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SOVEREIGN RISK AND IMPLICATION OF MONETARY POLICY: EVIDENCE FROM PANEL DATA

Ülkelerin Krize Düşme Riski ve Para Politikasının Etkileri: Panel Veri Analizi

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Abstract

This paper reopens the discussion on the main dynamics behind the sovereign debt crisis focusing on global monetary policy. A panel logit model was applied using data from twenty countries between 1975 and 2022. According to the model, an increase in the U.S. interest rate is one of the significant factors fueling the likelihood of debt distress in developing countries. With this finding, we emphasize the dependency of developing countries on external factors through the interest rate and the importance of external dynamics. Additionally, an increase in short-term debt to total reserves and the ratio of international reserves to imports strengthens the likelihood of debt distress. Another important factor is the possibility that countries may fall into debt distress due to high inflation and low growth. Although these two variables are considered internal dynamics of countries, there is a strong direct relationship between the performance of production and expenditure in periphery countries and foreign capital. In this context, various recommendations are presented in the conclusion section for reconsidering debt crises and implementing appropriate policies.

Anahtar Kelimeler:
Dış Borç,
Faiz Oranı,
Para Politikası
Borç Bunalımı

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H63, E43, E52, F43.

Öz

Bu çalışma, gelişmekte olan ülkelerin borç krizinin arkasındaki ana dinamikleri küresel para politikası açısından yeniden tartışmaya açmaktadır. 1975 ile 2022 yılları arasında 20 ülkeden elde edilen veriler kullanılarak bir panel logit modeli tahmin edilmiştir. Modele göre, ABD'deki faiz oranlarındaki bir artış, gelişmekte olan ülkelerde borç sıkıntısının olasılığını artıran önemli faktörlerden biridir. Bu bulgu ile, gelişmekte olan ülkelerin faiz oranları aracılığıyla dışsal faktörlere olan bağımlılığını ve dışsal dinamiklerin önemi vurgulanmaktadır. Ayrıca, kısa vadeli borçların toplam rezervlere oranındaki artış ve uluslararası rezervlerin ithalata oranı, borç sıkıntısı olasılığını güçlendirmektedir. Bir diğer önemli faktör ise ülkelerin yüksek enflasyon ve düşük büyüme nedeniyle borç sıkıntısına düşme olasılığıdır. Bu iki değişken, ülkelerin içsel dinamikleri olarak değerlendirilse de gelişmekte olan ülkelerdeki üretim ve harcama performansı ile yabancı sermaye arasında güçlü bir doğrudan ilişkiyi gözler önüne sermektedir. Bu bağlamda, borç krizlerini yeniden değerlendirmek ve uygun politikaları uygulamak için sonuç bölümünde çeşitli öneriler sunulmaktadır.

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1. Introduction

As external debt figures rapidly escalate worldwide, the future of developing countries, with their fragile structures, has been re-examined, particularly during the pandemic. Prior to this, the world was facing a global inflation threat, prompting a shift towards monetary tightening. However, with the onset of the pandemic, the need to increase money supply became almost a necessity. This situation appeared to be a remedy for developing countries that had become increasingly dependent on international liquidity. Nevertheless, in recent years, these high-debt countries have faced economic turbulence due to renewed tightening measures. The extent to which they can sustain this situation has become a significant puzzle.

On the other hand, previous studies on external debt crises have generally focused on the question of "why do countries repay their debts?" and have been significantly lacking in comprehensively examining the underlying dynamics of crises (Eaton and Gersovitz, 1981; Sachs and Cohen, 1982; Bulow and Rogoff, 1989; Cole and Kehoe, 2000). These studies focus on the internal dynamics of debtor countries, examining the motivations for repayments to avoid losing access to international liquidity. This perspective is highly inadequate to explain the series of global debt crises that have occurred since the 1980s. For instance, there is a clear need for more comprehensive studies to better understand the broader picture of the 1997-98 Asian financial crisis, the 2010-11 European debt crisis, and recent debt distress involving Lebanon and other countries.

