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Role of Macroeconomic Indicators in Uganda's Food Price Inflation: A VECM Approach

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Abstract

This study was conducted to empirically examine the potential impact of macroeconomic indicators such as exchange rate, GDP, money supply, and food exports on Uganda's food price movements. The study employed the Johansen cointegration analysis and VEC model using quarterly data from 2000Q1 to 2022Q1. The outcomes of the analysis show that all variables are positive and statistically significant in influencing food prices in the long run except GDP which was negative and significant. However, in the short run, only GDP and the lag of food CPI were significant and influenced food prices positively. Based on the variance decomposition analysis and the very low R-squared value (0.2493), one may conclude that food prices in Uganda are greatly influenced by factors other than macroeconomic indicators. These factors include changes in the weather pattern which lead to low food supplies, price transmission effects of rising food and fuel prices in the international markets, increased domestic food demand, and higher costs of imported production inputs. Therefore, while it is necessary to recognize the role of macroeconomic indicators in Uganda's food price movements, it is equally important to emphasize the role played by these other factors in determining food prices in Uganda for effective policy implementation.

Keywords: *Macroeconomic indicators, food price inflation, unit root, VECM, Johansen cointegration*

1. Introduction

The rise in food prices has received much attention throughout the world, especially after the global food price crisis of 2007-08, and the current impact of the COVID-19 pandemic. According to data presented by the Food and Agriculture Organization (FAO), prices of food commodities on world markets increased slowly at the beginning of the 2000s and then reached alarmingly high levels from 2006 to the middle of 2008 (see Figure 1.). From late 2010, food prices have been relatively stable up to early 2020, when food prices have increased significantly. This increase is attributed to the effects of the COVID-19 pandemic (FAO, 2023; WFP, 2022). It is also worth noting that a drastic increase in global food prices is observed from February 2022 to March 2022, when global food prices increased at a whacking rate of 12.64%. This increase is attributed to the impact of Russia's invasion of Ukraine (FAO, 2022). Indexing Uganda and the world food price series to a common November 2016 base produces Figure 1, which shows the monthly trends in food prices in Uganda and the world from January 2000 to March 2023 (FAO, 2023). In addition to the COVID-19 pandemic and the Russia-Ukraine war as drivers of the increasing global food prices (FAO, 2022; WFP, 2022), the following factors have also been cited as playing a role in inducing increases in global food prices. Droughts in major producing countries, increased feedstock use in the production of biofuels, rapidly rising oil prices leading to an increase in the production and processing costs, expanding populations, underfunding of agriculture (Abbott & Borot de Battisti, 2011; Mawejje, 2016; Mbowa, Mawejje, & Kasirye, 2012; Simler, 2010), sudden and periodic increase in food demand, increase in people's incomes, and changes in consumer preferences (Banse, Nowicki, & van Meijl, 2008).

Regarding food prices in Uganda, Figure 1. shows that the first spell of the rise in food prices in Uganda occurred in the middle of 2009. The situation eased off in 2010. However, since the beginning of 2011, food prices have been on the rise, though moderately. This rise has been linked to the following factors: Firstly, low supplies to markets due to extreme changes in the weather pattern that has led to long dry spells in some regions of the country and floods in other regions (Mbowa et al., 2012). Secondly, the price transmission effects of rising food and fuel prices in the international markets affect the production and transportation costs of food items in domestic markets (Benson, Mugarura, & Wanda, 2008; Mbowa et al., 2012). Finally, the recent increases have been attributed to increased domestic food demand, higher costs of imported production inputs, and trade disruptions as a result of the Russia-Ukraine war (FEWSNET, 2022a).

Figure 1: Trend of food prices in Uganda and the world from 2000 to March 2023
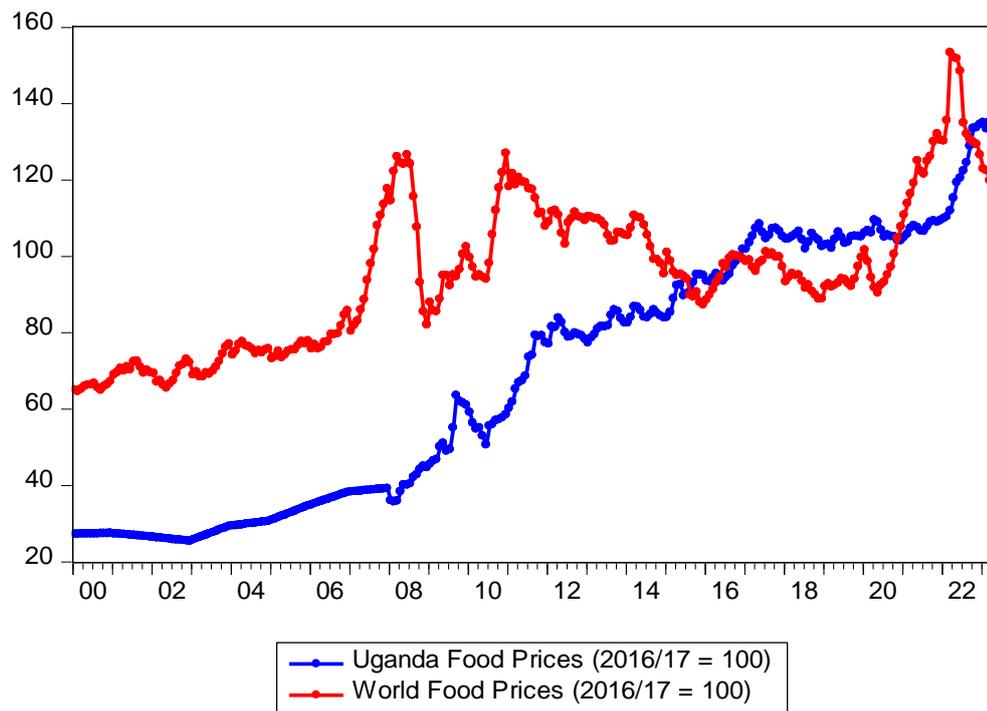
Source: FAO (2023) and UBOS (2023)

2. Literature Review

Although several studies have reported the aforementioned factors as the primary drivers of food price movements in Uganda, there is also a wide range of evidence that suggests that macroeconomic indicators play a role in influencing domestic food prices. Several authors have attempted to analyze the relationship between macroeconomic indicators such as Gross Domestic Product (GDP), per capita income, money supply, exchange rates, food imports and exports, and food price movements, using different econometric approaches. The following section presents a review of the available literature on the impact of these factors on food prices.

Baek & Koo (2010) used Johansen's Co-integration technique and Vector Error Correction Model (VECM) to analyze the long-run and short-run effects of energy and agricultural commodities prices, and exchange rate on U.S. food prices. Results revealed that the agricultural commodity prices and exchange rate played key roles in determining the short and long-run movement of U.S. food prices. In contrast, energy prices affected food prices in the long run but had little effect in the short run. Azeem, Munawwar, & Mushtaq (2012), Abdullah & Kalim (2012), and Rehman & Khan (2015) used the same approach to determine the main determinants of food price inflation in Pakistan.

Azeem et al. (2012) concluded that per capita income had a positive and statistically significant effect, the crude oil price had a positive but statistically insignificant effect, while money supply and wheat support prices had a negative effect on food prices in the long run. The lag value of food prices had a positive, while money supply and wheat support prices had a negative effect in the short

run. Abdullah & Kalim (2012)'s results revealed that inflation expectations, per capita GDP, support prices, food imports, and food exports affected food price inflation positively and significantly, while money supply was insignificant in the long run. In the short run, food price inflation was influenced by only inflation expectations, support prices, and food exports. Rehman & Khan (2015) reported that indirect taxes and food exports had positive and significant impacts on food price inflation while government subsidies and GDP had a negative impact in the short run. A long-run relationship was also reported to exist between indirect taxes, food exports, subsidies, and food price inflation.

Similar to Baek & Koo (2010), Haji & Gelaw (2012) and Norazman, Khalid, & Ghani (2018) also employed the VECM approach to examine the determinants of food price inflation in Ethiopia and Malaysia, respectively. Among the factors reported to influence food price inflation in both countries was the continuous depreciation of domestic currencies against the dollar. Qayyum & Sultana (2018) used the simple regression approach to analyze the factors affecting food price inflation in Pakistan. It was concluded that GDP, food exports, and food imports affected food prices positively and significantly while money supply negatively affected food prices.

These studies suggest that macroeconomic indicators play a significant role in influencing domestic food price movements. However, there haven't been any studies conducted to examine the influence of these factors on Uganda's food prices. An attempt is therefore made in this study to empirically examine the potential contribution of these indicators to food price movements in Uganda. This study employs the Johansen co-integration test and a vector error correction (VEC) model. The Johansen approach is used to identify the long-run equilibrium relationships among the variables, while the VEC model provides information on the short-run dynamic adjustment to changes in the variables with the model (Baek & Koo, 2010). The VECM has the following advantages: The model accounts for the deviation of the variables from their long-term equilibrium state under external shocks in the short term. In other words, the VECM not only estimates the long-term equilibrium relationship between variables but also corrects short-term deviation from the long-term equilibrium state. Additionally, the model treats all variables as endogenous to avoid endogeneity problems (Shao, Chen, Zhong, & Weng, 2021).

The remaining sections of the paper are organized as follows. Section 2 describes the data and econometric methodology; Section 3 presents the empirical results and discussion while Section 4 provides the conclusion of the study.

3. Materials and Methods
3.1. Data

Quarterly time series data covering the period from 2000Q1 to 2022Q1 was used in this study. The variables used in this study are presented in Table 1. All variables were transformed into their natural logarithms for the following reasons. One, from a statistical point of view, the logarithmic transformation mitigates fluctuations of individual variables increasing the likelihood of stationarity after first differencing. And two, from an economic point of view, the

logarithmic transformation allows the first differences of the variables to be interpreted as growth rates and coefficients in terms of elasticity (Keho, 2021; Waiswa, 2023b).

