The Inflation Impact of Emerging Markets on Inflation Rates of Turkey and Fiscal Drag Burden

Dr. Ahmet Niyazi Özker

Bandirma Onyedi Eylul University, Faculty of Economics and
Administrative Sciences, Public Finance Department 10200-TURKEY
niyaziozker@yahoo.com ORCID ID: 0000-0001-5313-246X

Abstract: This study examines the possible inflation scale effects of inflation rates observed in emerging market economies on countries with similar economic structures to Turkey. For this purpose, the role of inflation in the emergence process of emerging market economies and the potential fiscal impact costs of this process on Turkey, especially on public finance and tax burden, are analysed. The study focuses on the approach that countries among emerging market economies are in an inflationary interaction through mutual scale effects, and that this interaction mutually increases their cost burdens. The research also tries to reveal whether these increasing fiscal burdens create a budgetary drag effect in Turkey and investigates at what scale levels these effects occur. In addition, the study also evaluates the financial consequences of the scale effects brought about by economic growth in Turkey as related to the inflation rates in Turkey. The findings in the survey reveal that inflation in Turkey is primarily structural, and an inflationary process prevails in which cost inflation remains relatively secondary. In other words, this structural reality shows that the Turkish economy is directly affected by structural inflation dynamics that are effective on a global scale and that this effect also causes an increase in financial burdens at the local level. When this situation is evaluated in terms of the fiscal tax burdens related to emerging markets, specifically in Turkey, it is understood that inflation is shaped not only by national internal dynamics but also by similar structural economic problems at the global level, and that the pressures to increase the inflation rates in Turkey also bring the potential for a possible fiscal drag on the agenda.

Key Words: Emerging Markets, Fiscal Drag, Income Substitution Effects, Inflation, Tax Burdens.

JEL Codes: E31, F43, F62.

1. INRODUCTION

It is understood that the high inflation rates observed in Turkey in recent years are not only due to general price increases at the global level, but also to structural pressures created by growth targets specific to emerging market economies, and show that Turkey's economic structure is more closely related to the problems faced by countries at similar economic levels, rather than general trends in the global economy. The emergence of inflation in emerging market economies is assessed in terms of many structural and external factors. In these economies, there is a structure where specific criteria stand out in the formation of inflation; sensitivity to external shocks is high, capital movements undergo sudden changes and political uncertainties are felt intensely (Ananzeh, 2915: 932). The emerging markets as developing countries related to emerging markets, these variables play a critical role in determining the source and course of inflation. In this context, fluctuations in capital inflows and outflows and domestic and foreign policy uncertainties are among the main determinants of inflation in developing economies. The effect of external factors on inflation becomes more apparent, especially in countries with high import dependency, such as Turkey. This research aims to develop a more in-depth understanding of the course of inflation in Turkey. The structural and cyclical inflationary trends specific to the Turkish economy are examined to reveal their similarities or differences with those of other emerging economies. Therefore, the main purpose of this study is to comprehensively analyse the dynamics of inflation formation in emerging market economies, examine and present a mutual effect scale between inflation rates in these countries and those observed in Turkey, and provide a comparative perspective for policymakers (Grier

and Perry, 1998: 172). Turkey is structurally highly dependent on energy, raw materials, and intermediate goods imports.

This situation, when combined with global trade fluctuations, increases in commodity prices, and regional demand changes, creates upward pressures on domestic price levels, also related to emerging market economies. In Turkey, the direct reflection of the increase in import costs on domestic prices fuels cost-push inflation. In this context, it is seen that price increases in international commodity markets, primarily global supply-demand imbalances in the energy and food sectors, trigger an import-based inflation process in the Turkish economy. In parallel with other emerging market economies such as Brazil, India and South Africa, the increase in global demand and commodity prices directly and indirectly affects Turkey's consumer price index. These effects cause food prices, especially the increases in energy prices, to move upwards and deepen inflationary pressure in Turkey. In financial markets and capital mobility, changes in global risk appetite and hot money inflows to Turkey directly affect the exchange rate. The increase in the exchange rate, on the other hand, leads to a rise in import-based costs and becomes another dynamic that feeds inflation. This fact strengthens the phenomenon of cost inflation and prepares the ground for the inflationary process in Turkey to become chronic by combining with structural problems. Turkey's monetary policy has lost its independence in this context; fiscal policy has prioritised financing needs, and economic policy has been inadequate in combating inflation (Hemming and Kochhar, 1990: 48-49). As a natural result of this process, the fiscal dominance effect has become apparent, the effectiveness of monetary policy instruments has decreased, and a structure that limits economic growth has emerged. Fiscal drag causes the public financing needs to overshadow monetary policy, preventing the necessary stringent steps to combat inflation. Thus, the high course of inflation within a stagnant structure has led to a stagflation (inflation within stagnation) outlook in the economy. As a result, emerging market economies like Turkey have become vulnerable to inflationary pressures due to their highly sensitive structures to global financial dynamics. International commodity prices, capital movements, foreign trade conditions and foreign policy developments directly determine price stability in these economies. In Turkey, the externally dependent production structure, political uncertainties and the dominance of fiscal policy make the fight against inflation more complex and challenging. In this context, the need for practical, independent and holistic monetary-fiscal policy coordination is more important than ever (Ryan-Collins, 2023: 6).

2. LITERATURE REVIEW

Studies by Kiguel and Liviatan (1992) and Korhonen (1998) on Latin American emerging markets (1970–1990) have shown that high automatic stabilizers can reduce growth volatility in the short term, while causing deterioration in the structure of tax revenues in the long term. Khan and Schimmelpfennig (2006) and Ramayandi (2006) have examined Asian emerging markets for the period 1990–2005 and have shown that fiscal drag shocks cause persistent increases in inflation in the 6–8 quarter period after the initial shock and that monetary policy flexibility can mitigate this effect. The study by Ağır et al. (2009) examines the determinants of financial development through factors such as legal structure, financial liberalization, institutional structure, deposit insurance and macroeconomic policy framework. Croce and Juan-Ramon (2003) and Oladipo et al. (2013) based their studies on 20 emerging market countries and found that fiscal drag can increase inflation expectations and make price stability