This paper challenges the prevailing understanding by arguing that the fundamental causes of debt crises are primarily related to asymmetric power relations between core and peripheral countries. If the primary issue is to understand the debtor-creditor relationship, it is crucial to thoroughly understand the dynamics of countries that accumulate capital and export it globally versus those that, despite their internal dynamics, are unable to generate capital and remain perpetually dependent on it. In this context, the paper aims to elucidate how all processes related to borrowing are connected to the dominance of capitalist countries at the core.

The paper posits that the asymmetric power structure in the creditor-debtor relationship is both exacerbated and highly influential in the external borrowing processes (including high levels of borrowing, crises, and restructuring) by the monetary policies implemented by developed countries. Specifically, when interest rates in core countries start to decline, there is an increased tendency for capital to flow towards peripheral countries. Conversely, when interest rates rise, capital flows back to the core, leading to debt distress in peripheral countries. The extent of damage caused during the return process to peripheral countries also reflects this trend.

To test this hypothesis econometrically, the paper analyzes annual data from 20 highly indebted countries for the period 1975-2022. It employs a panel logit model to examine not only the impact of monetary policy but also the influence of other external and internal dynamics. Also, the period from 1975 to 2022 represents a phase of heightened international capital flows. Moreover, it coincides with a time when the International Monetary Fund (IMF) actively intervened in the fiscal autonomy of countries experiencing debt crises. Given this context, identifying the underlying dynamics of sovereign debt crises during this period could help eliminate the potential for external intervention and facilitate more effective domestic policy maneuvers. This study seeks to address this gap in the literature by examining these dynamics.

In line with this perspective, the paper is organized into five sections. Section 1 outlines the rationale for the study, its objectives, and its contribution to the literature. Section 2 reviews both theoretical and empirical literature on external borrowing, with a particular focus on studies related to early warning systems for countries, discussing their findings and criticizing their shortcomings. Section 3 covers the empirical analysis. Details of the model, variables, and findings are explained in this section. Section 4 discusses the results of the model. Finally, Section 5 explores the impact of international monetary policy and other identified dynamics on the debt crises of developing countries within the framework of economic policy and presents various policy recommendations for discussion.

2. Literature Review

In literature, many studies addressing external borrowing and debt repayment difficulties in peripheral countries are largely unrelated and often limited in scope. A significant portion of these studies focuses on short time periods, specific geographic areas, or countries. Clearly, these works remain constrained to the temporal and spatial events when external borrowing became a significant and problematic issue in international relations.

To understand debt crises, it is crucial to outline a roadmap. Firstly, it is important to comprehend the structure and dynamics of the asymmetric power relationship between core and peripheral countries. Therefore, Imperialism Theories, which interpret the global economy through the lens of capital accumulation, and Dependency Theories, which explain debt relationships between core and peripheral countries, largely fill this gap.

According to Marx (2011), capitalism is fundamentally a system characterized by global operations and a tendency towards monopolization. Marx posits that the diminishing profit rates in capitalist production are merely a tendency, and capitalists will inevitably turn to foreign trade to increase their profits. Hobson, a pioneer of Imperialism Theory, argues that capital export is a result of the distribution of domestic purchasing power, highlighting a flaw in capitalism's development (Hobson, 1961). Hilferding (1981) views capital export as an inevitable outcome of monopoly financial capitalism and identifies banks as a key factor in capitalism. Additionally, thinkers such as Bukharin (1987) and Amin (1991) emphasize the dependency relationship established through capital between core and peripheral countries, giving particular importance to the role of borrowing.

Frank (1984) viewing external borrowing as a significant tool in the dependency relationship between core and peripheral countries, has argued that the growth of indebtedness in peripheral countries is crucial for core nations. During periods of economic crises in core countries, authorities tend to resort to printing money and attempting to overcome the crisis by extending more credit. This strategy is successful in sustaining growth for a short period. However, over time, the accumulation of debt leads to a collapse in the financial system, affecting both core and peripheral countries.