Table 1: Variables used

Variables	Symbol	Units of measurement	Data source
Food Consumer Price Index	FCPI	Indexed as 2016/17 =100	Uganda Bureau of Statistics (UBOS)
Exchange Rate	ER	Uganda Shilling (UGX) against the United States dollar (USD)	Bank of Uganda
Food Exports	FExp	Million USD	Bank of Uganda
Gross Domestic Product	GDP	Million USD, 2016/17 Constant prices	UBOS and World Bank
Money Supply	MS	Million USD	Bank of Uganda

3.2. *Model Specification*

Food Consumer Price Index (FCPI) was hypothesized to be a function of Gross Domestic Product (GDP), Exchange Rate (ER), Food Exports (FExp), and Money Supply (MS), as presented below:

$$\ln FCPI_t = \beta_o + \beta_1 \ln GDP_t + \beta_2 \ln ER_t + \beta_3 \ln FExp_t + \beta_4 MS_t + \varepsilon_t \qquad (1)$$

Where, β_o is the intercept, β_1, β_2, β_3, and β_4 are coefficients of their respective variables, and ε_t is the error term.

As far as the expected signs of each coefficient are concerned, β_2 and β_3 are expected to be positive. A depreciation or appreciation of the domestic currency against foreign currencies results in an increase or decrease in the domestic prices of food items (Rangasamy, 2011). An increase in food exports affects domestic supply and increases the demand for food items, causing demand-pull inflation (Qayyum & Sultana, 2018; Rehman & Khan, 2015). β_1 and β_4 could either be negative or positive. GDP growth could imply growth in the agricultural sector as well because the sector contributes a significant share (24%) to Uganda's GDP (UBOS, 2023; Waiswa, 2023a). Growth in the agricultural sector is manifested in the increase in the production of food items to meet the available demand thus leading to a decrease in the general level of food prices. On the other hand, GDP growth could be a sign of growth in income per capita which induces more production, a shift to more value-added products, and a switch from cereals to consumption of animal proteins. The increased demand for animal proteins eventually induces a relatively higher demand for grain and protein feed, which leads to an increase in the general price level of food items (Banse et al., 2008; Matovu & Twimukye, 2009). The available literature also reported mixed results on the relationship between GDP and food price inflation. Rehman & Khan (2015) reported that GDP had a negative impact on food price inflation, while Qayyum & Sultana (2018) reported a positive impact. Money supply induces food price inflation in case the money supply in the economy grows at a rate faster than the growth rate of real GDP, thus leading to a situation where "too much money chases few goods" (Haji & Gelaw, 2012). However, if GDP grows faster than the

money supply in the economy, then a negative relationship between food price inflation and money supply could be obtained.

Analyses were conducted in EViews statistical program version 10. The first step in this study's analysis was to test stationarity and the order of integration of the variables. This was conducted using the Augmented Dickey-Fuller (ADF) (Dickey & Fuller, 1979) and Phillips-Perron (PP) (Phillips & Perron, 1988) unit root tests. The stationarity test was followed by the optimal lag order selection using the VAR lag order selection criteria. The selection was based on the sequential modified LR test statistic (LR), Final prediction error (FPE), Akaike information criterion (AIC), Schwarz information criterion (SC), and Hannan-Quinn information criterion (HQ). The variables were then subjected to co-integration testing to detect the number of co-integration relations. This was conducted using the Johansen co-integration test. This test has the following advantages over other cointegrating tests. One, it avoids the issue of choosing a dependent variable as well as issues created when errors are carried from one step to the next. As such, the test can detect multiple cointegrating vectors and is more appropriate than other cointegration tests for multivariate analysis. Secondly, Johansen's test treats every test variable as an endogenous variable (Abdullah & Kalim, 2012; Shao et al., 2021; Wassell & Saunders, 2000). Johansen's Co-integration test starts with an unrestricted vector autoregression (VAR) involving up to k lags of X_t and can be represented as (Azeem et al., 2012; Baek & Koo, 2010):

$$X_t = \alpha_o + \partial_1 X_{t-1} + \ldots + \partial_k X_{t-k} + \mu_t \qquad (2)$$

where X_t is an (n × 1) vector of endogenous variables that are integrated of order one [I(1)], each of the ∂_k is an (n × n) matrix of parameters; α_o is a vector of constant, and μ_t is the white noise.

The VECM was then constructed as presented in equation 3 to examine the long-run and short-run relationship among the variables.

$$\Delta \ln FCPI_t = \delta_o + \sum_{i=1}^{k-1} \delta_{1i} \Delta \ln FCPI_{t-1} + \sum_{i=1}^{k-1} \delta_{2i} \Delta \ln GDP_{t-1} + \sum_{i=1}^{k-1} \delta_{3i} \Delta \ln ER_{t-1} + \sum_{i=1}^{k-1} \delta_{4i} \Delta \ln FExp_{t-1} + \sum_{i=1}^{k-1} \delta_{5i} \Delta \ln MS_{t-1} + \lambda ECT_{t-1} + \varepsilon_t \qquad (3)$$

Where t-1 represents the previous quarter's value of the respective variable, Δ is the difference operator, δ_o and ε_t are the vector of constant and the error term, respectively. δ_{1i}, δ_{2i}, δ_{3i}, δ_{4i}, and δ_{5i}, are the short-run dynamic coefficients of the model's adjustment long-run equilibrium. λ is the speed of adjustment parameter, its negative sign indicates convergence to the long-run equilibrium while a positive sign indicates divergence from the long-run equilibrium. ECT_{t-1} is the Error Correction Term. It is the lagged value of the residuals obtained from the cointegrating regression of the dependent variable on the regressors. It contains long-run information from the long-run cointegrating relationship.

Finally, the impulse response function was constructed, and variance decomposition was carried out. The impulse response function measures the influence of a standard deviation analysis from a random disturbance term of an endogenous variable on the current and future values of all endogenous variables while the variance decomposition analyzes the contribution of structural impact to the change in endogenous variables (Shao et al., 2021).

4. Results and Discussion

The results of the ADF and PP unit root tests are presented in Table 2. These tests were conducted following Hill, Griffiths, & Lim (2018). The undifferenced series of all variables had a linear trend, thus prompting the use of the test equation with both a constant and a trend. While the differenced series except the exchange rate showed no trend but wandered around a non-zero sample average, thus prompting the use of a test equation with a constant but no trend. The differenced series for exchange rate fluctuated around a zero mean, thus the test equation with neither trend nor constant was adopted. The outcomes of both tests show that the series of all variables were integrated of order 1 [I(1)], i.e., their original logarithmic series were nonstationary, however, they became stationary after taking their first differences. Based on this, the VECM is adopted for analysis in this study.

Table 2: Unit root test results

Variables	Exogenous variable in test equation	Augmented Dickey-Fuller (ADF) test				Phillips-Perron (PP) test			
		Statistic	Critical values (5%)	k	I	Statistic	Critical values (5%)	BW	I
		Series in levels (before differencing)							
LnFCPI	Constant, Linear Trend	-1.4094 (0.8516)	-3.4623	1		-1.2120 (0.9016)	-3.4617	2	
LnER	Constant, Linear Trend	-2.3226 (0.4169)	-3.4677	9		-1.9473 (0.6213)	-3.4617	2	
LnFExp	Constant, Linear Trend	-1.8388 (0.6770)	-3.4642	4		-3.3722 (0.0618)	-3.4617	5	
LnGDP	Constant, Linear Trend	-1.6661 (0.7576)	-3.4642	4		-0.9067 (0.7819)	-2.8947	13	
LnMS	Constant, Linear Trend	-0.3052 (0.9894)	-3.4617	0		-0.42930 (0.9850)	-3.4617	1	
		Differenced series							
ΔLnFCPI	Constant	-6.6197 (0.0000)	-2.8951	0	I(1)	-6.5802 (0.0000)	-2.8951	4	I(1)
ΔLnER	None	-2.0906 (0.0359)	-1.9450	8	I(1)	-6.8583 (0.0000)	-1.9446	6	I(1)
ΔLnFExp	Constant	-9.1186 (0.0000)	-2.8959	2	I(1)	-20.8957 (0.0001)	-2.8951	54	I(1)
ΔLnGDP	Constant	-5.1174 (0.0000)	-2.8963	3	I(1)	-16.8860 (0.0001)	-2.8951	13	I(1)
ΔLnMS	Constant	-7.8136 (0.0000)	-2.8951	0	I(1)	-7.8206 (0.0000)	-2.8951	1	I(1)

Note: Ln denotes logarithms, k denotes lag length, BW denotes Bandwidth, I denote the order of integration, and figures in parentheses are probabilities. The optimal lag structure of the ADF test was chosen based on the Akaike Information Criterion (AIC), while the optimal bandwidth of the PP test was chosen based on the Newey-West Bartlett kernel method. The test critical values are at the 5% level.

Table 3. presents the results of the VAR lag order selection criteria. As can be noted, LR, FPE, and AIC all show that the optimal lag order is 4, while SC and HQ consider 1 to be the most appropriate. Therefore, the lag order was initially selected as 4, with 1 as the other alternative.

Table 3: Optimal lag selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	224.5053	NA	3.05e-09	-5.419885	-5.272080	-5.360584
1	710.0840	899.2197	3.51e-14	-16.79220	-15.90536*	-16.43639*
2	734.5415	42.27231	3.58e-14	-16.77880	-15.15294	-16.12649
3	765.1630	49.14552	3.18e-14	-16.91760	-14.55272	-15.96878
4	809.0727	65.05146*	2.06e-14*	-17.38451*	-14.28060	-16.13918
5	832.3428	31.60142	2.28e-14	-17.34180	-13.49886	-15.79996
6	852.3322	24.67816	2.81e-14	-17.21808	-12.63611	-15.37973
7	872.2793	22.16351	3.62e-14	-17.09332	-11.77232	-14.95846
8	893.3419	20.80256	4.78e-14	-16.99610	-10.93607	-14.56473

Endogenous variables: LnFCPI LnER LnFExp LnGDP LnMS; Exogenous variables: C

Note: * indicates lag order selected by the criterion; LR: sequential modified LR test statistic (each test at 5% level); FPE: Final prediction error; AIC: Akaike information criterion; SC: Schwarz information criterion; HQ: Hannan-Quinn information criterion.

