $\beta 2$ and $\beta 3$, its statistical significance will be tested at the $p < 0.05$ significance level as follows:

$$H0: \beta 1 = 0, H1: \beta 1 \neq 0 \ ; H0: \beta 2 = 0, H1: \beta 2 \neq 0 \ ; H0: \beta 3 = 0, H1: \beta 3 \neq 0$$

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 the average inflation rate will be compared.

Breusch-Pagan tests did not reject homoskedasticity in Models 1–3 (p = 0.101–0.236), and Ramsey RESET tests did not reject the linear specification at the 5% level (p = 0.093–0.350); Model 3 VIFs ranged from 1.01 to 1.04. The Model 3 RESET result is marginal at 10% (p = 0.093), and the influence check flags Türkiye in 2022 (Cook's D = 0.256); excluding that observation leaves the Model 3 debt coefficient negative and significant (beta = -0.0178, country-clustered SE = 0.0052, p = 0.0016).

4. Results

4.1. Descriptive Summary Statistics

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

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

From Table 1, the average debt-to-GDP is 76.0%, and it ranges between 7.3% and 246.7%. Average Inflation is 3.2%. Some countries experience deflation (-4.5%), while some face hyperinflation (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.

Table 2: *Correlation matrix between each variable tested*

	Debt/GDP	Inflation	GDP Per Capita	GDP Growth
Debt-to-GDP	1.00	-0.20	-0.08	-0.17
Inflation	-0.20	1.00	-0.02	0.13
GDP Per Capita	-0.08	-0.02	1.00	0.07
GDP Growth	-0.17	0.13	0.07	1.00

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.

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

The coefficient of Debt-to-GDP (ß1) is -0.0214, which means that inflation decreases by 0.0214 percentage points on average if debt-to-GDP increases by 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 that can explain the variation.

Table 3: *Regression Analysis Results of Model 1.*

Variable	Coefficient	Standard Error	P-value
Constant (ß0)	4.6390	0.9563	<0.001***
Debt-to-GDP (ß1)	-0.0214	0.0080	0.011

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

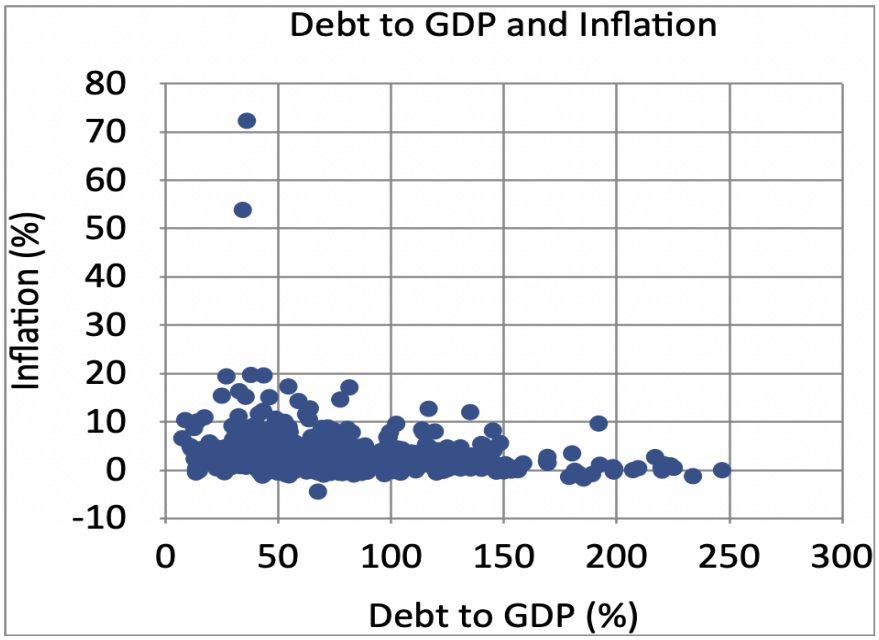


Figure 1: *Scatter plot of Debt to GDP and Inflation.*

4.3.2. Model 2

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

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

Table 4: *Regression Analysis Results of Model 2*

Variable	Coefficient	Standard Error	P-value
Constant (ß0)	4.2767	0.7494	<0.001***
Debt-to-GDP (ß1)	-0.0196	0.0069	0.007**
GDP growth (ß2)	0.1228	0.0848	0.156