Suter (1992) proposes approaches to dependency theory by advancing the argument that the indebtedness of peripheral countries may be related to the long-term economic cycles in core countries. In his analysis, he first defined peripheral indebtedness as a separate wave and examined its structure. He then attempted to illustrate the dependency relationship between core and peripheral countries through the dynamics of these waves, shedding light on the economic

and political determinants behind borrowing. Suter identified the hegemonic power in core countries and global economic growth as the primary dynamics shaping the movement of these waves.

Imperialism theories and dependency approaches make an important observation by analyzing the asymmetric power relationships in the creditor-debtor relationship and how borrowing will lead peripheral countries to become even more economically and politically dependent on core countries. In recent years, with the dominance of empirical analyses in economic literature, this study seeks to identify the dynamics behind the debt crises by utilizing both these theories and the perspective offered by econometric studies.

Over the past 30 years, empirical studies on debt crises have virtually dominated the field. Before examining the empirical method to be used in this study, it is important to review the works in this area. As empirical analyses have advanced, researchers have investigated the existence of early warning systems for predicting debt crises and the variables involved in their interactions. Consequently, a range of studies incorporating macroeconomic, political, and even institutional variables have emerged in the literature.

This paper empirically investigates how heavily indebted peripheral countries are dependent on external factors from this perspective. Before diving into the analysis, it will be beneficial to examine the methods and variables used in empirical analyses of debt crises. As empirical analyses have developed, researchers have investigated the existence of early warning systems for predicting debt crises and the variables involved in their interactions. Consequently, a range of studies have emerged that incorporate macroeconomic, political, and even institutional variables into the literature.

There is no single experimental definition of default and debt crisis metrics in empirical studies. Some studies have maintained lists of default and restructuring periods based on case examples or anecdotal records (Suter, 1992; Beers and Bhatia, 1999; Reinhart and Rogoff, 2009). Reinhart et al. (2003) have associated debt crises with specific thresholds based on the ratio of external debt to GDP. In another study, Detragiache and Spilimbergo (2001) indicated that a country is in debt distress if its external obligations to commercial creditors exceed 5% of its commercial debt or if a restructuring agreement with creditors has been made. Manasse et al. (2003) analyzed situations where countries might experience debt crises when the ratio of total external debt to GDP exceeds 50%. Another data set on defaults is provided by Standard & Poor’s (2002), which has also been frequently utilized by researchers.

Other variables include whether a state is unable to resolve its debt payments, and these are related to GDP, exports, or government revenues, which represent debt repayment capability. Low inflation is also included in models as it significantly affects policy credibility and country risk. Additionally, liquidity metrics such as the ratio of short-term debt or money supply to reserves are frequently used in models. Institutional and political factors have also been added to models to test policy credibility and whether the government is willing to pursue consistent policies through sustainable debt (Manasse et al., 2003: 6).

Using these variables, the determinants of debt crises have been analyzed through probit/logit regressions or signal models. Most studies have focused on the major debt crises of the 1980s and 1990s. In this context, the first empirical study introduced to the literature was by Eaton and Gersovitz (1981), who examined 45 developing countries. Their study addresses a

situation where the government conducts public investments through external borrowing. The authors assume that a country's willingness to borrow is a determinant of debt. Using a logit model, the authors found that this borrowing demand is positively related to income instability, export/GDP, and income level.

Two other significant studies in this field are by McFadden et al. (1985) and Hajivassiliou (1987). They argue that the connection between debt repayment performance and macroeconomic dynamics may vary between countries and over time. For countries with fewer capital controls or more open to global trade, external economic signals may be more decisive in terms of debt crisis. Additionally, various institutions (government and religious institutions) may explain the reasons for a country's default.

In contrast to approaches that focus on inter-country heterogeneity, Reinhart (2002) found that in 84% of cases, a currency crisis precedes a debt crisis. Therefore, he emphasizes that variables suitable for predicting currency crises also have explanatory power for default models. Another critical study by Detragiache and Spilimbergo (2001) found that including short-term debt, debt service, and reserves separately in the model rendered it meaningless. Hence, they do not find it appropriate to use variables such as the ratio of short-term debt to reserves.