difficult in the short term and cause fluctuations in the foreign trade balance by using the dynamic panel GMM method between 1995 and 2012. MacPhee and Sattayanuwat (2014) showed that a stronger tax base limits the negative effects of fiscal drag in Central and Eastern European emerging markets between 2000 and 2014 by using the panel regression method; and that the attraction power increases with the increase in institutional quality. Karakurt (2016) investigated the relationship between inflation level and inflation volatility in a period (2002–2020) analysis covering the BRICS countries (Brazil, Russia, India, China, South Africa) and the Eurozone. Tested using both long-term (10 years and above) and short-term (1–2 years) inflation measures, the Friedman-Ball hypothesis is found to be fully confirmed in the long run, while finding only partial support in the short run. The results highlight the stabilizing role of monetary policy credibility and inflation targeting on volatility. This IMF working paper (WP/17/196) and the subsequent Journal of International Money and Finance article by Choi, Furceri, Loungani, Mishra & Poplawski-Ribeiro (2017/2018) find that a 10% increase in oil prices increases inflation by +0.4 percentage points on average in advanced and developing economies with panel data for the period 1970–2015. The study emphasizes that commodity price shocks have strong and persistent effects on inflation in the short run through exogenous demand and cost channels. Öğünç et al. (2018). Empirical analysis of inflation transitions in Turkey using the BVAR model; reveals the extent and timing of the transition of exchange rate and import price shocks to inflation. The studies conducted by Tapşın (2019) and Karacan and Cengiz (2019) emphasize that the fiscal structure of selected emerging market economies and countries with large fiscal space were less affected by inflationary processes in the period 2000-2018 and allowed the continuity of public expenditures that encouraged growth. Kalafatcılar & Özmen (2019) focused their studies on the effects of demographic transition on macroeconomic indicators on inflation and the analyses conducted with the panel data set compiled from developing countries revealed that this effect depends on the composition of the consumption basket and saving tendencies. The study conducted by Asfuroğlu (2020) examines the determinants of inflation in developing countries as a literature review. The effects of fiscal policies on inflation and how these effects change over time are discussed. Uğur & Atılgan's (2021) study is a panel data study that evaluates the effect of money supply growth on inflation in five developing countries, including Turkey, India, Brazil, Mexico and South Africa, during the period 1995–2017. The results show that money supply expansion statistically increases inflation, but the main determinant of inflation is mostly real sector shocks and disruptions in the supply-demand balance. Jongrim Ha, M. Ayhan Kose & Franziska Ohnsorge (2022). It has presented the development strategies of policies focusing on the rise of global inflation after 2021 and policy implications in developing economies. IMF authors Bems et al. (2022) estimated the global components of inflation in 19 major emerging market economies using the New Keynesian Phillips curve approach during the period 2004–2018. Empirical findings reveal that the speed of transmission of exogenous shocks to inflation in emerging market economies increases in countries where globalization deepens. Akbakay's (2023) and Baba et al. (2023) studies examines the effects of globalization on inflation and monetary policy using panel data from 39 developing countries during the period 2000–2020. Empirical analyses conducted with the System Generalized Method of Moments (GMM) reveal that global monetary expansion shocks strengthen inflationary pressure. Sánchez-Jabba & Villabon-Hinestroza (2024) analyzed the inflation dynamics in emerging market economies covering the period 2004–2021 within the framework of the New Keynesian Phillips curve.

The study shows that inflationary endogenous factors are still dominant in open economies like Turkey by decomposing the relative shares of both endogenous (output gap, wage pressure) and global (oil prices, exchange rate) factors on inflation rates. The study by Aguilar et al. (2024) examines the impact of global inflation on inflation expectations in emerging market economies (EMEs) and the role that central banks can play to reduce this impact. The study reveals that short-term inflation expectations as a component of global inflation amplify the specific inflation components of emerging markets and have a stronger impact on long-term inflation expectations in developing countries like Turkey.

3. INFLATIONIST EFFECTS IN EMERGING MARKETS AND TURKEY'S INFLATION RATES AND FISCAL DRAG

The components included in the study on which it is based are particularly prominent and have a significant impact on inflation rates in Turkey through structural effects in emerging market economies. These effects have direct or indirect reflections not only on inflation rates in Turkey but also on these rates together with inflation dynamics at the global level. This situation can be evaluated as a reflection of the phenomenon defined as the "fiscal drag effect" in the literature. This structural relationship creates upward pressure on the general price level and secondary indicators such as financial burdens and interest rates during the fiscal drag process. The macroeconomic structure that Turkey is in, especially in the post-COVID-19 pandemic period, has increased the intensity of inflationary tendencies with the components of fiscal drag that have become more pronounced, combined with increasing cost pressures and supply-demand imbalances at the global level (Kara and Sarıkaya, 2024: 268-269). The inflationary wave experienced worldwide in the post-COVID-19 pandemic period has created direct and indirect effects on the Turkish economy; these effects have presented a more complex and challenging to manage appearance based on monetary and fiscal policies that have further highlighted the fiscal drag phenomenon.

On the other hand, inflationary processes experienced in all world economies do not develop independently; on the contrary, the existence of certain simultaneous and mutual sensitivity relations between developed economies and emerging market economies is remarkable (Basu et al., 2023: 34-35). The fluctuating and recessionary trends observed in both the Turkish economy and the global economy have created a more pronounced pressure on developing economies and have brought a process of financial deviations to the agenda, especially in countries with high levels of financial fragility, such as Turkey. Chart 1 below shows the annual inflation rate increases in emerging market economies on a percentage basis. It provides a meaningful basis for comparison by not only presenting these data in absolute terms but also in a comparative context with developed economies and the world average. In this context, Chart 1 also reveals the contextual meaning of inflation rates in developed economies:

Source: Vandamme, C. (2023). Emerging Markets Quarterly Digest: Q2 2023, https://www.kbc.com/en/economics/publications/emerging-markets-quarterly-digest-q2-2023.html (Accessed May, 11.2025).

