



Fiscal Expansion in The EU and Scale Effect on Growth Deviations of Developing Economies

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ABSTRACT

The accelerating effect of financial support and incentives creates different growing trends in countries representing emerging economies. This phenomenon is the subject of other economic growth models in a process in which the expected public supports positively affects emerging economies, including financial monetary policies. Besides the structural effects of the budgetary expansion phenomenon, this study aims to analyse the contribution to economic growth, especially in countries representing emerging economies within the EU's scope and put forth the scale values for determining possible deviations in response to increasing monetary expansions. These countries have different actual economic growth trends from EU countries, which mean different fiscal policy targets within the scope of the public economy have created other efficiency deviations in expenditure-based policies. It is observed that the fact that public financial support does not appear solely based on public expenditures and that their possible indirect effects on the public budget have a different impact on the target economic growth trends in an expanding fiscal process. Here, the problem for emerging economies is to achieve a controlled fiscal expansion and public spending trends without causing possible macroeconomic deviations from target economic growth. Whether the fiscal-budgetary expansion will include a possible inflationary process in the expansion of the monetary base can also be followed in the empirical process in which the monetary policy targets and the fiscal policies in practice form the basis of possible conflict.

Key Words: Economic Growth, Emerging Economies, European Unity, Fiscal Expanding, Monetary Policies.

JEL Codes: H30, H54, O11, O23.

INTRODUCTION

The phenomenon of financial expansion, especially in the EU countries, occurs in different impact values and expresses a position where subsidies and incentives, which are described as financial transactions, especially public expenditure-oriented expenditures, come to the fore. At the same time, it highlights the different characteristics of public spending in developed countries with the different increasing values in developing countries. However, it is also seen that the reasons for the increase in public expenditure are shaped for various purposes, especially in the EU member countries among the developing and developed first world countries. Today, this orientation brings more economic growth-oriented work to the plan as a

monetary expansion phenomenon and expresses a meaningful structure with a common growth-oriented standard [1]. These adverse effects in factorial distributions come to the fore, especially in a global process where it is generally negative and needs to be more supported by the effectiveness of monetary public expenditure limits. The phenomenon of monetary expansion also encompasses undoubtedly an expansion process in which increases in the open market operations of the Central Bank regarding the process are experienced, especially in a process where public expenditures increase. In this respect, it is in question that the increased effect of monetary expansion on public spending put forth as a significant effect mechanism structure [2].

The economic expansion of more sectors via increasing public expenditures on markets in developing economies affects the monetary demand and also aims to affect GDP positively. Undoubtedly, injecting money into the economy, especially in the phenomenon of monetary expansion, regarding the catching of a periodic growth trend focused on economic growth, also expresses the effectiveness of the money supply increase mechanism in the markets of debt service. This phenomenon means monetary expansion via redemption practices in a process where government bonds or other financial assets are purchased. Therefore, a monetary expansion on bonds, one of the monetary policy instruments, also reveals a structural relationship model in which the proportional reciprocal increase effect of money limits and financial liquidity due to short-term and high-interest practices also occurs [3]. Again, it should emphasize that the average monetary expansion within the European Union countries is meaningful, especially with increasing limits based on public expenditures. In this respect, it is necessary to emphasize the recent developments that may impact the increase in public spending, especially after 2010. In addition to the current situation in the reduction of public deficits and the structural decrease in primary obligations during the encouraging effect of some low-rate taxes has a significant impact on the increase in public expenditures. In addition, it is an essential public expenditure variability to say that each fiscal and monetary expansion implementation create different effects of change and significantly increases the impact of interest rates [4]. However, it is observed that the macro-dynamics in the composition of public expenditures enter into different processes, especially in the design of variability. Public expenditures reveal an essential difference in the current approach, especially towards investment expenditures. The recent tendency of total spending to decrease and this tendency to show differences according to the development gap and indebtedness level of the countries is seen as one of the most important reasons for the countries within the scope of the EU to face the phenomenon of monetary expansion. The fact that investment expenditures predominantly need monetary expansion in countries with high debt as a ratio of GDP is a phenomenon beyond ordinary monetary policy as a monetary expansion phenomenon in the EU [5]. In addition to countries with a medium debt burden, it can be said that the decline in investment expenditures primarily reveals investment expenditure stagnation in social expenditures as primary public expenditures. However, regardless of the level and angle, it is seen that the increase in public spending is in a higher trend as a proportion of GDP in highly indebted countries, and the EU average in monetary expansion inevitably rises [6].