Results of the Johansen co-integration test are presented in Table 4. This test points to the existence of a long-run relationship among the economic variables. As can be noted, the trace statistic and Max-Eigen statistic are less than the critical value under 95% confidence from when rank = 1, indicating that the null hypothesis is accepted from this level. However, at 0 cointegrating equations, the probability values of the trace and Max-Eigen statistic are less than the 5% level of significance, indicating that the null hypothesis is rejected. Based on these results, it can be concluded that there is one co-integration equation among the five variables.

Table 4: Johansen co-integration test results

Hypothesized No. of CE(s)	Eigenvalue	Unrestricted Cointegration Rank Test (Trace)			Unrestricted Cointegration Rank Test (Maximum Eigenvalue)		
		Trace Statistic	0.05 Critical Value	Prob.**	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.341618	73.49983	69.81889	0.0247	35.10948	33.87687	0.0355
At most 1	0.224920	38.39034	47.85613	0.2853	21.40223	27.58434	0.2527
At most 2	0.079448	16.98811	29.79707	0.6409	6.953678	21.13162	0.9557
At most 3	0.077338	10.03443	15.49471	0.2781	6.761326	14.26460	0.5178
At most 4	0.038216	3.273108	3.841466	0.0704	3.273108	3.841466	0.0704
Cointegrating equations at the 0.05 level = 1							

Note: * denotes rejection of the hypothesis at the 0.05 level, **MacKinnon-Haug-Michelis (1999) p-values

Table 5. and 6. present the results of the long-run and short-run estimates, respectively. Long-run estimates show that food exports, GDP, and money supply are statistically significant at both 1% and 5% levels, while the exchange rate is statistically significant at a 10% level. Specifically, Uganda's food prices have a positive long-run relationship with the exchange rate, food exports, and money supply. This suggests that an increase in exchange rates (depreciation of the domestic currency), food exports, and money supply leads to a rise in food prices in Uganda. Specifically, a 1% increase in exchange rates, food exports, and money supply leads to a 0.263%, 0.701%, and 0.72% increase in food prices, respectively.

The positive impact of exchange rates could be attributed to the fact that depreciation (appreciation) of the domestic currency against foreign currencies results in an increase (decrease) in the domestic prices of food items (Rangasamy, 2011). While the positive impact of food exports could be attributed to the fact that an increase in food exports affects domestic supply and increases the demand for food items, causing demand-pull inflation (Qayyum & Sultana, 2018; Rehman & Khan, 2015). Finally, the positive impact of the money supply obtained in this study could be an implication of the importance and significance of monetary developments in explaining inflation in Uganda. This could further imply that money supplied in the economy grows at a rate faster than the growth rate of real GDP, thus leading to a situation where "too much money chases few food items" (Haji & Gelaw, 2012).

Additionally, Uganda's food prices have a negative long-run relationship with GDP, suggesting that GDP growth leads to a decrease in food prices. Specifically, a 1% growth in GDP leads to a 1.956% decrease in food prices in the long run. The negative impact of GDP on food prices could be attributed to the fact that GDP growth could imply growth in the agricultural sector as well because the sector contributes a significant share (24%) to Uganda's GDP (UBOS, 2023). Growth in the agricultural sector as manifested in the increase in the production of food items could mean that enough food is produced to meet the available demand thus leading to a decrease in the general level of food prices.

In comparison with the available literature, Baek & Koo (2010), Haji & Gelaw (2012), and Norazman et al. (2018) also reported a significant impact of exchange rates on food prices in the US, Ethiopia, and Malaysia, respectively. Abdullah & Kalim (2012) and Rehman & Khan (2015) reported a positive and significant impact of food exports on food prices in Pakistan. Estimates of money supply and GDP are different from the available literature. While this study's results show a positive impact of money supply on food prices, Azeem et al. (2012) and Qayyum & Sultana (2018) reported a negative impact of money supply on food prices in Pakistan. Qayyum & Sultana (2018) further reported a positive impact of GDP on food prices, unlike this study which reports a negative impact in the long run.

Table 5: Johansen's long-run estimates

	Coefficient	Std. Error	t-Statistic	Prob.**
LnFCPI(-1)	1.000000			
LnER(-1)	0.262526*	0.15766	1.66511	0.0997
LnFExp(-1)	0.701153***	0.11443	6.12735	0.0000
LnGDP(-1)	-1.955763***	0.39136	-4.99738	0.0000
LnMS(-1)	0.720304***	0.14535	4.95572	0.0000
C	8.151632			

Note: **Probabilities were calculated by the author, * and *** denote significance at the 10% and 1% levels, respectively.

To identify the short-run adjustment to long-run steady states, as well as the short-run dynamics between Uganda's food prices and the macroeconomic indicators under study, the VEC model is estimated with the identified cointegration relationship in Table 4. The methodology used to find this representation follows a general-to-specific procedure (Baek & Koo, 2010). After eliminating all the insignificant variables based on the Wald test, the parsimonious VEC (PVEC) model is presented in Table 6. In this table, it can be observed that among all variables used in this study, only the lag of food CPI and GDP significantly influence food prices in the short run. The number of lags included in the PVEC model is the same as those used in the cointegration analysis.

The results in Table 6. show that the error-correction term (ECT) for the estimated model is negative and significant at the 1% significance level. The negative coefficient of the ECT ensures that the long-run equilibrium can be attained. The results indicate that, when deviating from equilibrium conditions, food prices adjust to correct long-run disequilibria. The results imply that it takes approximately 9.7 quarters (1/0.1035 = 9.6618 quarters) to eliminate the disequilibria. The coefficients of the lagged variables in the PVEC model show the short-run dynamics (causal linkages) of the dependent variables. Food prices are positively correlated with their one-quarter lag and the lags of GDP. Unlike the long-run estimates, GDP positively influences food prices in the short run. These results imply that a 1% increase in food prices in the previous quarter leads to a 0.352% increase in food prices in the current quarter. While a 1% increase in GDP in the previous quarter and 3 quarters back leads to a 0.21% and 0.143% increase in food prices in the current quarter, respectively.

The positive impact of GDP on food prices in the short run could be attributed to the fact that GDP growth could signify growth in income per capita which induces more production, a shift to more value-added products, and a switch from cereals to consumption of animal proteins. This is a common scenario reported in developing countries. The increased demand for animal proteins eventually induces a relatively higher demand for grain and protein feed, which leads to an increase in the general price level of food items (Banse et al., 2008; Matovu & Twimukye, 2009).

Furthermore, the multivariate diagnostic tests on the estimated model presented in the lower part of Table 6. indicate the absence of serial correlation and heteroskedasticity in the data. The JB statistic also indicates normality in the series. Therefore, the estimated model does not violate any of the standard assumptions. Among the diagnostic tests still, the Durbin-Watson (DW) statistic is 2.0701, greater than the R^2 value which confirms that the model is not spurious (Gujarati & Dawn, 2009). The p-value of the computed F-statistic (6.6422) is less than 0.05, which rejects the null hypothesis that the regressors have zero coefficients.

Table 6: Vector Error Correction Estimates: short-run estimates

	Coefficient	Std. Error	t-Statistic	Prob.
ECT(-1)	-0.103466***	0.033111	-3.124815	0.0025
ΔLnFCPI(-1)	0.352469***	0.100621	3.502939	0.0008
ΔLnGDP(-1)	0.209918***	0.074662	2.811573	0.0062
ΔLnGDP(-3)	0.143124*	0.071992	1.988046	0.0502
C	0.005850	0.004365	1.340014	0.1840
Diagnostic checks R-squared: 0.2493 Adjusted R-squared: 0.2118 Durbin-Watson stat: 2.0701 F-statistic: 6.6422 (0.0001) Jarque-Bera (JB) Normality: 5.776883(0.055663) Breusch-Godfrey Serial Correlation LM Test: F-statistic 1.3771(0.2498), χ² 5.7446(0.2191) Heteroskedasticity Test: Breusch-Pagan-Godfrey: F-statistic: 1.9668(0.0552), χ² 16.2307(0.0622)				

Note: * and *** denote significance at the 10% and 1% levels, respectively.

In Table 6., it can also be observed that the R^2 value is very low (0.249), implying that only 24.9% of variations in food prices are explained by the model. This could be an indication that food prices in Uganda are greatly influenced by factors other than macroeconomic indicators in the short run. These factors include low food supplies to markets due to extreme changes in the weather pattern that has led to long dry spells in some regions of the country and floods in other regions (Mbowa et al., 2012), price transmission effects of rising food and fuel prices in the international markets which affect production and transportation costs of food items (Benson et al., 2008; Mbowa et al., 2012), increased domestic food demand, and higher costs of imported production inputs (FEWSNET, 2022a).

Results of the variance decomposition analysis of food CPI over 8 quarters are presented in Table 7. The variance decomposition determines how much of the forecast error variance of each of the variables can be explained by exogenous shocks to the other variables (Agbonlahor, 2014). The results presented show that in the short run (one quarter ahead), 100% of the forecast error variance in food CPI is explained by food CPI itself. However, its influence decreases as we move further into the future. A two-quarter ahead forecast error is 97.8%, 1.29%, 0.74%, 0.073%, and 0.096% due to variations in the food consumer price index, exchange rate, food exports, GDP, and money supply, respectively. As for the other forecast horizons, although decreasing as we move further into the future, variations in the food CPI remain the most significant throughout the forecast period.

Conversely, the exchange rate and money supply have moderate impacts that increase as the forecast period increases. For example, the 5-quarter forecast error in the food CPI is 18.21% due to variations in exchange rate compared to the 1.29% in the second quarter. While the 8-quarter forecast error in the food CPI is 20.69% due to variations in money supply compared to the 0.096% in the second quarter. And lastly, food exports and GDP have a weak influence in predicting food CPI throughout the forecast period. Overall, it can be concluded that the forecast error variance of food CPI in Uganda can be greatly explained by variations in the food CPI itself than all the macroeconomic indicators used in this study. Thus still, emphasizes the role of other factors rather than macroeconomic indicators in determining food prices in Uganda as also noted in Table 6.