Graphic 1. Consumer Price Indexes for the Recent Period in the World and Emerging Markets

As shown in Graph 1 above, the average inflation rate observed in emerging market economies after 2010 was around 1.30%, indicating a significant increase, but this rate exceeded 15% by 2022. This dramatic increase should be considered a decisive result of global inflation pressures and macroeconomic instabilities, especially in countries with fragile financial structures. In Turkey, this situation reveals that high inflation deepens when combined with external shocks. Undoubtedly, this situation has led to an increase in structural fragility and sensitivity to external shocks; increasing and persistent inflationary pressures have manifested themselves more deeply and permanently in Turkey's financial markets; by blocking monetary transmission mechanisms such as economic volatility in monetary policies, it has also increased financial usage costs and prepared the ground for financial drag. Although inflation rates are due to country-specific dynamics, price increases common at the global level are felt more clearly, especially in externally dependent and fragile economies. This situation shows how practical global synchronisation and deviation effects are in inflation processes (Baker, 2013: 116-117). One of the important internal reasons for the inflationary pressures observed in Turkey at the global level can be associated with the effects originating from emerging market economies.

The basis of this effect is the increase in foreign trade relations between emerging market economies in terms of both volume and continuity. The deepening of trade between these economies has caused the price mechanisms of the countries to affect each other more; this has led to a more pronounced price pass-through and inflation transfer. In this context, the phenomenon of fiscal drag also gains importance. The structures of the price and fiscal policies implemented by different countries that affect each other create an interaction on a global scale; this situation becomes more visible especially with the opening processes of emerging market economies. In other words, the foreign trade relations of these countries both among themselves and with developed economies directly or indirectly affect the domestic price balances and inflation dynamics of economies like Turkey. The volatility in interest rates in Türkiye, parallel

to the variability in inflation rates, has deepened the fiscal instability in Türkiye due to the effects of inflation and tax burden in emerging markets (Korinek and Sandri, 2016: 24). In Turkey this situation indicates that the increasing fiscal drag scales in recent years have become more apparent with the weakening of fiscal discipline, uncontrolled increase in public expenditures and the tendency of budget deficits to become chronic.

In this context, the relationship between rising interest rates and rising inflation rates has increased the pressures on Turkey's public finances; and has led to the fiscal drag effect taking on a more fragile and concrete structure. This process has caused public expenditures in the Turkish economy to increase, and this phenomenon has created the risk that structural budget deficits will become more permanent by deepening the fiscal drag effects (Taraktaş and Hacıköylü, 2017: 164-165). Thus, fiscal drag should be considered not only as a temporary imbalance but also as a macroeconomic threat that can disrupt long-term economic performance. In this context, Turkey's fiscal drag dynamics should be considered not only within the framework of domestic macroeconomic variables but also in the context of general trends in emerging market economies. The data presented in Chart 2 below reveal that the fiscal drag effect has continued to increase in Türkiye in the period after 2010, and that this effect has become more fragile, especially with the changes in the Central Bank's interest rate policies and inflation rates:
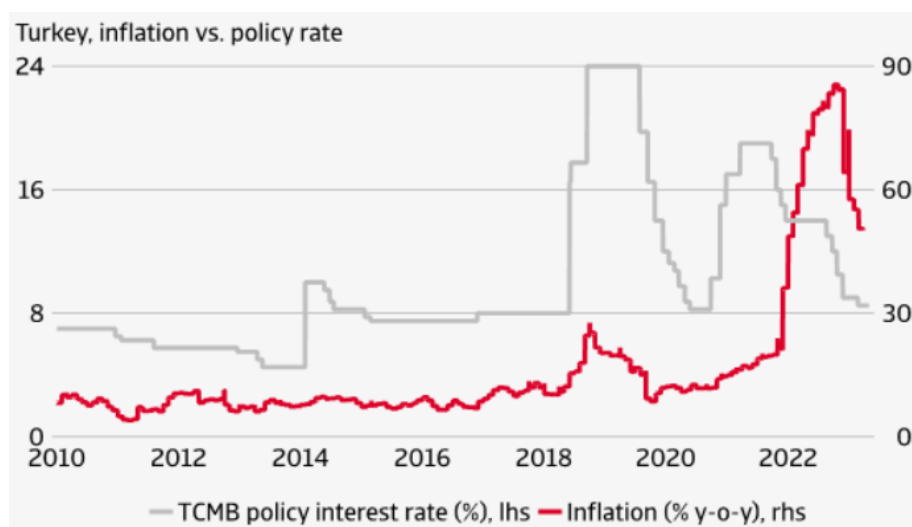
Source: Atradius (2023). Turkey Battles High Inflation Ahead of Elections. https://atradius.pl/newsroom/report/turkey-battles-high-inflation-ahead-of-elections (Accessed March, 12.2025).

**Graphic 2. Recent Period Inflation Rates in Turkey and
The Fiscal Drag as Interest Rates' Effects**

When Graph 2 above is interpreted in terms of fiscal drift and recent macroeconomic deviations, it shows that monetary policy in Turkey has occasionally been conducted inconsistently with economic realities, and this has had serious negative effects on inflation. The interest-inflation divergence, especially in the 2021–2022 period, reveals the importance of predictability and institutional independence in economic policies. Especially in periods of high inflation, the increase in non-interest expenditures in real terms and the deterioration of the income-expenditure balance have an accelerating effect on fiscal drag and drift (OECD, 2023: 24 and 30). The rapid increase in inflation during periods when interest rates remained

low has increased the cost of public borrowing, which has led to the emergence of structural budget deficits. As can be clearly seen in the graph, a serious mismatch has emerged between interest rates and inflation rates in the Turkish economy during certain periods. Especially in the period after 2021, the CBRT's preferences to reduce the policy rate have contradicted a process in which inflation has tended to increase. This situation has caused the real interest rate to become negative and created pressure on capital outflows and the exchange rate. Such divergences in monetary policy disrupt inflation expectations and deepen the pressure on public spending by increasing the fiscal drag effect (Heinemann, 2001: 42-43). When this phenomenon of change in Turkey in terms of periods as the framework of fiscal drag, which led to sharp increases in both inflation and interest rates, and the policy rate rose to 24% in 2018, inflation also rose to approximately 25% in the same year.

At this point, it is observed that the increase in the policy rate, albeit delayed and limited, was put into effect as a tool to control inflation. In 2019 and later, the CBRT brought a rapid reduction process to the policy rate, and interest rates were reduced to 8.25% in mid-2020; the fact that inflation rates continued to be relatively high during this period led to a period in which the interest-inflation balance was disrupted. This phenomenon is an effective fiscal drag process that has created real interest rates significant wavy fluently and increased foreign exchange demand and inflation expectations (Creedy and Gemmell, 2007: 326). The gaps between monetary policy and inflation between 2021 and 2022 are a period in which policy interest rates were reduced despite a significant increase in inflationary pressures. The fact that inflation rates reached 85% in mid-2022 and that the policy interest rate was tried to be kept low during this period reveal a structure in which fiscal fragility increased, which cause fiscal drag as related distanced monetary policy from controlling inflation. The normalization steps in the following new period brought the policy interest rate upward trend back to the agenda after inflation peaked in 2023. This period points to a period in which tightening steps were taken in monetary policy again and the determination to fight inflation increased. The inflation rate started to show a relative decrease as of the end of 2023, in parallel with the interest rate increases.