LITERATURE REVIEW

It is possible to talk about many studies conducted in the previous years and today, which put forth the phenomenon of monetary expansion in the EU and its possible structural effects. However, critical institutional studies, directly related to our subject and primarily focused on

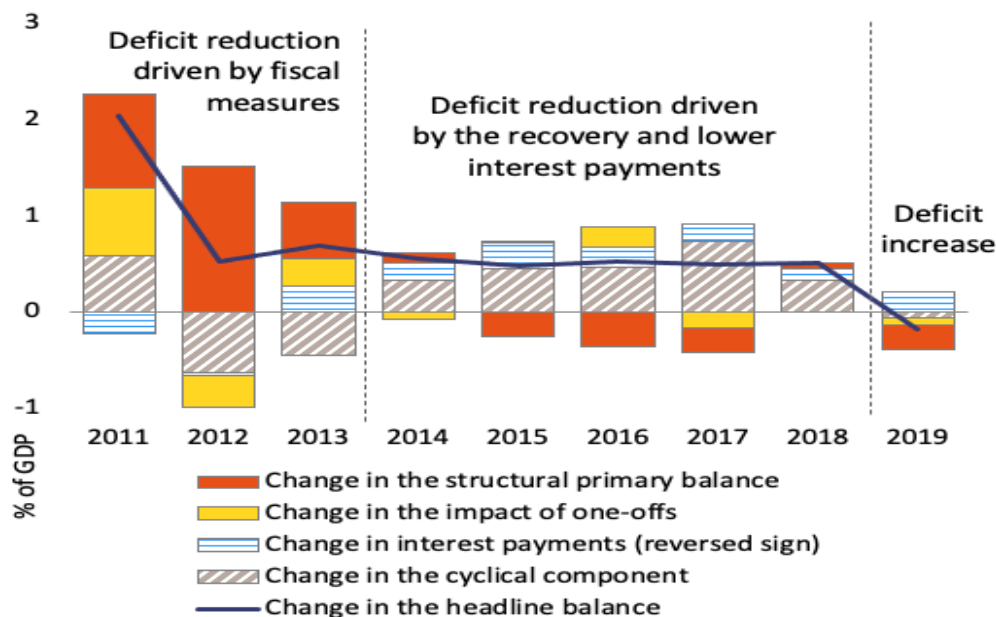
economic growth, provide an essential resource for our research and have been entirely meaningful. We can list some of these critical studies, which also contributed to our research, in chronological order as below:

- ✓ First, in this report prepared by the European Central Bank [7] which is the named study 1999 to 2010 Monthly Bulletin, the liquidity effect of monetary expansion is discussed. This study has emphasised the importance of the standard money supply increase criteria for the central bank policies.
- ✓ In the following years, there is a report prepared again by the ECB [8] under the Convergence Report for the next ten years, covering the period after 2000. This report determined the control and impact values of the monetary expansion targets.
- ✓ In the study on “Monetary and Exchange Rate Arrangements of the Euro Area” by the ECB [9] and covering thirty EU countries, we see the study in which the monetary expansion phenomenon is handled with mutual exchange rate effects and the effect valuation is done.
- ✓ The existence of monetary liquidity variability in the study, which is published as a monthly bulletin by the ECB [10] the last ten years of EU countries was discussed in terms of the economic base, and the necessity of a controlled monetary policy in the process was emphasised.
- ✓ Besides, the bulletin that was issued as a monthly bulletin and as a special edition by the ECB [11], is meaningful for 2008 and next. In the monthly publication named “One Monetary Policy and Many Fiscal Policies”, we see that monetary increases require a softer upward trend for the EU. The emphasised was the monetary expansion fact that the currency change phenomenon must be compatible with global cost equivalence, which is significant and meaningful.
- ✓ In another monthly bulletin named “Rotation of Voting Rights in the Governing Council of the ECB”, by the ECB [12], it is clearly stated that the political preferences and rights of EU member countries in using the Euro come to the fore and that EU countries may have different exchange rate assessments in terms of monetary scope is seen.
- ✓ Also, ECB [13], “The ECB’s Relations with European Union Institutions and Bodies – Trends and Prospects” is the monthly newsletter, we watch that monetary expansion brings corporate infrastructure needs to the fore.
- ✓ One of the most critical current studies on the phenomenon of financial development in the European Union is the study by the European Central Bank-ECB [14]. In the study, in which the effects of monetary fiscal expansion on economic growth, especially for the economic development targets of the EU, were analysed based on policies, it was tried to determine the scale effect of fiscal expansion in particular.
- ✓ Another recent critical study is the study conducted and published by the European Commission [15]. The recommendation in this critical study, titled Council Recommendation on The Economic Policy of the Euro Area by, emphasises the effects of possible monetary expansions in the EU in the past years, and essential determinations and suggestions are made for the following years.
- ✓ Another recent critical study named The European Union: Questions and Answers was put forth by the Congressional Research Service [16], which includes crucial approaches to monetary expansion in the EU. In this study, determining the differences in the impact of the budgetary increase on economic growth in developing economies and the different financial effect values have an important place in this study for EU. And also, the possible global effects of financial growth for the EU have been discussed and a

comparison is made in terms of exchange costs with a potential future “Dollarization” process.