Although most studies use macroeconomic variables, Catão and Sutton (2002) address volatility measures in their models. Using panel analysis methods with data from 25 countries for the period 1970-2001, they highlight that adding measures of commercial volatility, fiscal policy, monetary policy, and exchange rate policy volatility to a model with variables such as U.S. interest rates, real effective exchange rates, fiscal balance, real GDP growth, and debt service to export ratio increases the likelihood of default.

Another relationship explored is the impact of countries' credit ratings on currency crises and defaults. Studies on this topic analyze the determinants of credit ratings (Larraín et al., 1997; Rojas-Suarez, 2001; Reinhart, 2002). Some research tests whether credit ratings are significantly related to a range of economic factors. In this regard, it has been found that external debt metrics and default history, along with other macroeconomic and political variables, are related to debt crises (Haque et al., 1998).

Manasse et al. (2003), use Standard & Poor's default dataset to analyze the likelihood of debt crises in less developed countries using a panel logit regression model. This study, which uses a substantial number of variables, highlights that a ratio of external debt to GDP exceeding 50% and high inflation levels are significant determinants of default. Conversely, it is suggested that the ratio of short-term debt to reserves and maintaining low external debt burdens are necessary to reduce the likelihood of default. Additionally, external shocks, such as U.S. interest rates, are emphasized as significant dynamics of default (Manasse et al., 2003: 30).

Another study analyzing the determinants of debt distress, in addition to default, is by Kraay and Nehru (2006). Using a probit model, the authors highlight three variables: debt burden, the quality of institutions and policies, and shocks, which are considered the strongest determinants of debt distress. The results are largely consistent with those in Manasse et al. (2003), which used similar variables.

Fuertes and Kalotychou (2006) analyze 96 developing countries from 1983 to 2002 using a logit model. The authors found that the determinants of default include trade, external debt,

the ratio of private sector credit to GDP, the ratio of IMF credits to exports, and the ratio of official credits to total debt (Fuertes and Kalotychou, 2006: 1434).

Suter (1992), representing the dependency approach, analyzed the determinants of default and restructuring over two periods, 1931-33 and 1978-85. Using a logit regression model, the author noted that the capacity to service debt is a strong variable. The significance of exports and growth rates was also emphasized (Suter, 1992: 78).

However, these studies have focused more on identifying early warning signals to prevent countries from sliding into a debt crisis, rather than providing a comprehensive picture of the crisis itself. While these identifications are indeed crucial and can help uncover the root causes of the problem with the right perspective, this study aims to address the gap in the literature from this standpoint.

3. Data and Methodology

3.1. Data

The number of countries used in this paper, as dictated by availability of data, is 20. Latin America has always been one of the most favored destinations for foreign investment. For this reason, we include Bolivia, Brazil, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Colombia, Costa Rica, Mexico, Peru, and Paraguay. In addition, the analysis includes Indonesia, the Philippines, India, and Thailand from East and Southeast Asia; Türkiye from Europe; and Morocco, Egypt, and Nigeria from Africa—countries that are favored by investors. The annual time series spans 1975–2022; therefore, the dataset includes periods when capital transfers are intense. Data for the countries were obtained from the World Bank dataset.

To prevent potential issues in the analysis, special attention was given to ensuring the completeness of the datasets for the countries. Consequently, certain countries were excluded from the analysis and the period from 1975 to 2022, characterized by the highest capital mobility, was used in the analysis. Two key considerations were taken into account when selecting the countries included in the analysis. First, countries characterized by the highest inflows of foreign capital and those frequently affected by debt crises were included in the analysis. Second, particular attention was paid to ensuring that the data used were as complete as possible. For this reason, some countries were excluded from the analysis. Furthermore, when it comes to debt, some countries may present macroeconomic statistics in a biased manner in order to secure more borrowing (e.g., Argentina). Therefore, countries with the most reliable data were selected for the analysis.