Table 7: Variance decomposition of LnFCPI

Period	S.E.	LnFCPI	LnER	LnFExp	LnGDP	LnMS
1	0.031130	100.0000	0.000000	0.000000	0.000000	0.000000
2	0.047175	97.80070	1.289343	0.741457	0.072515	0.095983
3	0.060842	87.87307	7.106513	2.806267	0.141586	2.072564
4	0.073774	76.19139	15.09847	3.651721	0.106654	4.951762
5	0.085551	69.71984	18.21491	3.460959	0.188096	8.416191
6	0.095426	66.58745	17.88426	3.511366	0.195675	11.82124
7	0.104811	64.20933	15.85461	3.325970	0.189405	16.42068
8	0.113605	62.39017	13.81777	2.865065	0.233613	20.69338

The impulse response function analysis results of the VECM are presented in Figure 2. The scale of the x-axis is the set reaction period (in quarters). These graphs present some interesting relationships. In general, food prices respond positively to changes in the variables under study except with GDP. In the response of food CPI to itself, it can be noted that food prices increase in the first two quarters, and then reduce till quarter 4, after which they level off. In response to changes in the exchange rate, food prices increase till quarter 4, after which they begin to decrease. In response to changes in food exports, food prices increase till quarter 3, after which they stabilize. The relationship of food prices with GDP is generally negative, with slight increases up to quarter 2 after which food prices decrease with GDP growth. The graph of food CPI's response to GDP further proves why the relationship between GDP and food CPI was negative in the long run and positive in the short run as presented in Table 5. and 6. In response to the money supply, food prices keep increasing as the money supply increases.

Figure 2: Impulse response analysis

Response to Cholesky One S.D. (d.f. adjusted) Innovations
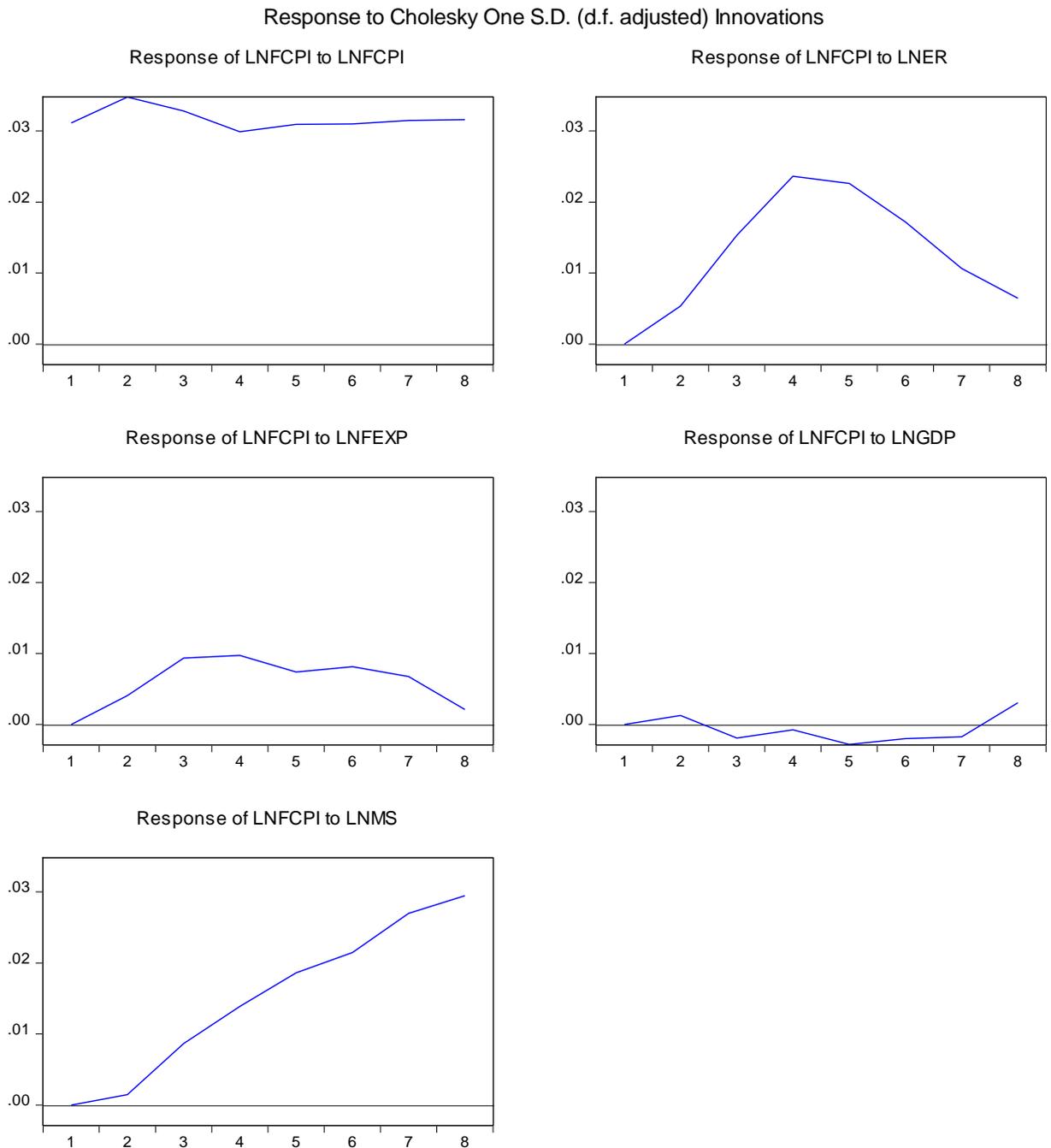
5. Conclusion

This study utilizes the Johansen cointegration analysis and VEC model to examine the short- and long-run effects of macroeconomic indicators such as exchange rate, GDP, money supply, and food exports on Uganda's food price movements using quarterly data from 2000Q1 to 2022Q1. The results show that all variables are statistically significant in influencing food prices in Uganda in the long run. Apart from GDP which negatively influences food prices, all the other variables positively influence food prices in the long run. Specifically, a 1% increase in exchange rates, food exports, and money supply leads to a 0.263%,

0.701%, and 0.72% increase in food prices, respectively, while a 1% growth in GDP leads to a 1.956% decrease in food prices.

In the short run, it was found that only GDP and the lag of food CPI were significant in influencing food prices in Uganda. The results show that a 1% increase in food prices in the previous quarter leads to a 0.352% increase in food prices in the current quarter. While a 1% increase in GDP in the previous quarter and 3 quarters back leads to a 0.21% and 0.143% increase in food prices in the current quarter, respectively. It can be noted that unlike in the long run where GDP affects food prices negatively, GDP positively influences food prices in the short run. This relationship is further supported by the impulse response function analysis. There is one possible explanation for this: In the short run, growth in the economy induces more consumption (demand) of food items especially animal proteins which eventually leads to an increase in the general price level of food items. In the long run, however, growth in the economy could imply growth in the agricultural sector as well because a significant share of Uganda's GDP (24%) is contributed by the agricultural sector. The growth in the agricultural sector as manifested in increased production could imply that enough food is produced to meet the short-run increase in demand, eventually leading to a decrease in food prices in the long run.

The variance decomposition analysis shows that the forecast error variance of food CPI in Uganda can be greatly explained by variations in the food CPI itself than all the macroeconomic indicators used in this study. This together with the very low R-squared value could imply that food prices in Uganda are greatly influenced by factors other than macroeconomic indicators in the short run. These factors include low food supplies to markets due to extreme changes in the weather pattern that has led to long dry spells in some regions of the country and floods in other regions, price transmission effects of rising food and fuel prices in the international markets which affect production and transportation costs of food items, increased domestic food demand, and higher costs of imported production inputs. Therefore, for policy implementation, the emphasis laid on macroeconomic indicators should as well be laid on these factors to draft policies aimed at stabilizing food prices in Uganda.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this paper.

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Investigating Factors Influencing Inflation in the USA

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Abstract

The determination of inflation has been extensively explored in economic literature and it remains an ongoing and developing field of study. Researchers have examined diverse econometric methodologies and analyzed data from varying time spans to identify the factors influencing inflation. In this research paper, we explore the factors influencing inflation in the USA by utilizing the monthly data from 2002 to 2020. To achieve our aim, we employ error correction model (ECM) and then granger causality method. The findings indicate that certain lagged changes in inflation, consumer price index (CPI) for fuel and utilities, CPI all city average and production price index play a significant role in accounting for the variations in inflation in the USA but the lagged changes in money supply are not a significant determinant in accounting for the fluctuations in inflation in the USA. Moreover, the results of causality analysis suggest that all factors have significant Granger causality on inflation, except money supply.

Keywords: Inflation, USA, ECM, Granger Causality.

ABD'de Enflasyonu Etkileyen Faktörlerin İncelenmesi

Öz

Enflasyonun belirlenmesi konusu ekonomi literatüründe kapsamlı bir şekilde araştırılmış olmasına rağmen hala gelişmekte olan bir çalışma konusudur. Araştırmacılar, farklı ekonometrik yöntemleri uygulayarak ve farklı zaman aralıklarındaki verileri analiz ederek enflasyonu etkileyen faktörleri belirlemeye çalışmaktadırlar. Bu çalışmanın amacı, 2002'den 2020'ye kadar olan aylık verileri kullanarak Amerika Birleşik Devletleri'ndeki enflasyonu etkileyen faktörleri araştırmaktır. Amaca ulaşmak için ilk olarak, hata düzeltme modeli ve ardından Granger nedensellik testi uygulanmaktadır. Bulgular, enflasyonun Amerika Birleşik Devletleri'ndeki değişimlerini açıklamada belirli gecikmiş enflasyon değişimleri, yakıt ve hizmetler tüketici fiyat endeksi, tüm şehir ortalaması tüketici fiyat endeksi ve üretim fiyat endeksinin önemli bir rol oynadığını göstermektedir, ancak para arzındaki gecikmiş değişimler enflasyon dalgalanmaları için anlamlı bir belirleyici değildir. Dahası, nedensellik analizi sonuçları, para arzı hariç tüm faktörlerin enflasyon üzerinde önemli Granger nedenselliğine sahip olduğunu göstermektedir.

Anahtar Kelimeler: Enflasyon, ABD, ECM, Granger Nedensellik.