IMPACT FACTORS OF MONETARY EXPANSIONS AND POSITION OF THE MONETARY EXPANSIONS UNDER EU

Undoubtedly, one of the most important effects and features of monetary expansion in the EU is the budget deficits from the sources of financial measures that institutions have faced. In this sense, the values reflected in the markets of the changes in the cyclical effect level of the financial components related to public debt conversion have an essential place. In this context, it should emphasize that the inclusion of deficit increases and variability in our model, especially based on real monetary values, as the public macro amount paid, has an essential place in our study [17]. However, the significant structure, in which differences in economic growth trend values create different scale effects and open values in these countries, reveals the structural reasons for monetary expansion. At the same time, it is understood that this typical value deviation impacts the expansion of financial balances, especially in new spending procedures, in measuring the components of debt-based variability [18]. The fact that the estimated economic growth trends of the countries are inconsistent with the structural country balances can be considered as an effect of the monetary expansion in financing the budget deficits that occur with the emergence of new public expenditure trends. In this context, it is seen that it is more important to know what value a natural monetary expansion policy has, especially at the structural level, and whether they have a negative effect. In chart one below, it is possible to monitor the effect relationship of exchange values, which may affect a reformist monetary process, and with which deviations the scale effect on deficits takes place in the process within EU countries.



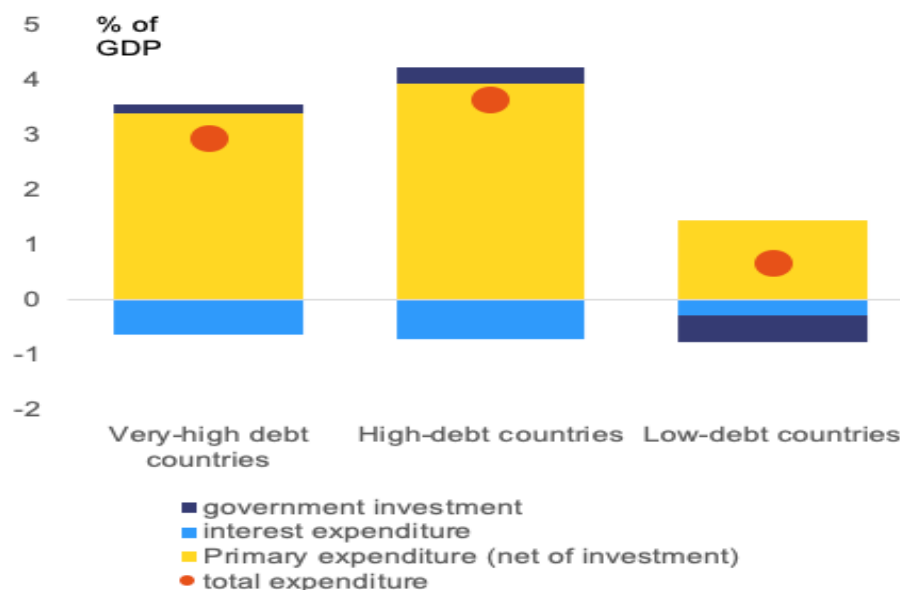
Source: VOX^{EU}/CEPR (2020), *Reforming the EU Fiscal Framework: Now is the Time*, <https://voxeu.org/article/reforming-eu-fiscal-framework-now-time> (Accessed May, 30.2022). [25]

Graphic 1. The Variable Position of Macro Dynamics Influencing

Monetary Expansion in the EU

It should emphasize that one of the critical features of the monetary expansion phenomenon within the scope of the EU is the development gap of the countries [19]. In other words, when we classify the development differences of the countries according to their liabilities as countries with high debt, countries with medium debt and countries with low debt, the effects of public expenditures that because monetary expansion are directly related to investment and interest increases.

This fact is especially on the front in high debt countries as equivalent to increasing public expenditures that accepted the course of monetary expansion [20]. Should be emphasized that there is at the same time, it is possible to say that the high development goals of the countries that represent the emerging economies are effective in the emergence of the needs and increases in different countries as investments in the primary expenditures within the countries. In this respect, the phenomenon of monetary expansion shows a different-fluctuating trend within the scope of the EU and reveals that countries with very high and high debt obligations bring their monetary expansion limits closer to each other. In the graphic 2 below, it is possible to see the real change trends of the changes in the composition of public expenditures, which primarily cause monetary expansion, from 2019 to 2020:



Source: VOX^{EU}/CEPR (2020), *Reforming the EU Fiscal Framework: Now is the Time*, <https://voxeu.org/article/reforming-eu-fiscal-framework-now-time> (Accessed May, 30.2022). [25].