It is important to use a balanced panel model for the correct interpretation of the model results. However, the absence of data for certain years is a common issue in economic studies, and unbalanced panels are typically employed. In this study, data for some years are missing for two variables (see Table 1). An ordinary fixed effects model has been applied in this case.

Table 1 shows the descriptive statistics of variables. Our dependent variable is external debt distress. This variable was designed based on the study of Manasse et al. (2003). The debt distress variable was obtained by assigning 1 to cases where the ratio of total external debt (public + private) to GDP was greater than or equal to 50 percent, and 0 to other years.

Table 1. Descriptive Statistics

Variables	Obs.	Mean	S.D.	Min.	Max.
External debt distress (edgdp)	960	0.32	0.47	0	1
Total reserves in months of imports (rsrvimp)	932	4.92	3.00	0.23	19.21
Fed funds rate (fedfnd)	960	4.68	3.90	0.08	16.38
GDP growth (gdpgrwth)	960	3.81	3.84	-13.13	15.33
Exports of goods and services/GDP (expgdp)	960	25.42	12.23	3.22	71.42
Foreign direct investment/GDP (fdigdp)	958	1.87	1.85	-5.09	12.2
High inflation (hghinf)	960	0.09	0.28	0	1
Short-term debt /Total reserves (shrtrsrv)	960	15.53	9.59	0	68.69

Our independent variables have been determined within the framework of both literature and historical analysis. The first of these is the interest rates in core countries. Given that our analysis covers the period from 1975 to 2022, it has been deemed more appropriate to use the real interest rate of the United States, the most influential country in shaping global capital flows. The Federal funds rate (fedfnd) has concentrated around an average of 4.68%, with values ranging from 0.08% to 16.38%. This distribution suggests a tendency for rates to cluster near the mean.

The second variable is the annual growth rate of GDP. This variable serves as a significant indicator of a country's creditworthiness. It reflects that countries can not only borrow more but also face fewer serious issues in repaying their debts. To investigate whether this variable is a crucial determinant on the path to a debt crisis, it was decided to include it in the model.

The average GDP growth rate across the sample period is 3.81%, indicating moderate overall economic expansion. However, the relatively high standard deviation of 3.84% suggests considerable variability in growth across the observations. The range from -13.13% to 15.33% further underscores this variability, with some countries or periods experiencing negative growth (contractions), while others saw significant economic expansions. The negative minimum value highlights the presence of severe economic downturns or crises during the period under review, while the positive maximum indicates periods of robust growth.

Another variable is the share of short-term debt within total reserves. Over the past 25 years, short-term debt has been a major factor behind the debt crises in peripheral countries. Creditors prefer to lend short-term to peripheral countries that they perceive as risky. This situation has periodically led to crises in these peripheral countries, which have become increasingly dependent on capital from core economies. When interest rates in the core rise, in addition to a reduction in foreign capital, short-term debt has led to significant liquidity crises in peripheral countries. Consequently, countries facing funding shortages have experienced inevitable debt crises. Therefore, this variable, which plays a crucial role in explaining debt crises, has been included in the model. The average ratio of short-term debt to total reserves is 15.53%, suggesting that, on average, countries maintain a relatively low level of short-term debt relative to their total reserves. The standard deviation of 9.59% indicates a notable degree of variability in this ratio across the sample, with some countries showing significantly higher levels of short-term debt compared to their reserves. The range from 0% to 68.69% further emphasizes this variability, showing that some countries have minimal or no short-term debt relative to reserves, while others exhibit a higher dependence on short-term borrowing.

The average ratio of exports of goods and services to GDP is 25.42%, indicating that, on average, a significant portion of economic activity is driven by external trade. However, the relatively high standard deviation of 12.23% suggests considerable variability in the degree of export dependence across the sample, with some countries being more reliant on international trade than others. The range from 3.22% to 71.42% further highlights this variation, indicating that some countries have very low export-to-GDP ratios, while others have a disproportionately high share of their GDP coming from exports.