1. Introduction

Inflation refers to the persistent rise in the overall price level of an economy and serves as a significant barometer to gauge an economy's health. Therefore, it remains a fundamental concern for economists and policymakers globally. While it is often perceived as harmful to an economy, a moderate level of inflation (approximately 3-4%) is considered as beneficial for a country's economic growth. However, it is crucial to exercise caution, as excessive inflation can cause to stagnant job creation, uncertainties in income and expenses, therefore, potentially impeding economic growth significantly. Conversely, sustaining a stable and appropriate level of inflation enhances financial system stability and promotes economic growth. Hereby, the long-term growth and sustainability of an economy are dependent on the absence of uncertain and unpredictable fluctuations in the purchasing power of money, requiring a stable and well-managed monetary and financial system.

According to Hamilton (2001), inflation can be determined as an economic scenario wherein the growth in the money supply surpasses the rate of new production of goods and services within the same economy. Moreover, the quantity theory of money shows a systematic analysis of the direct association among the growth in the money supply and inflation. This theory shows that, in the long term, if there is a rise in the money supply, it will enhance proportionally the price level, not real output growth. Furthermore, Keynes explains that inflation increases when the total demand exceeds the total supply at the full employment. Also, when the government rises the money supply and taxes, people are willing to spend more money (Shah et al., 2014). The reason is that when inflation rises, taxes also increase, causing people to be even more willing to spend their money due to two main reasons: avoiding taxes on holding currency and purchasing products before their prices go up. Consequently, in such economic circumstances, there is a rapid growth rate in the demand for various goods, resulting in a natural price increase. In the literature, many researchers focus on the determinants of inflation. These determinants are mostly categorized into supply side and demand side factors (Eftekhari and Kiaee, 2015). Supply side determinants involve output growth, capital formation, oil and import prices, wage levels and exchange rates. Conversely, demand side determinants involve factors such as money growth, private consumption expenditure, and government consumption expenditure.

Although the factors affecting inflation are complex, money supply, CPI for fuel and utilities, CPI for all urban areas and production price index can be considered to be the major culprits behind the inflation in the United States (USA). In this research paper, we hence investigate the impacts of these factors on inflation in the USA during the period from January 2002 to February 2020. To achieve this aim, we use monthly data by applying the error correction model (ECM) and Granger causality test. The selection of the variables in our

paper is based on their perceived relevance and potential influence in the USA. Each factor is chosen for its theoretical significance and empirical evidence suggesting a relation with inflationary trends. The money supply is often related to inflationary pressures. If there is a change in the money supply, it will affect consumer spending and aggregate demand. Also, energy costs are an important input for production and consumption hence, the fluctuations in the consumer price index for fuel and utilities can influence overall price levels and inflation. Moreover, the consumer price index for all urban areas provides insights into how price levels for a basket of commonly consumed items evolve overtime. Lastly, the production price index quantifies the variations in the price of goods and services at the producer level. As producers often pass on cost changes to consumers, the PPI provides insights into potential cost-push inflation.

In section 2, we present the literature review. In section 3, we display the data and the methodology. In section 4, we present the outcomes and in section 5, we conclude the work.

2. Literature Review

The determination of inflation has been a subject of extensive investigation in economic literature and it remains an ongoing and evolving research area. Researchers have studied various econometric techniques and analyzed data from different periods to discern the factors affecting inflation. Based on several research findings concerning the factors influencing inflation, the following are identified as follows.

Bandara (2011) shows the factors influencing inflation in Sri Lanka from 1993 to 2008 using VAR models and the Granger causality method. The findings show that money supply, exchange rate and GDP exhibit significant information to explain the inflationary trends in Sri Lanka. Putra (2022) also investigates the factors affecting inflation in Indonesia from 2015 to 2020. They employ the Engel Granger Error Correction model to search the influence of currency supply and demand, interest rates and exchange rates on inflation. They find that these variables affect inflation positively and significantly. Moreover, Bashir et al. (2011) explore the factors affecting inflation in Pakistan from both the demand and supply sides and causal relations among the selected macroeconomic variables by utilizing the data from 1972 to 2010. To obtain the findings from the long run and short run, they use Johansen cointegration and VEC approaches. Also, to examine the causal relationship, they employ the Granger causality method. They find that the CPI is positively affected by more supply, GDP, imports and government spendings. Conversely, they explore that government revenue has a decreasing effect on the overall price level in Pakistan.

Bawa et al. (2016) investigate the inflationary dynamics in Nigeria between 1981- 2015 by employing the bound testing approach to cointegration. Their results show that past inflation and average rainfall are the primary factors of inflationary trends in Nigeria. Also, Hemmati et al. (2018) explore the external factors of inflation dynamics in Iran by utilizing the OLS single equation model and VEC model. Their outcomes display that money supply, exchange rate and import price index contribute to the overall rise in the price level in the long term. Also, they find that exchange rates and effective tariffs are the primary factors of inflation in Iran. Furthermore, El-Baze (2014) delves into the factors affecting inflation in Egypt applying data from 1991 to 2012 employing a vector autoregression model. The results show that the inflation rate is predominantly affected by its variations, followed by the output gap, the growth rate of domestic liquidity and nominal depreciation of the Egyptian pound against the US dollar. Also, Mohanty and John (2015) examine the factors affecting inflation in India through a comprehensive econometric approach using quarterly data from 1996-1997 to 2013-2014. They focus on the factors like crude oil prices, output gap, fiscal policy, and monetary policy and investigate their connection with inflation by employing a structural VAR approach. Their results show that inflation dynamics have experienced significant changes over time in India.

Carvalho et al. (2018) investigate the relation among economic development and inflation levels by employing the data for 65 nations from 2001 to 2011. They find that inflation rates are influenced by factors regarding to economic development. More specifically, the persistence of inflation, globalization and trade, and the level of openness to trade are positively associated with inflation. Conversely, while a higher per capita income, high-tech exports, and unemployment growth are associated with lower inflation rates. Moreover, Lim and Sek (2015) delve into the dynamics of inflation in both high inflation nations and low inflation nations, employing data from 1970 to 2011. They use an ECM model in accordance with the ARDL method to explore both short and long term impacts of various indicators on inflation in each group. Their findings show that the growth of GDP and imports significantly influence inflation in low inflation nations. However, money supply, national spending and GDP emerge as the main factors of inflation in high inflation nations.

Eftekhari and Kiaee (2015) focus on the development of models to explore the factors that affect the inflation using the data between 2008-2012. They utilize the random effect log-linear model and the ordinal logistic model to analyze continuous and categorial inflation rate variables, respectively. Their outcomes display that money growth, GDP, oil price, and the level of income are strong indicators with a rising impact regarding the inflation rate for the upcoming year. Also, Hall et al. (2023) search the factors of inflation in three currency areas: the United States, the Euro area and the United Kingdom applying the vector autoregression method. Their results show that

inflationary shocks in the US have a significant and consistent effect on both the Euro area and the United Kingdom. Moreover, Acar and Orhan (2023) investigate the factors of inflation in OECD nations in the aftermath of a pandemic by employing the OLS method with cross sectional data. They find that there is a strong relation between fiscal and monetary expansions throughout and in the aftermath of the pandemic and high inflation rates across countries.

Adjemian et al. (2023) try to understand the drivers behind the changes in food prices in the USA. They explain that there has been a notable and rapid rise in food prices in the USA starting from the middle of 2021 and this surge can be linked to various factors, including disruptions in supply chains and labor shortages caused by the pandemic as well as rising transportation costs and wages, etc. In their study, they decompose the BLS food price to CPI to gain insights into how these determinants affect the fluctuations in food price during regular periods and how they might have influenced the significant price surges observed during the pandemic. They find that while supply-side factors account for the majority of the price fluctuations, the demand-side determinants, especially the money supply have a more significant association with recent food price rises compared to their historical impact. Baek and Koo (2010) also examine the impacts of market determinants, including energy and agricultural commodity prices, and exchange rates on US food prices employing cointegration analysis. Their findings express that agricultural commodity prices and exchange rates have significant roles in defining both short and long term fluctuations in the US food prices. Additionally, they observe that the energy price has a substantial long term effect on US food prices but its effect is minimal in the short run. Lastly, Hossain and Mitra (2017) examine the short and long term influences of various economic factors on the US inflation rate from 1978 to 2014 by employing Granger F-test on the vector error correction model. Their findings show short run unidirectional causalities from certain factors.

3. Data and Methodology

In this research paper, we look at the determinants influencing the inflation in the USA from 2002 January to 2020 February by applying the error correction model and Granger causality test. For this aim, we collect the monthly data for inflation of consumer prices in the USA as a percentage (INF), money supply M1 in billions of US dollars (M1), consumer price index for fuel and utilities (CPIFUELUTI), consumer price index all city average (CPIALLURBAN) and production price index (PPI). The data is generated from Federal Reserve Economic Data. Using this data, we define the model in the following manner:

$$dINF = \alpha_0 + \sum_{i=-1}^{p} \alpha_i dINF_{t-i} + \sum_{i=0}^{q} \emptyset_i dM1_{t-i} + \sum_{i=0}^{r} \theta_i \, dCPIFUELUTI_{t-i}$$

$$+ \sum_{i=0}^{s} \varphi_i \, dCPIALLURBAN_{t-i} + \sum_{i=0}^{u} \delta_i \, dPPI_{t-i} + ECM_{t-1} + u_{it}$$

ECM is the error correction term. It has the lagged error term from the previous time period which stands for the difference among the actual inflation and the predicted inflation from the model. α_0 is the intercept term, representing a constant value. u_{it} is the error term or the random disturbance at time t, representing unexplained factors affecting inflation that are not accounted for by the other indicators in the model. The coefficients $\alpha_i, \emptyset_i, \theta_i,$ φ_i, δ_i show the impacts of the corresponding indicators on inflation. Table 1 displays the summary statistics of the distribution and characteristics of the indicators we used.

Table 1. Descriptive Statistics

	INF	M1	CPIFU ELUTI	CPIALL URBAN	PPI
Mean	0.308176	1443.237	159.463 5	182.5521	146.30 03
Median	0.193	1412.4	148.7	196.2	137.7
Maximum	1.38	2322.9	222.29	238.46	207.6
Minimum	-1.8	1073.8	127.6	151.2	137
Skewness	-1.387261	1.373950	0.27371 7	0.182973	0.5135 45
Kurtosis	14.29672	4.168721	1.48104 9	1.677814	1.52031 1

4. Results

To address the issue of spurious regression, we initiate the modeling process by converting each variable into its stationary form by utilizing the Augmented Dickey-Fuller (ADF) method. This is achieved by differencing each variable at the first order, resulting in all variables being integrated at order 1. That is, Table 2 shows that the changes in these variables exhibit no evidence of a unit root (non-stationarity). It also displays the results of standard deviation. The findings show that there is a considerable decrease of the value of the standard deviation between the variable in level and in first difference.