Graphic 2. Composition and Distribution of Public Expenditures

Causing Monetary Expansion in the EU (2019-2020)

As shown in Graph 2 above, the increasing trend of public expenditures in EU countries occurs with different compositions and means other monetary expansions in related EU countries. In terms of our study, this structural reality is meant to emphasize this phenomenon by considering it as average EU values and that monetary expansion emerges in a structure equivalent to financial infrastructure expansion. Each increase in the monetary base, which supports monetary growth as a whole of real financial transactions, has been transformed into

sectoral investments, especially as loans and subsidies, which has caused the monetary expansion to grow even if the record is in money [21]. This significance also expresses the infrastructure of a structural expansion focused on economic growth, which is separated from different monetary expansion trends.

This infrastructure also means that financial institutions such as banks provide sectoral financial development according to the structural relations in public cooperation, and this financial expansion creates different impact values at different values. In this sense, the real effect level of evaluating the monetary expansion phenomenon over the national income values within the scope of the EU made it necessary to evaluate it in different periods, especially as an econometric panel model. This evaluation process requires the comparison of the increase in the effect values to the national income within each 5- or 6-year period within the post-2000 economic trend with the monetary expansion phenomenon and to compare this comparison.

Besides, an economic effect value of the economic investments together with the ground same time the lower real economic conflicts within each other intended to these macro variations occurred has accepted as reason monetary expansion in the last period. It also necessitated understanding that growth is equivalent to the mutual monetary expansion within the scope of investments and interest rates and the cost functions of monetary use. In this respect, EU countries necessitated that every economic expansion phenomenon that can be handled at different levels should be evaluated as a common global monetary expansion [22]. The global contribution value should be understood as an average value rather than considering each country individually. Undoubtedly, the dependent variable here is the phenomenon of monetary expansion. Comparing the phenomenon of monetary expansion with interest rates, which are the use-value of money, increases in investments, national income equivalent values and possible population growth as independent variables means understanding the increase in public expenditures and the actual criteria effects. This structural change phenomenon, as a result, made it inevitable to consider all independent effect values of monetary expansion as scale effects in short periods to reveal more meaningful actual results [23].

EMPIRICAL MODEL APPROACH

Two different regression analysis methods were applied within the framework of the empirical model approach. Three various equation analyses with structural relations with each other were preferred in the panel data analysis as primary. In addition, the data related to the study in question, the regression relationship within the scope of ARDL–Auto-Regressive Distributed Models (2,0,1,0,3) - application were analysed, and evaluated the findings as a result of four different equations.

In this framework, it was considered to test the average priority values of each country by viewing the panel data series, especially within the European Union countries, and a regressive self-control test was aimed at determining the mutual correlation effects. In other words, the interaction of different values with different fixed coefficient values was tested to determine the empirical results. In this sense, it was found significant to decide on the results of a simple regression model in panel data analysis. First of all, it is possible to write the model expansions of the panel data regression approach as follows:

$$Y_i = \beta_0 + \beta_1 X_i + \beta_2 \hat{Y}_i^2 + \beta_3 \hat{Y}_i^3 + u_i \dots\dots\dots(1)$$

$$Y_{it} = a_{it} + \beta_{2it} X_{2it} + \dots\dots\dots \beta_{kit} X_{kit} + u_{it} \dots\dots\dots(2)$$

$$Y_{it} = a_{it} + \sum_{k=2}^K \beta_{kit} X_{kit} + u_{it} \dots\dots\dots(3)$$

Besides, it is possible to write our regression equation for the relevant time series model for ARDL –Auto-Regressive Distributed Models- regression equation as below:

$$\Delta y_t = c_0 + c_1 t + \pi_{yy} y_{t-1} + \pi_{yx.x} x_{t-1} + \sum_{i=1}^{p-1} \psi_i \Delta z_{t-i} + \omega' \Delta x_t + \theta w_t + u_t \dots\dots\dots(4)$$

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

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

The meanings of the dependent and independent variables we use in the models within the scope of the used regression equations are as follows:

Table 1. Meanings Modelling of Dependent and Independent Components in The Econometric Model

MEP	Change in Real Money Balances
INVSTM	Average Changes in Investment Rates to GDP
GOV_EXP	Average Government Expenditures to GDP
INTRS	Average Interest Rates Variability to GDP
GDP	Changes Rates of GDP as per cent

In this context, it is possible to shape the regression in panel data analysis and a structural equivalent expansion, which can be considered equivalent for ARDL analysis, as a structural estimation model as follows:

Estimation Equation:

$$\begin{aligned} \ln MEP = & + C(1) * \ln MEP(-1) + C(2) * \ln MEP(-2) \\ & + C(3) * \ln GOV_EXP(-1) + C(4) * \ln GOV_EXP(-2) \\ & + C(5) * \ln INVSTM(-1) + C(6) * \ln INVSTM(-2) \\ & + C(7) * \ln INTRS(-1) + C(8) * \ln INTRS(-2) + C(9) * \ln INTRS(-3) \\ & + C(10) * \ln GDP + C(11) * \ln GDP(-1) + C(12) * \ln GDP(-2) + C(13) * \ln GDP(-3) \\ & + C(14) \end{aligned}$$

Unit Root tests were carried out to ensure the validity of the structural prediction equations created separately for panel data analysis and the ARDL model, primarily to ensure the

stationarity of all series. In determining the stationarity of all series, the Phillips-Perron test approach was especially preferred.