4. THE EMPIRICAL MODEL APPROACH AND EMPIRICAL FINDINGS

In this study, panel model regression analysis was handled on the basis of countries consisting of six different groups, representing emerging market economies, and the determination of Panel Scale Effect values regarding inflation variability in Turkey as dependent variables for these emerging markets was taken as the basis. The model was established by including panel regression model dummy variables and error terms, the suitability and accuracy of the model and H0 (null hypothesis) and H1 (alternative hypothesis) structures were evaluated within the scope of hypothesis testing.

The effects of α_i are eliminated and the change over time is modelled:

$$(y_{it} - \bar{y}_i) = \sum_{k=1}^{K} \beta_k (X_{kit} - \bar{X}_{ki}) + (\varepsilon_{it} - \bar{\varepsilon}_i)$$

…………………….**(1)**

Random Effects (RE) Model:

$$y_{it} = \alpha + x_{it}'\beta + c_i + u_{it}$$

………………….……………..**(2)**

or

$$Y_{it} = \alpha + \beta X_{it} + \mu_i + u_{it}$$ ………………………………….(3)

As an alternative to the fixed effects model, individual effects are assumed to be random:

$$y_{it} = \beta_0 + \sum_{k=1}^{K} \beta_k X_{kit} + \alpha_i + \varepsilon_{it}$$ …………………………..(4)

$$\Delta Y_{it} = \beta \Delta X_{it} + \Delta u_{it}$$ ………………….…..………………(5)

$$H_0 : \beta_2 = \beta_3 = 0$$
$$H_1 : \beta_2 \neq \beta_3 \neq 0$$

"$\alpha i \sim N(0, \sigma^2_\alpha)$" has a normal distribution and is independent of the error term; generalized Least Squares (GLS) or Feasible GLS (FGLS) was used for model estimation.

First-Difference Model:

Fixed effects are eliminated by taking the difference between the variables:

$$\Delta Y_{it} = Y_{it} - Y_{i,t-1,}$$ …………………………….(6)

In the Panel Data analysis, the error term (εit) is emphasized in the significance equation as a variable expressing the uncertain unobservable components:

$$E(\varepsilon_{it}\varepsilon_{js}) = 0, \quad \text{If} \quad i \neq j \quad \text{or} \quad t \neq s$$

Expected Value is "Zero":
$$E(\varepsilon_{it}) = 0$$

It Has Constant Variance:
$$\text{Var}(\varepsilon_{it}) = \sigma^2$$

In the model expresses, "μi: the fixed effect value that is not dependent on time and cannot be observed:

$$E(\varepsilon_{it}\varepsilon_{js}) = 0, \quad \text{If} \quad i \neq j \quad \text{or} \quad t \neq s$$

H0 : ρij = ρji = core (Ɛit , Ɛjt)   i≠ j
H1 : ρij = ρji ≠ 0

The panel data regressions all assumed that the coefficients on regressors are the same across all countries. The random coefficients model assumes this and introduces individual-specific effects through the coefficients, such that:

$$y_{it} = \beta_i x_{it} + \alpha_i + \epsilon_{it}$$
$$y_{it} = (b_i + \beta)x_{it} + (\alpha_i + \alpha) + \epsilon_{it}$$
$$b_i \sim N(0, \tau^2_{i1})$$
$$a_i \sim N(0, \tau^2_{i2})$$ …………………………..(7)

$$Y_{it} = \alpha + \sum_{j=1}^{K} \beta_j x_{jit} + \mu_i + \varepsilon_{it} \quad j = 1,2,3,..., K, i = 1,2,3,..., N \text{ and } t = 1,2,3,...T.$$ ……….(8)

"v_{it}" Stochastic error term is included in the analysis by accepting it as a part of the error term in the determinations made in the fixed effects model (FEM) analysis. In the Panel Data analysis, the error term (εit) is emphasized in the significance equation as a variable expressing the uncertain unobservable components in the model:

$$E(\varepsilon_{it}\varepsilon_{js}) = 0, \quad \text{If} \quad i \neq j \quad \text{or} \quad t \neq s$$

Expected Value is "Zero":

$$E(\varepsilon_{it}) = 0$$

It Has Constant Variance:

$$\text{Var}(\varepsilon_{it}) = \sigma^2$$

Table 1. Model Components Expressions in the Panel Data Analysis

TRINF	Changes in Inflation Rates in Turkey (as a Percentage Annually)
InfRt	Inflation Rates in Emerging Markets (as a Percentage Annually)
TaxBrd	Tax Burdens in Emerging Markets (as a Percentage Annually)

For "n" pairs of sample observations (X_1,Y_1), (X_1, X_2)......(X_n,Y_n), the correlation coefficient "r" can be defined as:

$$r = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{(x_i - \bar{x})^2(y_i - \bar{y})^2}} = \frac{S_{xy}}{\sqrt{S_{xx}S_{yy}}} \quad \dots\dots\dots\dots\dots\dots\dots\dots\text{ (9)}$$

The correlation coefficient, which appears in Table 2 below, presents a statistical measure that quantifies the linear relationship between two variables:

Table 2. Correlation Values of Model Components

	TRINF	InfRt	TaxBrd
TRINF	1.000		
InfRt	-0.1686	1.000	
TaxBrd	0.2628	-0.5247	1.000

As observed in Table 2 above, it is observed that the correlation values between the dependent and independent variables in particular affect each other within the scope of the model and take negative and positive values. Especially in emerging market economies, it is observed that the inflation rates of each of the countries taken as a basis create a negative effect on the increase in inflation in Türkiye (InfRt -0.1686), and the tax burden effect that causes the rise in inflation (TaxBrd 0.2628) creates a positive impact. It is observed that the mutual correlation effect of all variables, on the other hand, has a negative effect on each other as mutual effects that increase the inflation rates and tax burden as independent variables (TaxBrd -0.5247), which also indicates a negative effect value. However, it is possible to see the values in Table 3,

especially in determining the standard deviation values regarding the dependent and independent variables related to our model and the lower and upper and lower and upper values:

Table 3. Limit and Standard Deviation Values of Model Components

Variable		Mean	Std.Dev.	Min	Max	Observations	
TRINF	overall	29.33317	16.08603	7.23	78.28	N =	180
	between		6.240075	16.59567	31.88067	n =	6
	within		15.03763	6.3225	91.0175	T =	30
InfRt	overall	10.63464	11.6227	1.6	63.96	N =	180
	between		10.71453	3.3015	31.88067	n =	6
	within		6.235783	-12.37603	42.71397	T =	30
TaxBrd	overall	28.38411	6.352944	16.72	35.98	N =	180
	between		6.802705	18.17033	33.65733	n =	6
	within		1.257163	24.79478	31.80378	T =	30

As observed in Table 3 above, the inflation and inflation rates in Türkiye (TRINF) on the dependent variable (TRINF) as the minimum value is particularly important calculation of the values on the negative quite high (InfRt -12.37603) is a result of the low number of observed values. The average value also indicates an income substitution effect with a higher impact value in the medium and long term compared to the maximum values, which is significant.

Pesaran CD Pesaran Stationary Test (Pesaran, 2004, 2006) is an LM statistic defined $\sum_{i=1}^{N-1} \sum_{j=i+1}^{N} \hat{p}_{ij}^2$ as the correlation of the residuals and is shown:

$$\text{LM} = T \sum_{i=1}^{N-1} \sum_{j=i+1}^{N} \hat{p}_{ij}^2 \quad \ldots\ldots\ldots\ldots\ldots..\ldots\ldots\ldots.\textbf{(10)}$$

$$\hat{p}_{ij} = \hat{p}_{ji} = \frac{\sum_{t=1}^{T} \hat{u}_{it} \hat{u}_{jt}}{\sum_{t=1}^{T} \hat{u}_{it}^{2\frac{1}{2}} \sum_{t=1}^{T} \hat{u}_{jt}^{2\frac{1}{2}}} \quad \ldots\ldots\ldots\ldots.\ldots\ldots\textbf{(11)}$$

The effect values for testing the stationarity of the dependent and independent variable time series used in the model were ranked with the unit root test for establishing the values , with "probability values" are presented in Table 4 below:

Table 4. Panel Unit Root test (CIPS) Results*

Variable	Specification without trend			
	lags	Zt-bar	p-value	t-bar
TRINF	0	-2.391	0.008	.
InfRt	0	-0.238	0.006	.
TaxBrd	0	-1.568	0.052	.

	Specification with trend			
Variable	lags	Zt-bar	p-value	t-bar
TRINF	0	-6.335	0.000	.
InfRt	0	-2.604	0.005	.
TaxBrd	0	-1.312	0.025	.

*Pesaran (2007) Panel Unit Root test (CIPS)

Looking at Table 4 above, the fact that the probability values of the dependent and independent variable time series are less than 0.05 (0.05 >) reveals that the time series are stationary. In addition, the Pesaran Cross-Sectional Independency Test was performed and the following analytical approach and expansions were taken as basis for this test:

$$CSD = \sqrt{\frac{2T}{N(N-1)}} \left(\sum_{i=1}^{N-1} \sum_{k=i+1}^{N} \xi_{ik} \right) \sim N(0,1) \, i, k$$

.................(8)

$$R = \sqrt{\frac{2T}{N(N-1)}} \left(\sum_{i=1}^{N-1} \sum_{k=i+1}^{N} \hat{\xi}_{ik} \right) \left[\frac{(T-K)\hat{\xi}_{ik}^2 - (T-K)\hat{\xi}_{ik}^2}{\text{Var}(T-K)\hat{\xi}_{ik}^2} \right]$$

.............(9)

In addition, in order to determine whether cross-sectional independence, which is a critical assumption for the validity of the panel data model, is provided, the CD (Cross-section Dependence) test, developed by Pesaran (2004), was conducted, which allows testing the cross-sectional independence assumption in panel data sets. Within the framework of this analysis, the distribution and probability values presented in Table 5 below both reveal the distributional properties of the transmitter variable and provide important information on whether cross-sectional independence, one of the structural assumptions of the model, is provided:

Table 5. Pesaran's Test of Cross sectional Independence Values

	c1	c2	c3	c4	c5	c6
r1	1.0000					
r2	0.9995	1.0000				
r3	0.9991	0.9991	1.0000			
r4	0.9985	0.9988	0.9971	1.0000		
r5	0.9991	0.9992	1.0000	0.9972	1.0000	
r6	0.5400	0.5528	0.5493	0.5351	0.5497	1.0000

Pesaran's test of cross sectional independence = 17.981, Pr = 0.0000

In order to test the cross-sectional dependency, Pesaran (2004) conducted a cross-sectional dependency test, and the "cross-sectional dependency" problem was questioned. Table 5 above shows the "Probability" and "Model" value relationships related to Panel Data Analysis. The fact that the panel expansion values of the determined model value relationships are very close

to each other reveals no mutual Cross-Sectional Dependency in the time series we are based on. In addition, the fact that the probability values are "Pr = 0.0000" confirms this determination.

After testing our model's accuracy and the time series' stationarity regarding the probability values and obtaining favourable results, the Random-effects Panel Regression group variable values in the model were determined, and used to determine the results in our model. These analysis values are shown in Table 6, below:

Table 6. Random-Effects GLS Panel Regression Group Variable Values

Random-effects GLS regression				Number of obs	=	180
Group variable: country				Number of groups	=	6
R-sq:				Obs per group:		
within = 0.0059				min =		30
between = 0.6385				avg =		30.0
overall = 0.0704				max =		30
				Wald chi2(2)	=	13.40
corr(u_i, X) = 0 (assumed)				Prob > chi2	=	0.0012

TRINF	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
InfRt	-.058667	.1178206	-0.50	0.619	-.2895912	.1722572
TaxBrd	.6091153	.2155525	0.83		.1866401	1.031591
			0.885			
_cons	12.66787	6.956921	1.82	0.069	-.9674432	26.30319

sigma_u	0	
sigma_e	14.875878	
rho	0	(fraction of variance due to u_i)