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

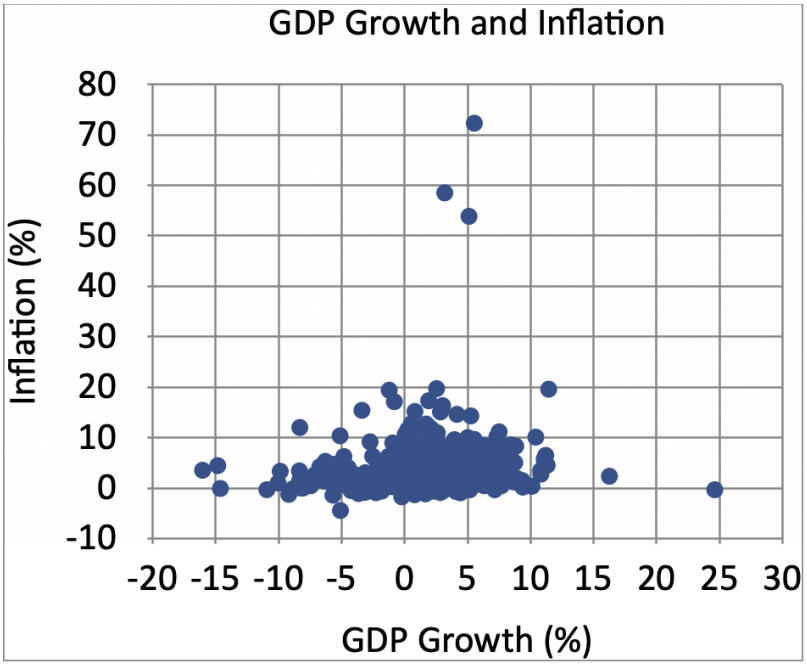


Figure 2: *Scatter plot of GDP growth and Inflation.*

In the model, the negative relationship between debt-to-GDP and inflation remains significant, as the coefficient is -0.0196, meaning that 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 GDP growth increases by 1 percentage point, inflation is likely to increase by 0.1228 percentage points. 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 that 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.

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

Table 5: *Regression Analysis Results of Model 3*

Variable	Coefficient	Standard Error	P-value
Constant (ß0)	4.7027	1.1392	<0.001***
Debt-to-GDP (ß1)	-0.0199	0.0070	0.007**
GDP growth (ß2)	0.1261	0.0859	0.151
GDP per capita (ß3)	-0.0089	0.0117	0.450

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

In Model 3, GDP per capita is measured in thousands of U.S. dollars. Its coefficient is -0.0089 (country-clustered SE = 0.0117, p = 0.450), implying that a $1,000 increase in GDP per capita is associated with a 0.009-percentage-point decrease in inflation, conditional on debt-to-GDP and GDP growth. This estimate is not statistically distinguishable from zero.