The series used in the Philips-Perron preference were used in the model by taking logarithmic values stationary test over logarithmic values gave healthier results. In addition to all these, more meaningful results with T-statistics values to prevent possible deviations have revealed meaningful data for the significance of probability values.

On the other hand, it was aimed to put forth to test and ensure the stationarity by taking the "Primary Differences" of all the series to give more meaningful results from the Unit Root tests. To ensure stationarity, probabilistic values were examined in two groups, and creating the following Table 2 was tested all unit root tests of the Philips-Perron test below:

Phillips-Perron Test Analitically [24]

$$\tau_{\delta} = t_{\delta} \left(\frac{\gamma_0}{f_0} \right)^{1/2} - \frac{T(f_0 - \gamma_0)(se(\hat{\delta}))}{2f_0^{1/2}s} \dots\dots\dots(5)$$

Table 2. Testing the Stability of Variables in the Model: Unit Root Analysis

Variables	Phillips-Perron Test Statistic			
	Fixed Values		First Differences	
	T-Statistic	Test Critical Values*	T-Statistic	Test Critical Values*
lnMEP	-2.314549	-2.453943	-6.415974	-2.425567
lnINVSTM	-0.865296	-2.404289	-6.268727	-2.406389
lnGOV_EXP	-1.973026	-2.403267	-46.269473	-2.542228
lnINTRS	-1.373440	-2.403269	-4.397167	-2.527843
lnGDP	-2.149938	-2.488659	-16.545485	-2.527328

In addition, it was found significant to present and compare the results of the summary stationarity results in the other tests supporting the Phillips-Perron stationarity test in the following Table 3 in terms of revealing the probability values of the unit root tests in a meaningful way. It is more meaningful to consider budget deficits as public deficits in EU countries with different management processes, apart from considering them only as central government members. In this context, it is more significant to discuss a balance in which interest rate volatility regarding public deficits and structural priority budget balances come to the fore. Among the EU countries, the open positions of the countries accepted as EU members in the last ten years have created an impressive standard value deviation based on the core countries of the EU.

The number of observers (n) was included in Table 3 from 2000 to 2019, it is observed that each T-statistical value, in which the dependent and independent variables were handled with

different methods, was significant. The fact is that more important the Fisher Chi-square value put forth at the "130.678" scale demonstrates the meaningful accuracy of the model:

Table 3. Group Unit Root Test: Summary*

Series**: MEP; INVSTM; GOV_EXP; INTRS; GDP Sample: 2000-2019						
Method	Statistic		Prob.**	Sections	Obs	Prob.**
Im, Pesaran and Shin W-stat	-11.6701		0.0001	3	123	0.0002
Levin, Lin & Chu t*	-16.7923		0.0040	3	123	0.0008
PP - Fisher Chi-square	131.678		0.0030	3	123	0.0010
Coefficient (Phillips-Perron)***	-0.38260 (-0.328) ^t	-0.38260 (-1.128) ^t	-0.38260 (-1.974) ^t	-0.382602 (-0.695) ^t	-0.38260 (-1.543) ^t	0.0000

* Automatic lag length selection based on SIC: 0 to 1 Unit root (assumes common unit root process)

** All tests assume asymptotic normality

*** Standard deviations in bracketed (t)

EMPIRICAL FINDINGS

Your determinations regarding our model, primarily within the framework of the panel data model, were created in response to the four-panel data equations and based on the constant value variables of each scale value, the mean scale values of the average fixed continuous independent variables and the effect values on the dependent variable were determined. In determining these effect values, it is seen that the average investment variability has a positive effect, and its positive effect on the monetary expansion phenomenon, especially in the short and medium-term, is more prominent. Still, it is seen that it is far from the desired level of monetary expansion effect. Table 4 below shows the scale effects of the independent variables on the dependent variable:

Table 4. Effect Scales of Independent Variables on Monetary Expansion

Independent Variables								
Equation Number	Constant	Average Changes in Investment Rates*	Average Government Expenditures*	Average Interest Rates Variability*	Changes Rates of GDP*	N	R ²	F-Statistic
1**	-1.57390 (0.02649)	0.12588 (3.59249)	0.45390 (1.46404)	1.39464 (0.35387)	1.54764 (0.6582)	73	0.345	3.537 (1.365)
2**	-4.84539 (0.43985)	1.13306 (1.63432)	0.43839 (2.18465)	-0.36383 (0.53984)	0.94364 (0.5489)	73	0.529	3.549 (2.173)
3**	-6.39782 (1.38258)	0.48731 (2.76503)	1.48309 (0.35394)	0.76965 (0.47849)	0.64874 (0.5437)	73	0.674	3.594 (1.536)
4**	-3.73971 (0.59737)	0.45282 (1.47397)	0.36393 (0.35396)	1.55945 (0.43846)	0.83543 (0.4339)	73	0.297	3.667 (1.947)