As observed in Table 6 above, it is observed that the values of the Random-effects model panel regression group, especially on the dependent variable "TRINF-Turkey Inflation", emerging market economies create two different effects, as inflation rates and tax burden. These two different effects reveal that the negative effect of the six countries we base on in emerging market economies on inflation rates (TRINF) in Turkey is in question with the scale effect of "InfRt -0.058667" and that inflation in Turkey increases with the global inflationary effect and its relationship. In the case of a one-unit increase in inflation rates in the six emerging market countries we base ourselves on, this effect on inflation rates in Turkey would have an increase of "InfRt 0.058667". The fact that the standard deviation values are also relatively small reveals that the mutual interaction of the inflationary effect determined as "Std. Err. 0.1178206" is significant. On the other hand, the coefficient effect that the tax burden effect related to emerging market economies also creates a scale effect as "TaxBrd 0.6091153", reveals that the tax burden on the countries taken as basis has a positive effect on inflation rates in Turkey and that it creates a proportional decrease effect with a demand effect in combating inflation rates. The standard deviation value of the tax burden for emerging market economies is "Std. Err. 0.2155525", which is also acceptable in terms of impact scale significance. In addition, "Prob

> chi2 = 0.0012" and P>|z| The position of the valuable also supports this meaningfulness as "0.619 >--0.50" and "0.885 > 0.83".

5. DISCUSSION

The effects of each emerging market economy on Turkey vary depending on their unique inflation dynamics, tax systems and macroeconomic structures. In this context, a panel data analysis and cross-sectional analysis will provide a more solid and objective basis for measuring and interpreting the effects in question. This type of analysis is important in that it shows that inflation in Turkey is shaped not only by internal dynamics but also by external economic relations. In emerging market economies, it is observed that the fiscal effects, especially tax burden and inflation, stand out as the determining factors. In this context, when the phenomenon of fiscal drag is examined in Turkey, it is striking that monetary and interest policies play a primary role among the main determinants of the effect in question. The monetary policies implemented by the Central Bank of the Republic of Turkey (CBRT) in recent years also highlight a series of policy moves aimed at ensuring economic stability through control mechanisms on interest rates and money supply in eliminating the fiscal drag effect.

Limitations and Future Research Directions: The main subject of this study is to examine how inflation rates in Turkey are affected on a global scale, especially in the context of emerging market economies. In this context, it is evaluated what kind of expansions the study can offer in terms of future research, both methodologically and theoretically, and what limitations it faces. The study does not limit the research object only to Turkey but also relates it to the general structural characteristics of emerging market economies, considering the position of this country in the global economic system. The main issue focused on by the research is that inflation rates in Turkey are shaped not only by internal dynamics, but also by developments in global markets. In particular, the economic growth performances of emerging market economies and the indirect effects of these performances on inflation create an important area of influence for developing economies like Turkey. However, a striking issue in this context is the difficulty of measuring the effects within a certain limit in emerging market economies. This situation stems from both the unstable nature of macroeconomic variables and the structural differences between countries. In fact, it is understood that considering only emerging market economies in the evaluation of inflation rates in Turkey will not be sufficient, and developed economies should also be evaluated as important influences at the global level. Factors such as interest rate policies, money supply management, and trade volume in developed economies can indirectly determine Turkey's inflation rates. In this context, an important limitation of the study is the variability and imbalances in the macroeconomic data of emerging market economies and the difficulties in directly comparing these data with the data of Turkey. These differences indicate a situation that requires analysis not only at a technical but also at a structural level. Therefore, when evaluating the findings of the study, each emerging market economy should be separated by considering its own internal dynamics, tax structures, and growth strategies. In studies aimed at understanding Turkey's inflation dynamics based on limitations and future research directions, a regional or class-based perspective (e.g. emerging market economies) alone will not be sufficient. Instead, a multidimensional approach that considers both global and country-specific factors should be

adopted. Such an approach will enable more sound and comprehensive evaluations to be made at both theoretical and applied levels.

Theoretical Implications Framework:

Emerging market economies, such as Turkey, which have adopted high growth targets and are increasingly integrated with the global economy, are generally considered in the financial and economic literature as countries with high growth potential, open to capital mobility, but whose macroeconomic vulnerabilities have not been fully eliminated. In this context, the economic dynamics of Türkiye, which is increasingly integrated with the global economy, such as the phenomenon of inflation, cannot be evaluated only with conventional indicators; it means introducing a more comprehensive, detailed theoretical infrastructure that takes country specificity into account. Neoclassical growth theories, which explain growth processes with the efficiency of production factors, technological development and capital accumulation, have an important place in explaining the differential effects of public finance and especially tax policies on growth as a theoretical framework for Turkey. Because theoretically, especially in emerging market economies, public finance practices are not only a means of generating income but also play a fundamental role in ensuring economic stability and redistributing social welfare. In addition, the policies implemented by Turkey in the field of public finance, especially when evaluated in terms of tax burden and distribution of public expenditures, also exhibit a specific theoretical character in terms of their effects on inflation. While the role of public expenditures on economic stability is discussed within the framework of Keynesian economics, the literature on Fiscal Policy in Developing Countries, which considers the specific conditions of emerging markets, suggests that fiscal expansion or contraction moves in these countries are more fragile in terms of inflationary effects. In the case of Turkey, the effects of fiscal policies on inflation are shaped not only by nominal variables, but also by factors such as expectations, the level of coordination with monetary policy in a theoretical context, and sensitivity to external shocks. On the other hand, one of the fundamental problems encountered in the theoretical framework in the evaluation of Türkiye's fiscal structure is that comparisons made with other countries in the emerging markets category ignore structural differences as theoretical details. This is because tax structures, the composition of public expenditures, and the priorities of fiscal policies vary greatly from country to country. These theoretical components, which are taken as a basis in the evaluation of Türkiye's fiscal system in our study, also differentiate the theoretical framework of comparative analyses in areas such as taxation behaviours, efficiency of public expenditures and sustainability of fiscal discipline.