Another variable that has gained importance in recent years is high inflation. This variable is designed as a dummy variable. It is coded as 1 for years in which inflation rates exceed 50% and 0 for other years. The ratio of foreign direct investment to GDP and the share of international reserves in imports are additional independent variables. It is believed that decreases in these two variables could significantly impact the likelihood of falling into a debt crisis or experiencing financial distress. Also, the standard error values are quite low, there is little variation between the countries.

3.2. Panel Logit Model

In this paper, the impact of macroeconomic variables on the likelihood of countries experiencing debt distress will be analyzed using a panel logit model. In binary models, namely logit, probit, and log-log regression models, the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) were used to determine which model is the most appropriate. Based on these criteria, the logit model was selected as the best-fitting model. A panel logit model deals with data observed over time and across different units and is used when the dependent variable is binary (0 or 1). This model is a type of panel data analysis, which includes data observed from a set of individuals, countries, etc., over a certain period. The panel logit model aims to provide more accurate predictions by accounting for heterogeneity among units and changes over time.

The dependent variable is formulated as a binary choice model. In binary choice models, the dependent variable takes the value of 1 if an event has occurred for unit i at time t, and 0 if it has not. In this case, the expected value of the dependent variable is:

$$E(Y_{it}) = 1.P_{it} + 0.(1 - P_{it}) = P_{it} \quad (1)$$

$E(Y_{it})$: The expected value of the dependent variable (Y) for unit i at time t.

P_{it}: The probability of event i occurring at time t. It typically represents the probability of a binary outcome.

The expression is essentially a way of modeling expected outcomes for a binary variable, where the outcome takes the value 1 with probability P_{it} and 0 with probability 1 - P_{it}. If the probability of the event occurring for unit i at time t is given, then:

$$P_{it} = Prob(Y_{it} = 1) = E(Y_{it} I\, X_{it}) = F(\beta' X_{it}) \quad (2)$$

β’ is a vector of coefficients and X_{it} is a vector of the independent variables (covariates) for unit i at time t.

$E(Y_{it} \; I \; X_{it})$: The conditional expectation of Y_{it} given the values of the independent variables X_{it} for unit i at time t. This represents the expected value of Y_{it}, given the covariates or predictors X_{it}.

$F(\beta'X_{it})$: A cumulative distribution function (CDF) applied to the linear predictor $\beta'X_{it}$. The function F could represent different distributions, such as the logit function (logistic regression), the probit function (standard normal cumulative distribution), or other suitable distributions depending on the model.

In our study, the analysis will be conducted using the logit model. The logit model utilizes the logistic distribution, and its formula is as follows;

$$L_i = \ln\left[\frac{P_i(Y_i = 1)}{1 - P_i(Y_i = 1)}\right] = \ln(e^{\beta' X_i}) = \beta' X_i \quad (3)$$

$P_i/1\text{-}P_i$ represents the odds ratio. The left side of the equation represents the logarithm of the odds ratio (Lardaro, 1993: 408). Here, $Y_i = 1$ denotes the years of debt distress, while $Y_i = 0$ denotes the years without debt distress.

4. Results

To identify the dynamics underlying debt distress, a panel logit model has been applied. Before applying the model, the stationarity of the variables was tested. The Levin, Lin, and Chu test has been used. Structural breaks have been disregarded. Ignoring structural breaks indicates that important events, such as crises or external shocks, have not been incorporated into the analysis. However, such events could potentially influence the model. This represents one of the key limitations of the study. The results of the stationarity tests are summarized in Table 2. Since edgdp and hghinf are dummy variables, their stationarity is not tested. Also, to examine multicollinearity among the variables, the variance inflation factor (VIF) was applied, and the result was 1.17. Since this value is less than 5, it indicates that there is no multicollinearity among the variables. The expgdp variable is the only one that is non-stationary. However, it becomes stationary after applying the first difference.