* As a percent of GDP

** Significant at 5 percent level.

*** Dependent Variable: Monetary Expansion (lnMEP)

As seen in Table 4 above reveals the situation that actual monetary expansion limits, which are the dependent variable, are particularly positively affected, then average investment limits have a positive effect. It appears that the proportional variability in interest rates, as an independent variable, has a significant impact, especially on monetary expansion in the short run. It is clear that each interest rate variability in a short-term structure creates a scale effect over "1.39464" in the short term on the phenomenon of monetary expansion but creates a negative value such as "-0.36383" in the following years. On the other hand, the expression, especially in the average values of government expenditures, again revealed a positive scale effect.

Again, it is seen that the volatility of interest rates affected the monetary expansion in the subsequent periods, albeit small, with a positive value of "0.76965", and this positive value continued to increase "to 1.55945". Another thing that can be said about this is the positive effect values in the average public expenditure variability analysis. While the real variability in public expenditures reveals a scale effect of approximately "0.4539" on the monetary expansion limits as a result of increasing public expenditures in the short term, its unchanging positive effect continues for other years in the short term, and in the medium term, the increase in average public expenditures increases at each level. The scale effect of the unit increase on monetary expansion increases further and becomes "1.48309".

This effect can be explained by the fact that this effect returned to its former position in the following periods and that the public expenditures effect of monetary expansion was mostly concentrated in production measures. When we look at the national income variability in our observation points, it is clear that each unit increase in national income, especially on the monetary expansion phenomenon, creates a significant positive increase effect such as "1.54764" on monetary expansion. It means that the fact positively manipulates the monetary demand. Afterwards, he reveals that a one-unit increase in national income values creates a positive monetary expansion with values such as "0.94364" and 0.83543, in the structural flow of the medium term, especially on monetary expansion. The persistence of constant-coefficient

negative values can be explained by the higher probability value of possible deviations related to monetary deviations, especially in the case of short-term and medium-term monetary expansion.

The fact that the monetary expansion models related to the EU have experienced a monetary deviation value that is far from investment values and can be explained by economic crisis models reveals that it has moved away from the effect of economic growth simultaneously. The costs for investments related to interest rates are affected by interest rates in the same way in the medium and long terms, and the phenomenon of monetary expansion in parallel with increasing interest rates reveals a very high negative effect of monetary expansion in meeting increasing interest rates. Especially in the medium and long term, the fact that each unit increases interest rates creates a very high negative scale effect, about seven times, on the monetary expansion rates also reveals the fact that the monetary expansion phenomenon is an application aimed at meeting the interest. In addition, when Table 5, which was created according to the following ARDL model outputs, is examined, it is possible to see the existence of scale effects that confirm the values in Table 4 and can be considered equivalent; in other words, the scale effects of the independent variables determined by the ARDL model on the dependent variable is below:

Table 5. The Short-Term Distribution of Periodic Impact Criteria on The Variables**

Variable*	Coefficient	Std. Error	t-Statistic	Prob.*
LnMEP _(Δt-1)	0.234980	0.026273	1.547648	0.0044
LnMEP _(Δt-2)	-0.836982	0.285950	-2.547959	0.0012
LnGOV_EXP _(Δt-1)	0.243934	0.303746	1.895640	0.0004
LnGOV_EXP _(Δt-2)	-3.31E-04	2.4E-083	-2.085554	0.0097
LnINVSTM _(Δt-1)	-6.89E-07	4.18E-51	-2.435439	0.0124
LnINVSTM _(Δt-2)	-0.643362	0.654364	-0.454649	0.0045
LnINTRS _(Δt-1)	-1.436393	0.854647	-1.546499	0.0027
LnINTRS _(Δt-2)	-0.677129	0.463842	-2.554797	0.0023
LnINTRS _(Δt-3)	-7.398357	-2.543648	-2.545481	0.0055
LnGDP	0.353831	0.364758	-1.543538	0.2355
LnGDP _(Δt-1)	-0.373920	0.953648	-2.435384	0.0022
LnGDP _(Δt-2)	-0.002538	0.373891	-0.865592	0.0281
LnGDP _(Δt-3)	-0.943638	0.643538	-1.548085	0.0198
CointEq(-1)***	-1.550548	0.548329	-4.337395	0.0000
R-squared	0.635389		Prob.	0.00009
Adjusted R-squared	0.716879		F-statistic	6.64849

* **Sample (adjusted): 2000-2019, as array series values taken as a percentage of GDP.**