Current Implications of Determinations: In emerging market economies, basic macroeconomic indicators such as inflation and growth rates, theoretically, especially consider the values that show structural heterogeneity. This heterogeneity is comparatively addressed, and it also brings to the agenda the inevitability of its shaping depending on the internal political-economic structure and policy preference processes in Türkiye. When Turkey's position is evaluated based on current implications of determinations, rather than the pure numerical values of macroeconomic indicators, the processes of emergence of these values should be read together with the internal dynamics of the country. Turkey has a structurally transitive and fragile structure both institutionally and economically, and analyses related to inflation should be addressed within the political-economic context of the country, with analyses values that consider the current account deficit problem and exchange rate volatility

in relation to the sustainability of growth and determine this phenomenon with global impact values. The findings that the inflationary trends observed in the Turkish economy are also closely related to global developments, especially macroeconomic changes experienced in emerging market economies, are important in terms of applied economics in terms of determining the extent to which inflation rates in Turkey are affected by structural factors such as inflation values observed in emerging market economies and the tax burden faced by these countries. In other words, this "scale effect" approach in our findings makes the findings of the reflections of inflationary pressures in these countries on the Turkish economy meaningful in an analytical framework when Turkey is evaluated together with countries with similar economic characteristics. As an important factor to be taken into account in the design of macroeconomic stability policies in practice, these findings contribute to a more accurate understanding of the inflationary process as a result of the comparative analysis of Turkey with emerging market economies, and also contribute to the clarity of a rational decision-making process that will shed light on the basis of global trade cooperation that may be established with these countries in the future. Because the similarity of inflation rates and fiscal impact values provides a position that can enable the harmonization of price stability policies aimed at increasing Turkey's global opening and the establishment of regional trade agreements on more solid foundations. For countries representing emerging market economies, such cooperation is of strategic importance for Turkey not only in terms of short-term commercial gains but also in terms of establishing and sustaining common economic growth trends in the medium and long term. Such an inflation analysis to be conducted specifically for Turkey carries a high "contribution value" for emerging economies not only at the local level but also in terms of multilateral regional integration efforts and the construction of global economic cooperation.

6. CONCLUSION

The structural relations Turkey's inflation dynamics and economic dynamics of the emerging market economies due to the data obtained in the study reveal that inflation rates in Turkey are highly correlated with inflation levels observed in emerging economies with similar socioeconomic structures. It can be clearly stated that the main reasons for the inflationary process experienced by the Turkish economy are the vulnerabilities in the global financial system and the direct and indirect effects of external shocks experienced by developing countries on the country's macroeconomic balances. The findings obtained within the scope of this study reveal that the inflationary trends observed in the Turkish economy are closely related not only to internal dynamics but also to global developments and especially to the macroeconomic transformations experienced in emerging market economies. It has been determined that the inflation rates in Turkey are parallel to the inflation levels observed in developing countries and to determinant factors such as tax burden, which is one of the structural problems faced by these countries. In this context, the findings obtained point to the importance of comparative analyses and applied economics methods in understanding the inflationary processes in the Turkish economy. The "Panel Scale Effect" approach, which is taken as a basis for the findings in the study, reveals that Turkey's economic growth and financial performance are evaluated together with similar structural features of emerging market countries and that the macroeconomic impact values experienced on a global scale create different analytical scale effects for different country economies. With the determination

that it is insufficient to explain Turkey's inflationary dynamics only with local monetary policies and domestic demand conditions, this fact also reveals the necessity of considering the globalization process together with external factors such as global trade relations, financial variables, external shocks and the level of structural reforms. While the tax burden stands out as a fundamental policy tool for fiscal sustainability in developing countries, this situation becomes an important factor that indirectly affects inflation dynamics. Similarly, Turkey's fiscal structure based on high indirect taxes puts pressure on the general price level and makes it difficult for inflation expectations to stabilize. In other words, this fact also points to the fact that comprehensive comparative analyses to be carried out based on Turkey's similarities and differences with emerging market economies will contribute to the creation of more holistic and effective policy sets in the fight against inflation.

REFERENCES

[1]   Aguilar, A., Guerra, R. and Martinez, B. (2024). Global Inflation, Inflation Expectations and Central Banks in Emerging Markets. BIS Working Papers No 1217.

[2]   Ağır, H., Peker, O. and Kar, M. (2009). "Finansal Gelişmenin Belirleyicileri Üzerine Bir Değerlendirme: Literatür Taraması". BDDK Bankacılık ve Finansal Piyasalar Dergisi, 3(2), 31 - 62,

[3]   Akbakay, Z. (2023). "Küreselleşme, Enflasyon ve Para Politikasının Etkinliği". Ordu Üniversitesi Sosyal Bilimler Enstitüsü Sosyal Bilimler Araştırmaları Dergisi, 13(3), 2551 – 2578.

[4]   Ananzeh, I. E. N. (2015). The Relationship between Inflation and its Uncertainty: Evidence from Jordan. International Journal of Economics and Financial Issues, 2015, 5(4), 929-932.

[5]   Asfuroğlu, D. (2020). "Yükselen Piyasalar ve Gelişmekte Olan Ülkelerde Enflasyon Belirleyicileri: Bir Yazın Taraması". Anadolu Üniversitesi Sosyal Bilimler Dergisi, 21(2), 483 -504.

[6]   Atradius (2023). Turkey Battles High Inflation Ahead of Elections. https://atradius.pl/newsroom/report/turkey-battles-high-inflation-ahead-of-elections (Accessed March, 12.2025).

[7]   Baba, C., Duval, M. R. A., Lan, T. and Topalova, P. (2023). The 2020-2022 Inflation Surge Across Europe: A Phillips-Curve-Based Dissection. IMF Working Paper WP/23/30, Washigton, D.C.: International Monetary Fund (IMF), 2023.

[8]   Baker, A. (2013). The New Political Economy of The Macroprudential Ideational Shift. New Political Economy, 18(1), 112–139.

[9]   Basu, S., Boz, E., Gopinath, G., Roch, F. and Unsal F. (2023). Integrated Monetary and Financial Policies for Small Open Economies, IMF Working Paper 2023/161, Washington, D.C.: International Monetary Fund (IMF), 2023.

[10]   Bems, R., Caselli, F., Grigoli, F. & Gruss, B. (2022). Is Inflation Domestic or Global? Evidence from Emerging Markets. International Journal of Central Banking, 18(4), 1–52.

[11]   Choi, S., Furceri, D., Loungani, P., Mishra, S. and Poplawski-Ribeiro, M. (2017). Oil Prices and Inflation Dynamics: Evidence from Advanced and Developing Economies. IMF Working Paper WP/17/196, Washigton, D.C.: International Monetary Fund (IMF), 2017.