Table 2. Levin, Lin, and Chu Unit Root Test Result

	t statistics
fedfnd	-4.9315*
rsrvimp	-2.7923*
gdpgrwth	-11.1621*
d.expgdp	-15.5004*
fdigdp	-4.6060*
shrtrsrv	-4.1277*

Note: * denote significance at the $p < 0.01$.

After testing the stationarity of the variables, it is necessary to investigate the presence of unit effects in the data before applying the panel logit model, as the existence of such effects complicates predictions. According to the results of the LR test, unit effects were

detected.[1] To determine whether these effects are fixed or random, a robust Hausman test was conducted. The probability value as a result of the applied Hausman test is less than 0.05, it is necessary to establish the model with fixed effects. The probability value is 0.0025. The results of this test indicated that the assumption of fixed effects was valid for the model. The estimation results obtained through this method are presented in Table 3. Table 3 shows that, according to the results of the Wald test, all variables except for Foreign direct investment/GDP are significant in explaining the dependent variable. The direction of the coefficients is also as expected.

Table 3. Panel Logit Regression Result

Independent Variables	Dependent Variable: External Debt Distress		
	Odds ratio	Coeff.	z
fedfnd	1.135128	0.126*	4.79
hghinf	2.255446	0.813**	1.98
fdigdp	1.045731	0.044	0.84
rsrvimp	0.807710	-0.213*	-4.83
gdpgrwth	0.951845	-0.049**	-2.01
shrtrsrv	0.950328	0.050*	-4.27
expgdp	1.071013	-0.068*	2.77
Wald	98.67		
LR	125.09		

Note: *, ** denote significance at the $p < 0.01$, $p<0.05$.

Regression results indicate that a one-unit increase in the real interest rate in the United States raises the odds of reporting into debt distress by 13%. This finding is highly significant as it highlights the impact of core country interest rates on debtor nations and is one of the strongest relationships identified in the model.

Another variable explaining debt distress is high inflation. The model indicates that countries experiencing high inflation are 2.25 times more likely to enter debt distress compared to those with lower inflation. High inflation can erode the real value of debt repayments and destabilize economies, making them more vulnerable to financial crises. This result emphasizes the detrimental impact of inflation on debt sustainability and highlights why peripheral countries often face severe economic challenges when inflation rates are high. As is well known, high inflation has been one of the major problems for peripheral countries, especially since the 1970s. Given that peripheral countries experience high and frequently changing inflation rates, creditors have preferred short-term debt contracts to mitigate this risk. Additionally, to hedge against inflation, there has often been a tendency to borrow in foreign currencies. However, when these two factors combined with the fixed exchange rate system, a popular practice at the time, peripheral economies were dragged into significant contractions.

[1] Unit effects can introduce several complications in panel data models, especially when these effects are not properly accounted for or when their presence leads to certain assumptions being violated. Omitted variable bias, endogeneity, and multicollinearity are important issues. The inclusion of unit effects makes it challenging to interpret the effects of the independent variables on the dependent variable because the model now accounts for the unit-specific characteristics that could influence the outcome. To address these complications, various techniques such as fixed effects or random effects models are commonly used to control for unit effects. The choice between these methods depends on the assumption about the correlation between the unit effects and the explanatory variables.

Therefore, high inflation is a critical factor that exacerbates the financial difficulties of debtor countries.

Moreover, creditors' preference for short-term debt contracts due to inflation risk is also a crucial factor leading to debt crises. A one-unit increase in the ratio of short-term debt to reserves raises the probability of debt distress by 0.9%. This suggests that a higher proportion of short-term debt relative to reserves increases the likelihood of financial distress. Short-term debt is typically more vulnerable to shifts in market conditions and can lead to liquidity problems if not adequately supported by reserves. This finding reinforces the importance of maintaining a balanced debt structure to mitigate crisis risk.