** **Selected Model: ARDL (2, 0, 1, 0, 3), Maximum dependent lags: 4.**

As seen in Table 5 above, we can say that the effect values of the dependent and independent variables, whose logarithms are taken, form a meaningful sequence and give significant results, especially with the probability values less than "0.005". The significance of the periodic

differences in the practical value of the independent variables can be seen as the probability values related to this, and the R-squared 63 per cent value of "0.635389" are exceptionally high. This is a significant criterion that meaningfully expresses values for R-square. However, it is also understood that the deviations in the effect values of the dependent variable, primarily the real monetary expansion phenomenon, between the current and previous periods are close to each other, positively and negatively, with entirely different values. The effect values of these deviations on statistical values reveal differences in terms of contrasts, especially on investment expenditures. Each of them indicates a situation in which investment variability is affected more negatively in this regard. $\ln INTRS(\Delta t-1)(\Delta t-2)(\Delta t-3)$: "-1.436393", "-0.677129", "-7.398357" for the increases in the real money limits of interest rate variability for the previous situation the next situation is meaningful.

On the other hand, the periodic differences of the increases in public expenditures concerning the previous period are $\ln GOV_EXP(\Delta t-1)$: "0.243934" and $\ln GOV_EXP(\Delta t-2)$: "-3.31E-04", revealing that the deviations on the real money increases in the previous period experienced a more significant negative variation. This criterion has been affected by the average inflation value and the interest rates as significant deviations. The effects of current monetary increases in national income values is that $\ln GDP$ "0.353831", and then for previous periods it is significant that $\ln GDP (\Delta t-1)$ "-0.373920", $\ln GDP (\Delta t-2)$ "-0.002538", and $\ln GDP (\Delta t-3)$ "-0.943638" is meaningful. Each unit of change in national income is understood that it has a negative effect on monetary expansion, and therefore, it has a negative impact on interest rates with its negative effect values. It is observed that each scale effect in interest rates in previous years creates a higher negative effect in the following periods, as each unit increase in interest rates creates "-1.436393", "-0.677129" and "-7.398357" effects on the actual monetary expansion phenomenon. The deviations in monetary purchasing can be explained by the fact that the effect values of the phenomenon cause a lower real monetary effect due to current inflation.

CONCLUSION

It is observed that different structural macro effects occur in the post-2000 period when the monetary expansion phenomenon is considered as an average increase in the EU. Within the scope of the critical, independent variables affecting monetary expansion, it has been seen that the effect of interest rate variability and the increase in investment rates on monetary expansion is quite significant. It is clear that the monetary expansion phenomenon also creates different effect values as a proportional value of the national income in expressing the phenomenon of monetary expansion in real terms. The increase in national income especially affects the monetary expansion phenomenon in parallel with these increases. When compared with the R-square values that can be considered between 2000 and 2019, it is clear that the significance values of the findings are at a moderate level.

In the process where the monetary expansion phenomenon based on average public expenditures is handled, it is possible to talk about a lower effect level of the monetary expansion phenomenon in parallel with the increase in public spending. It appears that the monetary expansion phenomenon is affected by public expenditures at a low rate in the short term. Still, in parallel with the increasing public spending in the medium term, the monetary expansion phenomenon is affected by these increases with a higher and significant value. It is revealed that any monetary value increase that can be handled within the scope of the EU

affects financial matters positively, especially in terms of macro values. Still, apart from this positive effect, it is also negatively affected by the national income as a result of the fact that the national income is far from investments that can create a growth effect.

In other words, it becomes clear that the effect of the increases in government expenditures in the past period and the monetary expansion limits of each unit increase showed a higher deviation in the past periods as a scale effect and that the impact of a current period. Accordingly, the fact that each monetary increase amount is less affected by the average investment values resulted in the national income being negatively affected by the increasing effect. This negative height, which is also caused by the development difference of the countries in the EU, shows that the public expenditures of the countries for investments are highly affected by the costs arising based on interest rates. In other words, the interest rates reveal a higher negative investment process with a severe cost effect on investments. This negative scale effect reveals a higher level of significant investment bias in the medium and long run. In addition, when this formation is evaluated in terms of error coefficient and probability values, it also reveals a negative estimation process that makes it meaningful to create lower investment margins for the future based on all equivalences within the scope of panel data equivalence.