The identification of cointegration relationships among time-series variables has garnered significant attention in recent years. However, economists have not yet arrived at a definitive consensus regarding the appropriate modeling of such relationships. Cointegration arises when variables exhibit a long-term linkage, regardless of their individual levels of stationarity. In an effort to address this challenge, the method outlined below is adopted.

$$INF = \alpha_0 + \alpha_1 M1 + \alpha_2 CPIFUELUTI + \alpha_3 CPIALLURBAN + \alpha_4 PPI + u$$

Table 2. Standard Deviation Values and ADF Test Results of Variables

	Standard Deviation	**ADF (prob)**
INF	0.3720	0.1849
dINF	0.1458	0.0005
M1	126.95	0.4578
dM1	42.603	0.0000
CPIFUELUTI	4.4090	0.2080
dCPIFUELUTI	2.6246	0.0000
CPIALLURBAN	1.7869	0.0156
dCPIALLURBAN	0.4899	0.0009
PPI	2.1105	0.2924
dPPI	1.7269	0.0000

If the residuals of the aforementioned regression exhibit stationarity, it indicates the presence of cointegration among the variables. The ADF test of the error term in the model has been employed to assess cointegration, and the outcomes in Table 3 display the existence of a cointegrating link between the indicators. The findings show that ADF test statistic (-4.049757) is lower than all the critical values. Hence, we can confidently reject the null hypothesis that the residuals have a unit root and determine that the residuals are stationary. As a consequence, we can incorporate an ECM into the modeling procedure.

Table 3. ADF Test Results for the Residuals

Null Hypothesis: RESID has a unit root			
		t-Statictic	Probability*
ADF Test Statistic		-4.049757	0.0016
Test Critical Values	1% level	-3.472813	
	5% level	-2.880088	
	10% level	-2.576739	

Utilizing model selection criteria, the subsequent ECM is identified as the most optimal. T statistics of the lags, F-test values, robustness, and the minimum values of Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) are employed to determine the appropriate lag length. ECM is then added since we find the variables are cointegrated:

$$dINF = \alpha_0 + \sum_{i=1}^{6} \alpha_i dINF_{t-i} + \sum_{i=0}^{3} \emptyset_i \, dM1_{t-i} + \sum_{i=0}^{3} \theta_i \, dCPIFUELUTI_{t-i}$$
$$+ \sum_{i=0}^{7} \varphi_i \, dCPIALLURBAN_{t-i} + \sum_{i=0}^{2} \delta_i \, dPPI_{t-i} + ECM_{t-1} + u_{it}$$

Table 4 indicates the results between the inflation and lagged changes in inflation, money supply, consumer price index for fuel and utilities, consumer price index all city average and production price index. These results will show us the importance of these factors in accounting for inflation in the USA. We observe that the lag changes in inflation have a negative coefficient. More specifically, the coefficients of the lagged variables are statistically significant, implying that lagged changes in inflation play a significant role in explaining the variations in inflation in the USA.

Table 4. The Results of Error Correction Model

Variable	Coeffic.	Std. Err.	t-stat	Prob.
C	0.020539	0.027577	0.74478	0.4575
DINF(-1)	-0.827529	0.163059	-5.075028	0
DINF(-2)	-0.97311	0.156905	-6.20192	0
DINF(-3)	-0.884658	0.151311	-5.846604	0
DINF(-4)	-0.722848	0.136264	-5.30477	0
DINF(-5)	-0.430782	0.108881	-3.956454	0.0001
DINF(-6)	-0.1	0.071074	-1.406977	0.1613
DM1(-1)	-0.045878	0.053621	-0.855601	0.3943
DM1(-2)	-0.060154	0.052147	-1.153550	0.2515
DM1(-3)	-0.057184	0.050534	-1.131608	0.2606
DCPIFUELUTI(-1)	0.007727	0.00516	1.497526	0.1362
DCPIFUELUTI(-2)	0.001817	0.005205	0.349142	0.7274
DCPIFUELUTI(-3)	0.00947	0.004985	1.899508	0.0492
DCPIALLURBAN(-1)	0.10117	0.03138	3.224061	0.0015
DCPIALLURBAN(-2)	0.00564	0.030442	0.185277	0.8532
DCPIALLURBAN(-3)	-0.050634	0.024688	-2.050987	0.0418
DCPIALLURBAN(-4)	-0.074762	0.024468	-3.055547	0.0026
DCPIALLURBAN(-5)	-0.174313	0.026236	-6.643997	0
DCPIALLURBAN(-6)	-0.117494	0.029495	-3.983456	0.0001
DCPIALLURBAN(-7)	-0.06202	0.027539	-2.252109	0.0256
DPPI(-1)	0.055256	0.009188	6.013979	0
DPPI(-2)	0.012197	0.010732	1.136474	0.2574
ECM(-1)	-0.311265	0.158566	-1.963001	0.0513

However, the coefficients of the lagged variables are not statistically significant. This implies that the lagged changes in money supply are not a significant determinant in explaining the fluctuations in inflation in the USA. Furthermore, the lagged changes in the consumer price index for fuel and utilities have a positive coefficient but only the coefficient for lag 3 is statistically significant. Moreover, our observation is that the coefficients of lag 1, 4, 5, 6 for the consumer price index all city average are statistically significant, showing their importance in accounting inflation in the USA.

Lastly, the coefficients of the lagged changes in the producer price index are positive, with DPPI(-1) being statistically significant.

Granger causality is a statistical methodology to investigate the presence of predictability exerted by each independent variable on the dependent variable across time. The Wald test is employed as the chosen method to examine Granger causality for each variable. In consideration of potential predictive insights, lags of the dependent variable are incorporated into the model, recognizing the capacity of past values to yield valuable predictive information.

For INF granger causes inflation null hypothesis is

$$H_0: \alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 = \alpha_5 = \alpha_6 = 0$$

For M1 granger causes inflation null hypothesis is

$$H_0: \emptyset_1 = \emptyset_2 = \emptyset_3 = 0$$

For CPIFUELUTI granger causes inflation null hypothesis is

$$H_0: \theta_1 = \theta_2 = \theta_3 = 0$$

For CPIALLURBAN granger causes inflation null hypothesis is

$$H_0: \varphi_1 = \varphi_2 = \varphi_3 = \varphi_4 = \varphi_5 = \varphi_6 = \varphi_7 = 0$$

For PPI granger causes inflation null hypothesis is

$$H_0: \delta_1 = \delta_2 = 0$$

Table 5 illustrates the outcomes of the Wald test for the independent indicators in the context of Granger causality with respect to inflation. Based on the test results (t statistics), the lags of INF, CPIFUELUTI, CPIALLURBAN, and PPI exhibit Granger causality in relation to inflation. However, in the case of M1 (money supply), the Wald test results fail to reject the null hypothesis. As a consequence, we can point out that M1 does not Granger cause inflation in the context of our study. Overall, we can conclude that past value of INF Granger cause inflation, meaning that INF contains information that helps predict the current value of inflation. However, the past value of M1 may not significantly help to predict the current value of inflation. Moreover, the past value of CPIALLURBAN, CPIFUELUTI and PPI show Granger causality concerning inflation which mean that they contain information that is useful for predicting the current value of inflation.

Table 5. Wald Test Results for the Independent Variables

	Test Statistic	Value	Probability
INF granger causes on inflation	**F-statistic**	6.0952	0.0000
	Chi-square	48.5146	0.0000
M1 granger causes on inflation	**F-statistic**	2.1311	0.0971
	Chi-square	10.2964	0.0731
CPIFUELUTI granger causes on inflation	**F-statistic**	3.6478	0.0002
	Chi-square	28.5736	0.0000
CPIALLURBAN granger causes on inflation	**F-statistic**	19.7722	0.0000
	Chi-square	132.3751	0.0000
PPI granger causes on inflation	**F-statistic**	14.8911	0.0005
	Chi-square	41.7529	0.0000

In this study, an examination of serial correlation in the regression errors is conducted using the correlogram of Q statistics for 12 lags (Table 6). The objective is to assess the presence of autocorrelation in the residuals, which could potentially influence the validity of the regression model. The test results presented in Table 6 indicate that the null hypothesis (H_0: There is no serial correlation in the regression error) is not rejected at the 1%, 5%, and 10% levels of significance. The p-values associated with the Q statistics are all above 0.1, suggesting that there is no statistically significant evidence of serial correlation in the regression errors up to 12 lags. Based on these findings, we can conclude that the regression model used in the study is free from serial correlation up to the considered 12 lags.

Table 6. Correlogram of Q Statistics of the Residuals

Autocorrelation	Partial Correlation	Lags	AC	PAC	Q-Stat	Prob.
.|. |	.|. |	1	-0.0270	-0.0270	0.1336	0.7150
.|. |	.|. |	2	-0.0440	-0.0440	0.4845	0.7850
*|. |	*|. |	3	-0.0970	-0.1000	2.2338	0.5250
*|. |	*|. |	4	-0.0700	-0.0790	3.1501	0.5330
.|. |	.|. |	5	-0.0440	-0.0590	3.5062	0.6220
.|. |	*|. |	6	-0.0500	-0.0730	3.9784	0.6800
.|. |	.|. |	7	-0.0060	-0.0330	3.9847	0.7820
.|* |	.|. |	8	0.0840	0.0600	5.3328	0.7210
.|. |	.|. |	9	0.0180	0.0020	5.3970	0.7980
.|. |	*|. |	10	-0.0610	-0.0700	6.1216	0.8050
.|. |	.|. |	11	0.0510	0.0550	6.6373	0.8280
.|. |	.|. |	12	0.0410	0.0490	6.9599	0.8600

The inverse root of AR characteristic polynomial test is employed to examine the stationarity of the model. By analyzing the unit roots within the unit circle, it is determined that all unit roots lie inside the circle. Consequently, the model is deemed to be stationary.