[12]   Creedy, J. and Gemmell, N. (2007). "Tax Revenues and Fiscal Drag: An Introduction", Australian Economic Review, 40: pp. 323–338.

[13] Croce, E. and Juan-Ramon, V. H. (2003), "Assessing Fiscal Sustainability: A Cross Country Comparision", IMF Working Paper WP/03/145, Washigton, D.C.: International Monetary Fund (IMF), 2003.

[14] Grier, K., Perry, M. (1998), On Inflation and Inflation Uncertainty in the G- 7 Countries. Journal of International Money and Finance, 17(4), 671-689.

[15] Ha, J., Köse, M. A. and Ohnsorge, F. (2022). From Low to High Inflation: Implications for Emerging Market and Developing Economies. Koç University–TÜSİAD Economic Research Forum Working Paper No. 2202, CEPR Policy Insight 115 (30 Mar 2022).

[16] Heinemann, F. (2001). "After the Death of Inflation: Will Fiscal Drag Survive?", Fiscal Studies, 22(4), 527-546.

[17] Hemming, R. and Kochhar, K. (1990). "The Role of Fiscal and Monetary Policy in the Growth Process", in IMF E-Library of Congress Cataloging-in-Publication Data, Washington, D.C.: International Monetary Fund (IMF), pp. 45-71.

[18] Kara, H. and Sarıkaya, Ç. (2024). "Türkiye's (unique) Response to Post-Pandemic Inflation", in Monetary Policy Responses to the Post-Pandemic Inflation. B. English, K Forbes and A. Ubide (Eds), Centre for Economic Policy Research (CEPR), London: Centre for Economic Policy Research, 2024.

[19] Karacan, R., Cengiz, V., (2019). Parasal Büyüklük ve Enflasyon, Türkiye Örneği (2001-2008). Social Sciences Studies Journal, 5(43), 4751-4758.

[20] Kalafatcilar, M. K. & Ozmen, M. U. (2019). "Demographic Transition and Inflation in Emerging Economies," CBRT Working Papers 1931, Ankara: Central Bank of the Republic of Turkey (CBRT), 2019.

[21] Kamber, G. and Wong, B. (2020). "Global Factors and Trend İnflation". Journal of International Economics, 122, 103265.

[22] Karakurt, B. (2016). "Küresel Krizin Etkilerini Azaltmada Mali Yönetişimin Rolü: Brıcs Ülkeleri Örneği". Ekonomik ve Sosyal Araştırmalar Dergisi, 12(2), 185-212.

[23] Khan, M.S. and Schimmelpfennig, A. (2006). Inflation in Pakistan: Money or wheat?. IMF Working Paper, No. 06/60, Washigton, D.C.: International Monetary Fund (IMF), 2006.

[24] Kiguel, M. A. and Liviatan, N. (1992). The Business Cycle Associated with Exchange-Rate-Based Stabilization. The World Bank Economic Review, 6(2), 279-305.

[25] Kinda, T. (2011). "Modeling inflation in Chad". IMF Working Paper, No. 11/57, Washigton, D.C.: International Monetary Fund (IMF), 2011.

[26] Korhonen, I. (1998). An Error-Correction Model of Prices, Money, Output and Interest Rate in Russia . Review of Economies in Transition, 5, 33-44.

[27] MacPhee, C. R. and Sattayanuwat, W. (2014)." Consequence of Regional Trade Agreements to Developing Countries". The Journal of Economic Integration, 29(1): 64-94.

[28] OECD (2023). OECD Economic Outlook, Vol. 2023, Issue 2, No. 114, OECD Publishing, Paris.

[29] Oladipo, O.S., Ntoko, A. and Forrester, W. (2013). Sources of inflation in developing countries: Evidence from some West African countries. Advances in Management and Applied Economics, 3(2), 83-102.

[30] Öğünç, F., Özmen, M. U. and Sarıkaya, Ç. (2018). Inflation Dynamics in Turkey from a Bayesian Perspective, CBRT Working Paper No. 18/10, Ankara: Central Bank of the Republic of Türkiye (CBRT), 2018.

[31]   Parker, M. (2017). Global inflation: the role of food, housing and energy prices. European Central Bank, Working Paper Series, No. 2024. Frankfurt: European Central Bank, 2017.

[32]   Pesaran, M.H. (2004). General Diagnostic Tests for Cross Section Dependence in Panels. Cambridge Working Papers in Economics, 0435, Cambridge: University of Cambridge, 2004.

[33]   Ramayandi, A. (2006). Reliability of Structural Shocks Estimates from a Bivariate SVAR Model - The Case of Southeast Asian Countries. Macroeconomics Working Papers 22305, East Asian Bureau of Economic Research.

[34]   Ryan-Collins, J., Kedward, K. and Chenet, H. (2023). Monetary-Fiscal Policy Coordination: Lessons from Covid-19 For the Climate and Biodiversity Emergencies. UCL Institute for Innovation and Public Purpose Working Paper WP 2023/04, London: University College London (UCL), 2023.

[35]   Sánchez-Jabba, A. & Villabon-Hinestroza, E. (2024). The measure matters: differences in the passthrough of inflation expectations in Colombia. BIS Working Papers, No. 1205.

[36]   Tapşın, G. (2019). Mali Alan Göstergeleri ve Yükselen Piyasa Ekonomilerine Yönelik Bir Analiz. Journal of Emerging Economies and Policy (Online), 4(1), 43 - 54.

[37]   Taraktaş, A. and Hacıköylü, C. (2017). Fiscal Drag as an Automatic Stability Tool, in the Case of New Regulation with Price Criteria in Automotive Sectors Special Consumption Tax (SCT). International Journal of Public Finance, 2(2), 159 – 175.

[38]   Uğur, B. and Atılgan, D. (2021). "Para Arzının Enflasyon Üzerindeki Etkisi: 5 Gelişmekte Olan Ülke Örneği". 19 Mayıs Sosyal Bilimler Dergisi, 2(4), 774 – 789.

[39]   Vandamme, C. (2023). Emerging Markets Quarterly Digest: Q2 2023, https://www.kbc.com/en/economics/publications/emerging-markets-quarterly-digest-q2-2023.html (Accessed May, 11.2025).