References

- [1] Beyer, A., Nicoletti, G., Papadopoulou, N., Papsdorf, P., Rünstler, G., Schwarz, C., Sousa, J. and Vergote, O. (2017), *The Transmission Channels of Monetary, Macro- and Microprudential Policies and Their Interrelations*, European Central Bank Occasional Paper Series No 191 / May 2017, Frankfurt am Main: European Central Bank, 2017.
- [2] Kirchner, M., Cimadomo, J. and Hauptmeier, S. (2010), *Transmission of Government Spending Shocks in The Euro Area Time Variation and Driving Forces*, European Central Bank Working Paper Series No 1219 / July 2010, Frankfurt am Main: European Central Bank, 2010.
- [3] ECB (2021), *Work Stream on Monetary-Fiscal Policy Interactions: Monetary-Fiscal Policy Interactions in The Euro Area*, European Central Bank-ECB No 273 / September 2021, Frankfurt am Main: European Central Bank (ECB), 2021.
- [4] Banco de España (2022), *The European Central Bank's New Monetary Policy Strategy*, Anuario del euro 2022/2022 Euro Year Book 17 February 2022, Barcelona: Banco de España Communication Department (2022).
- [5] Eurostat (2010), *GDP & Beyond Focus on Measuring Economic Development and Well-Being*, Sigma The Bulletin of European Statistics, Frankfurt am Main: Eurostat, 2010.
- [6] European Commission (2020), *Debt Sustainability Monitor-2020*, Institutional Paper 143 / February 2021, Brussels: European Commission, 2020.
- [7] ECB (1999), *Annual Report 1999 to 2010*, Frankfurt am Main: European Central Bank (ECB), 1999.
- [8] ECB (2000), *Convergence Report 2000 to 2010*, Frankfurt am Main: European Central Bank (ECB), 2000.
- [9] ECB (2006), *Monetary and Exchange Rate Arrangements of the Euro Area with Selected Third Countries and Territories*, Monthly Bulletin, April 2006, Frankfurt am Main: European Central Bank (ECB), 2006.
- [10] ECB (2008), *Monthly Bulletin – 10th anniversary of the ECB*, special edition, May, Frankfurt am Main: European Central Bank (ECB), 2008.
- [11] ECB (2008), *One Monetary Policy and Many Fiscal Policies – Ensuring A Smooth Functioning of EMU*, Monthly Bulletin, July 2008, Frankfurt am Main: European Central Bank (ECB), 2008.
- [12] ECB (2009), *Rotation of Voting Rights in The Governing Council of The ECB*, Monthly Bulletin, July 2009, Frankfurt am Main: European Central Bank (ECB), 2009.

- [13] ECB (2010), *The ECB's Relations with European Union Institutions and Bodies – Trends and Prospects*, Monthly Bulletin, January 2010, Frankfurt am Main: European Central Bank (ECB), 2010.
- [14] ECB (2011), *The Monetary Policy of the ECB*, Frankfurt am Main: European Central Bank (ECB) Publications, 2011.
- [15] European Commission (2021), *Recommendation for A Council Recommendation on The Economic Policy of The Euro Area*, Brussels, 24.11.2021 COM (2021) 742 final, Brussels: European Commission, 2021.
- [16] Congressional Research Service (2022), *The European Union: Questions and Answers*, Search CRS Reports-RS21372, Washington D.C.: Congressional Research Service Publications, 2022.
- [17] Badia, M. M., Arbelaez, J. G. and Xiang, Y. (2021), *Debt Dynamics in Emerging and Developing Economies: Is R-G a Red Herring?*, IMF Working Paper WP/21/229, Washington D.C.: International Monetary Fund (IMF) Fiscal Affairs Department, 2021.
- [18] Baltzer, M., Capiello, L., Santis, R. A. De and Manganelli, S. (2008), *Measuring Financial Integration in New EU Member States*, European Central Bank Occasional Paper Series No.81 / March 2008, Frankfurt am Main: European Central Bank (ECB), 2008.
- [19] ECB (2018), *Real and Financial Cycles in EU Countries: Stylised Facts and Modelling Implications*, European Central Bank (ECB) Occasional Paper Series No 205 / January 2018, Frankfurt am Main: European Central Bank (ECB), 2018.
- [20] European Commission (2008), *Government Expenditure and Economic Growth in The EU: Long-Run Tendencies and Short-Term Adjustment*, Economic Paper 300 / February 2008, Brussels: European Commission, 2008.
- [21] ECB (2022), *Financial Integration and Structure in the Euro Area*, ECB Committee on Financial Integration April 2022, Frankfurt am Main: European Central Bank (ECB) Committee on Financial Integration, 2022.
- [22] Cantú, C., Cavallino, P., Fiore, F. D. and Yetman, J. (2021), *A Global Database on Central Banks' Monetary Responses to Covid-19*, Bank for International Settlements (BIS) Working Papers No 934, Basel: Bank for International Settlements (BIS), 2021.
- [23] IMF (2017), *Back to Basics: Economic Concepts Explained*, Washington D.C.: International Monetary Fund (IMF), 2017.
- [24] EViews (2021), *Unit Root Testing*, in *User's Guide: Advanced Univariate Analysis: Univariate Time Series Analysis: Unit Root Testing*, 2021. http://www.eviews.com/help/helpintro.html#page/content/advtimeser-Unit_Root_Testing.html (Accessed Jun, 02.2021).
- [25] VOX^{EU}/CEPR (2020), *Reforming the EU Fiscal Framework: Now is the Time*, <https://voxeu.org/article/reforming-eu-fiscal-framework-now-time> (Accessed May, 30.2022).