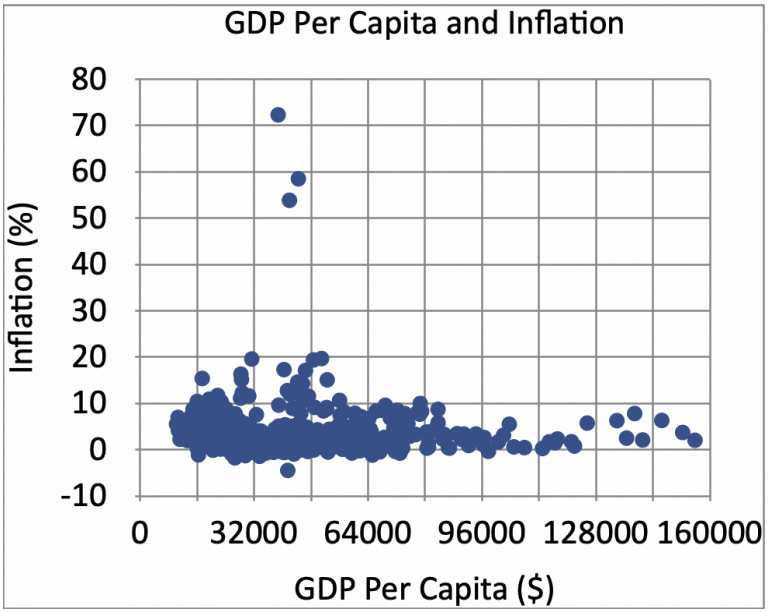


Figure 3: *Scatter plot of GDP per Capita and Inflation.*

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%).

Since the same underlying data is used, this descriptive comparison utilises a t-test comparing the Low Debt Group (0-40%) with the 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.

Table 6: *Debt Group Analysis*

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

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 the popular belief that there is a direct link between debt and inflation.

5.1. Model Robustness and Growth Dynamics

The stability of the overall model with the addition of variables reinforces this interpretation. The Debt-to-GDP coefficient remains constant across specifications, suggesting that it is not sensitive to the addition of GDP Growth and GDP per capita, although omitted factors cannot be ruled out. This enables 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, and the 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 complements 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 and pull inflation. Therefore, the ECB and the Maastricht Treaty create market discipline that anchors inflation, as seen in Figure 4.

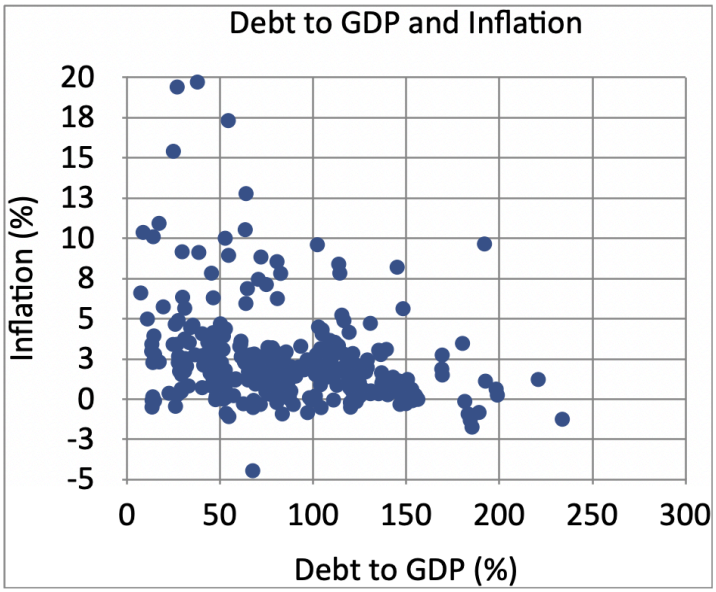


Figure 4: *Scatter plot of Debt to GDP and Inflation in Eurozone nations (also part of OECD).*

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 a persistent output gap and the fact that 90% of Japan's debt is domestic, means the debt is 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 run 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 the OECD, rather than claiming causality. To address the risk of endogeneity, it is recommended that lagged variables 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 in foreign currency) and the 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 is 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 of 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 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 (the European Commission, the European Central Bank, and the International Monetary Fund) through a record-breaking €110 billion bailout 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 into something 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 optimize their monetary and fiscal policies with regard 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 on 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 the debt-to-GDP ratio and inflation, while GDP growth shows a positive relationship with inflation in Model 2. However, the R-squared value 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

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Author Biography

Anson Koo is a creative, ambitious young individual who has a deep passion for economics. Anson has a research interest in macroeconomics, specifically developmental economics. Anson is also a published author in macroeconomics, having published two papers in the Princetonian Journal of Sciences. He wishes to study economics or a related degree at university.

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.