Figure 1. Inverse Roots of AR Characteristic Polynomial
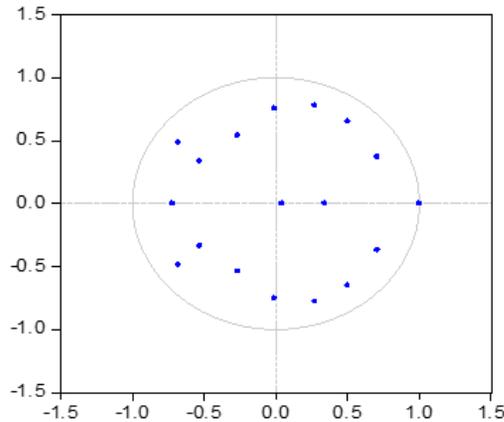
5. Conclusion

The analysis of inflation in the United States involves the utilization of various indices to capture price and expenditure fluctuations. Specifically, money supply, the consumer price index for all urban consumers, consumer price index for fuel and utilities, and the production price index are incorporated in our time series analysis. These factors are chosen to capture different aspects of the economy that are related to inflationary trends. By exploring their relation with inflation from 1982 to 2020, this study aims to gain a deeper comprehension of the factors contributing to inflation in the USA. Prior to modeling, all variables considered are differenced, and the resulting data exhibit stationarity. The error correction model was then selected through a model-building process. It comprises 6 lags of INF, 3 lags of M1, 3 lags of CPIFUELUTI, 7 lags of CPIALLURBAN, and 2 lag of PPI. This model is deemed to be the most appropriate for our analysis.

The results show that certain lagged changes in inflation, consumer price index for fuel and utilities, consumer price index all city average and production price index play an important role in accounting for the variations in inflation in the USA but the lagged changes in money supply are not a significant determinant in accounting for the fluctuations in inflation in the USA. Moreover, the outcomes of the Wald test for Granger causality analysis suggest that lagged changes in inflation, consumer price indices for fuel and utilities and all urban areas, and the producer price index have significant Granger causality on inflation. However, the lagged changes in money supply do not exhibit statistically significant Granger causality on inflation. Lastly, note that, in order to mitigate the impact of the extraordinary circumstances experienced during the pandemic period on the results, in this research work, the data from the pandemic period has not been taken into account in.

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The Effect of Promotion Mix of Political Marketing on Voter Trust and Voting Intention: A Study on Social Media Users [1]

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Abstract

In this study, the relationships between the promotion mix of political marketing, voter trust, and voting intention are analyzed. For these relationships, firstly, research hypotheses and model were developed. For the test of these hypotheses, a convenience sampling method was used and usable data were obtained from 429 voters using social media through online and face-to-face survey techniques. These data were entered into the SPSS program and analyses were performed with SPSS 22.0 and AMOS 21.0 package programs. As a result of the analyses conducted in line with the objectives, it was found that the political promotion mix positively effects both voter trust and voting intention. At the dimension level, only the propaganda dimension and the reference groups dimension positively and significantly effected voter trust. Finally, the propaganda dimension positively and significantly effected voting intention.

Keywords: Political Marketing, Promotion Mix, Voter Trust, Voting Intention, Social Media

Politik Pazarlamada Tutundurma Karmasının Seçmen Güveni Ve Oy Verme Niyeti Üzerindeki Etkisi: Sosyal Medya Kullanıcıları Üzerine Bir Araştırma

Öz

Bu çalışmada politik pazarlama tutundurma karması, seçmen güveni ve oy verme niyeti arasındaki ilişkiler incelenmiştir. Bu ilişkiler için öncelikle araştırma hipotezleri ve modeli oluşturulmuştur. Bu hipotezlerin testi için kolayda örnekleme yöntemi kullanılarak online ve yüz yüze anket tekniği ile sosyal medya kullanan 429 seçmenden kullanılabilir veri elde edilmiştir. Bu veriler SPSS programına aktarılmış ve analizler SPSS 22.0 ve AMOS 21.0 paket programlarıyla yapılmıştır. Amaçlar doğrultusunda yapılan analizler sonucunda politik tutundurma karmasının hem seçmen güvenini hem de oy verme niyetini pozitif yönde etkilediği bulgusu elde edilmiştir. Boyutlar düzeyinde sadece propaganda ve danışman grubu boyutları seçmen güvenini pozitif yönde ve anlamlı düzeyde etkilemiştir. Bunun yanında oy verme niyetini ise propaganda boyutu pozitif yönde ve anlamlı düzeyde etkilemiştir.

Anahtar Kelimeler: Politik Pazarlama, Tutundurma Karması, Seçmen Güveni, Oy Verme Niyeti, Sosyal Medya

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1. Giriş

İnsanlar günlük hayatlarında genellikle politika ve pazarlama ile ilgili faaliyetlere maruz kalabilmektedir. Bu iki kavram her ne kadar yapı olarak birbirlerinden farklı bilim dalları olsa da zamanla birleşerek politik pazarlama kavramının ortaya çıkmasını sağlamıştır. Politik pazarlama partilerin, liderlerin ve adayların gerçekleştirdikleri tanıtımlarda kullanılmış ve oy kazanma faaliyetlerinde başarı elde edilmesini sağlamıştır. Bu nedenle birçok ülkede partiler, politik pazarlama faaliyetlerini uygulamaya başlamış ve sadece bununla kalmamış bilimsel çalışmalar da politik pazarlama konusunu ele almaya başlamıştır (Yedikardeş, 2018: 1).

Politik pazarlama faaliyetleri teknolojinin gelişmesiyle birlikte geleneksel ortamlardan değişime uyum sağlanacak ortamlara taşınmıştır. Günümüzde seçmen kitlesinin de ucuz ve basit şekilde iletişim gerçekleştirdiği alanlardan birisi sosyal medya mecrasıdır. Sosyal medyada seçmenler karşılıklı iletişime girebilme ve oy vermeyi düşündüğü parti ya da adayla fikirlerini paylaşabilme imkânına sahip olduğu için (Varol, 2019: 1) partiler politik pazarlama faaliyetlerini bu alanda yoğunlaştırmıştır. Politik pazarlama faaliyetleri içerisinde ise seçmenleri etkileme konusunda tutundurma karması diğer faaliyetlerden (ürün, fiyat, dağıtım) daha önemli görülmektedir. Çünkü tutundurma faaliyetleriyle partiler mesajlarını doğru şekilde iletir ve bilgilendirmesini yaparsa seçmenleri etkileyip oy kazanabilmektedirler (Kaya ve Yılmaz, 2017: 453). Diğer taraftan seçmenlerden en çok oyu almaya çalışan bir parti, politikasının doğru olduğuna ve beklentileri karşılayabileceğine dair seçmenlere güven vermek zorundadır (Taşdemir, 2018: 1). Parti ya da parti mensuplarının verdikleri sözlere bağlı olarak, seçmenlerin beklentilerin karşılanacağına dair duyduğu inanç ise seçmen güveni olarak ifade edilmektedir (Schiffman vd., 2010: 371). İşte bu araştırmada da son zamanlarda özellikle sosyal medya üzerinden gerçekleştirilen politik pazarlama kavramı ele alınmış ve politik pazarlama tutundurma karmasının seçmen güvenini ve oy verme niyetini etkileyip etkilemediği belirlenmeye çalışılmıştır. Ulusal yazın incelendiğinde sosyal medya, politik pazarlama, seçmen güveni ve oy verme niyeti ile ilgili gerçekleştirilmiş araştırmaların yapıldığı, ancak farklı bağlamlarda ve bu kavramların tümünü içerecek şekilde yapılmadığı gözlemlenmiştir (Akyol, 2015; Bayır, 2018; Koyuncuoğlu, 2021; Arslan ve Sağlam 2022). Araştırmada ulusal yazında ilk defa sosyal medyada politik tutundurma karması, seçmen güveni ve oy verme niyeti ilişkisinin birlikte ele alındığı ve tutundurma karmasının gerçekten seçmenleri etkileyip etkilemediği belirlendiği için literatüre katkı sağlayacağı düşünülmektedir.

2. Teorik Çerçeve ve Hipotezler

2.1. Politik Pazarlama

Politik pazarlama, partilerin ya da adayların oylarını artırmak amacıyla hedeflenen toplulukları etkilemek için yaptıkları pazarlama faaliyetleridir (Tehci, 2018: 5-6). Bir düşünce ve fikir pazarlaması olan politik pazarlama, siyasi partilerin ülkenin problemlerini ve bu problemlerin sebeplerini belirleme çalışmalarını içermektedir. Bu problemlere çözüm olacak tavsiyeleri ve stratejileri seçmenlere benimsetme çalışmaları politik pazarlamanın kapsamına girmektedir (Keresteci, 2006: 35-36).

Politik pazarlama politik partiler ile seçmenlerin karşılıklı faydayı sürdürmek adına uzun süreli bir bağ oluşturma, bu bağı sürdürme ve güçlendirme gayretidir (O'Shaughnessy, 2001). Bu gayretin politik ürün, politik fiyat, politik dağıtım ve politik tutundurma bileşenleri bulunmaktadır (Şirin, 2019: 25). Politik pazarlamada özellikle siyasal reklam, propaganda ve kamuoyu araştırması gibi politik tutundurma faaliyetleri kullanılarak seçmenlerin adayı ya da partiyi seçmesi sağlanmaktadır. Bu gerçeğe dayanarak, politik pazarlamanın (1) fikirleri/idealizmi olabildiğince daha fazla seçmene aktarmak, (2) siyasetle ilgilenenlerin daha çok kitleler tarafından kabul edilebilir hale getirilmesini sağlamak, (3) siyasi partilerin rakiplerinden farklı olan yönlerini ilgili kitlelere etkin bir şekilde aktarmak, (4) yapılan seçimlerden mümkün olduğunca en çok oyu almak, (5) politik pazarlama yoluyla elde edilen desteğin sürekliliğini sağlamak, (6) destek olan seçmen sayısını olabildiğince artırmak gibi amaçları olduğu ifade edilebilir (Yılmaz, 2014: 24-25). Bu amaçları gerçekleştirmek için son zamanlarda sosyal medyanın kısa zamanda daha çok kitleye erişim sağlaması ve vatandaşların politik aktörlere karşı yorumlarını rahat bir şekilde yapabilmesine olanak vermesi ve kitlelerin verdiği tepkilerin ölçümünü daha doğru yapabilmesi gibi sebeplerle özellikle sosyal medya kullanılarak politik pazarlama yapılmaktadır (Barbaros Akcan, 2021: 70-71).