Another variable is GDP growth. The results show that a one-unit decrease in GDP growth increases the likelihood of a debt crisis by 0.95 times. This reflects the role of economic performance in debt sustainability. Sluggish GDP growth can impair a country's ability to service its debt and increase the risk of a crisis. Strong economic growth is crucial for maintaining fiscal health and preventing debt distress. The share of international reserves in imports also has a similar effect. A one-unit decrease in the ratio of international reserves to imports increases the likelihood of debt distress by 0.80 times. This indicates that lower reserves relative to import needs can weaken a country's ability to manage external shocks and service its debt. Adequate reserves are essential for buffering against sudden changes in the external environment and for ensuring debt servicing capacity.

The analysis finds that a one-unit decrease in the ratio of exports to GDP increases the probability of debt distress by 7%. Export performance is crucial for generating foreign exchange earnings and maintaining debt serviceability.

In this model, which investigates the dynamics behind falling into debt distress, the results are consistent with the findings of Manasse et al. (2003) and Kraay and Nehru (2006). Also, the most significant variable is the interest rates in the United States. This finding underscores the impact of external dynamics on the debt distress experienced by developing countries. Additionally, high inflation, along with short-term debt imposed by creditors in debt contracts, is also a crucial factor contributing to the onset of debt distress.

5. Conclusion

When a country falls into a debt crisis, it typically turns to the IMF, which imposes austerity policies. This occurs because the country has mismanaged its debt and has been driven into crisis by its internal dynamics. This study challenges this prevailing view by demonstrating that developing debtor countries are more vulnerable to external dynamics than to their own internal dynamics. A panel logit model was applied to twenty debtor countries to investigate this.

The results of the model, which substantiate the claims, show that debtor countries are highly sensitive to the interest rates of the dominant country shaping the monetary policy of the period. Although the data analysis focuses primarily on crisis and turmoil periods, it is plausible to predict similar sensitivity during periods of intense capital export and debt accumulation. Therefore, the dependency established through capital in the core-periphery relationship and the underlying dynamics are critically important and cannot be overlooked. This relationship also influences other internal dynamics. For instance, during periods of monetary expansion when

interest rates are kept low in the core, foreign capital flows into peripheral countries, affecting their production and spending performance. These countries can also be driven into high inflation trends due to either misguided policies or uncontrolled capital flows during these periods. High inflation, in turn, impacts the country's credibility and can lead to a lack of international liquidity for debtor countries.

For these reasons, the debt crises and periods of turmoil faced by developing countries, both historically and in the present day, necessitate approaching the problem of borrowing from accurate perspectives. Considering the decisive impact of interest rates in core countries, state intervention to redirect funds towards production during periods of high external borrowing and intense capital flows will be an extremely effective strategy. In this context, implementing incentive policies is essential. It is crucial to remember that there is a limit to increased capital transfers. Therefore, it is imperative to implement policies that strengthen the production dynamics of the national economy. Additionally, dependence on external interest rates can sometimes lead to a decrease in international liquidity. If this dependency can be mitigated through state-led production mechanisms, debtor countries will be able to take more secure steps into the future.

During periods of high foreign capital inflows into developing countries, these resources can be directed towards infrastructure investments that will enhance the countries' future production capacity. At the same time, during such periods, peripheral countries should implement structural reforms to develop a skilled workforce capable of supporting a high-value-added production structure, through comprehensive educational initiatives. Additionally, it is crucial to regulate capital movements through counter-cyclical policies. Tax policies should be implemented to prevent an increase in luxury consumption and dependence on imported goods in production. Furthermore, appropriate incentive policies should be applied to channel foreign capital inflows into productive investments.

The findings of this paper provide significant and timely contributions to the literature by uncovering the dynamics behind debt crises. However, in its current form, the study can only analyze debt crisis processes due to data limitations. Historical studies are needed for comparative analysis in this context. Future research could enrich the field by incorporating additional variables into the model and examining debt processes in a more comprehensive manner. Indeed, there are still many unanswered questions in this literature.

Declaration of Research and Publication Ethics
This study which does not require ethics committee approval and/or legal/specific permission complies with the research and publication ethics.

Researcher’s Contribution Rate Statement
I am a single author of this paper. My contribution is 100%.

Declaration of Researcher’s Conflict of Interest
There is no potential conflicts of interest in this study.

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