2.2. Politik Tutundurma Karmasının Seçmen Güveni Üzerindeki Etkisi

Tutundurma; iletişim aracılığıyla örgüt ve ürünler hakkında bilgilendirme yaparak hedef kitlenin ikna edilmesi faaliyetidir ve bu faaliyet reklam, halkla ilişkiler, satış geliştirme ve kişisel satış bileşenlerinden oluşmaktadır (Pride, Hughes ve Kapoor, 2008: 430). Politik pazarlamada ise tutundurma, siyasi partilerin veya adayların fikirlerini ve vaatlerini kitlelere iletmeleri olarak tanımlanmaktadır (Wring, 1997: 660; Harris, 2000: 2). Siyasi reklam, propaganda ve kamuoyu araştırmaları politik pazarlamada tutundurma

araçları arasında yer almakta ve bu yönüyle ticari pazarlamadaki tutundurma araçlarından farklılaşmaktadır (Verim, 2019: 27).

Lewicke, McAllister ve Bies'e (1998) göre güven; bir tarafın, diğer tarafın yapacağı uygulamalarla, gelecekte kendi ihtiyaçlarının karşılanacağından emin olması durumudur (aktaran: Düzgün, 2015: 36). Bu emin olma durumu siyasal kurumlara karşı hissedildiğinde güven kavramı "siyasal güven" olarak karşılık bulmaktadır (Özbek ve Mergener, 2019: 1972). Siyasal güven kavramı üzerine ilk çalışmaları yapanlardan birisi olan Easton (1975) güven kavramını, "siyasal otoritelere ya da rejime yönelik yaygın destek" olarak tanımlamıştır (aktaran: Akgün, 2001: 4).

Politik pazarlama faaliyetlerinin başarılı olması, seçmenler ile siyasi partiler ya da adaylar arasında değer yönlü ve güven temelli değişimlerin oluşturulmasına bağlıdır (Demirtaş, 2021: 77). Bir diğer ifadeyle pazarlama faaliyetlerinden biri olan tutundurma bileşenine güveni adapte etmenin sebebi politik pazarlama faaliyetlerinin başarıya ulaşmasının güvene bağlı olmasıdır. Konuyla ilgili literatürdeki çalışmalarda da bu durumu destekler nitelikte bulgular elde edilmiştir. Painter (2015), Arofah ve Dwi Nugrahajati (2014), Saahar ve Saabar (2014), Aydın (2018), Şirin (2019), Tehci ve Yıldız (2020) gibi araştırmacılar seçmen güveninin tutundurma karması çalışmalarından etkilendiğini saptamışlardır. Literatürdeki bu bulgular da dikkate alınarak aşağıdaki hipotezler oluşturulmuştur:

H1: Politik tutundurma karmasının seçmen güveni üzerinde pozitif yönde ve anlamlı düzeyde bir etkisi vardır.

H1a: Politik tutundurmanın reklam ve halkla ilişkiler boyutunun seçmen güveni üzerinde pozitif yönde ve anlamlı düzeyde bir etkisi vardır.

H1b: Politik tutundurmanın iletişim boyutunun seçmen güveni üzerinde pozitif yönde ve anlamlı düzeyde bir etkisi vardır.

H1c: Politik tutundurmanın propaganda boyutunun seçmen güveni üzerinde pozitif yönde ve anlamlı düzeyde bir etkisi vardır.

H1d: Politik tutundurmanın danışman grubu boyutunun seçmen güveni üzerinde pozitif yönde ve anlamlı düzeyde bir etkisi vardır.

2.3. Politik Tutundurma Karmasının Oy Verme Niyeti Üzerindeki Etkisi

Niyet, bireyin bir davranışı gerçekleştirmek için duyduğu arzu düzeyi ve ortaya koymayı planladığı çabanın yoğunluğu olarak tanımlanmakta (Ajzen, 1991: 181) ve bir davranış sergilenmesinin en önemli göstergelerinden birisi olarak gösterilmektedir (Arı, Yılmaz ve Bekteş, 2016: 70). Herhangi bir davranışın gerçekleşmesi ya da gerçekleştirilmesine dair arkasındaki niyeti belirlemeye çalışmak önemlidir. Çünkü bireyi bir davranışa yönlendiren niyet

sayesinde gerekli olan çalışmaların yönü belirlenebilmektedir. Pazarlama çalışmalarında da tüketicilerin niyet ettikleri yönler belirlenerek satın alma işlemi gerçekleştirilmektedir. Bu durum siyasi arenada da geçerli olmaktadır. Davranışsal niyetler adı altında seçmenlerin de oy verme niyetleri belirlenmektedir (Alp, 2017: 46).

Siyasi partilerin parti hedefleri, seçim bildirileri ve yerine getirecekleri yükümlülükler gibi etkinliklerini seçmene iletmeleri ve oy istemelerini sağlayan faktör tutundurma faaliyetleridir (Varol, 2019: 51). Bu faaliyetler reklam, açık oturum, direkt posta, halkla ilişkiler ve duyurum gibi faaliyetlerden oluşmaktadır (Widagdo vd., 2014; Yılmaz, 2016). Tutundurma faaliyetleri sayesinde seçmenle iletişim kurarak oy vermeye yönlendirme çalışmaları gerçekleştirilebilmektedir (Eroğlu ve Bayraktar, 2010: 189-190). Nitekim literatürde Yoon ve arkadaşları (2005), Ikhsan ve Shihab (2010), Güler ve Ülker (2010), Yousif ve Alsamydai (2012), Çatlı ve Çatlı (2013), Morar ve arkadaşları (2015), Şengün (2016), Çolakoğlu ve Tan (2018) gibi araştırmacılar seçmenlerin oy verme niyetlerinin tutundurma karması çalışmalarından etkilendiğini öne sürmüşlerdir. Literatürdeki bu bilgiler ve bulgular ışığında aşağıdaki hipotezler oluşturulmuştur:

H2: Politik tutundurma karmasının oy verme niyeti üzerinde pozitif yönde ve anlamlı düzeyde bir etkisi vardır.

H2a: Politik tutundurmanın reklam ve halkla ilişkiler boyutunun oy verme niyeti üzerinde pozitif yönde ve anlamlı düzeyde bir etkisi vardır.

H2b: Politik tutundurmanın iletişim boyutunun oy verme niyeti üzerinde pozitif yönde ve anlamlı düzeyde bir etkisi vardır.

H2c: Politik tutundurmanın propaganda boyutunun oy verme niyeti üzerinde pozitif yönde ve anlamlı düzeyde bir etkisi vardır.

H2d: Politik tutundurmanın danışman grubu boyutunun oy verme niyeti üzerinde pozitif yönde ve anlamlı düzeyde bir etkisi vardır.

Araştırma hipotezleri doğrultusunda oluşturulan araştırma modeli Şekil 1'de gösterilmiştir.

Şekil 1: Araştırmanın Modeli
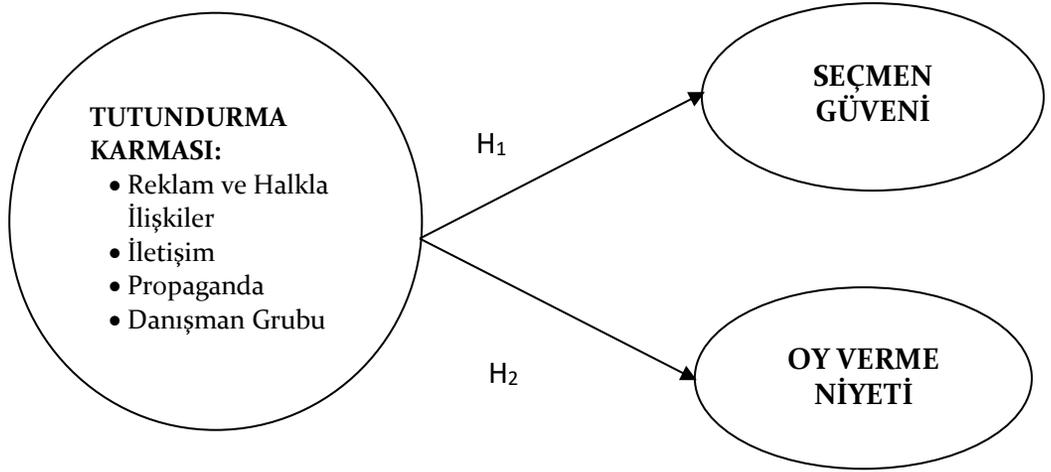
3. Araştırmanın Yöntemi

Bu araştırmanın etik kurul izni Kafkas Üniversitesi Sosyal ve Beşeri Bilimler Bilimsel Araştırma ve Yayın Etiği Kurulu'ndan 04.06.2022 tarih ve 33 sayılı 69 nolu kararı ile alınmıştır.

3.1. Araştırmanın Amacı ve Örneklemi

Bu çalışmada politik pazarlamanın tutundurma karması bileşenlerine odaklanılmıştır. Çalışma tutundurma karmasının seçmen güvenini ve oy verme niyetlerini etkileyip etkilemediğini, etkiliyor ise bu etkinin yönünü ve düzeyini belirlemeyi amaçlamıştır. Bu amaca ulaşmak için 19.05.2022-15.08.2022 tarihleri arasında Türkiye'de sosyal medya kullanan 18 yaş ve üzeri seçmenlerden veriler elde edilmiştir. Veriler için kolayda örnekleme yöntemi kullanılmış ve gerekli hesaplamalar yapılarak en az 384 veriye ulaşılması gerektiği belirlenmiştir (Yılmaz, 2014: 128). Veriler yüz yüze ve "Google Forms" çevrimiçi anket teknikleri kullanarak elde edilmiştir. Çalışmanın güvenilirliğini arttırmak için 500 anket yapılmış, yapılan anketler içerisinden 71 tanesi ayıklanmış ve 429 tane anket değerlendirmeye tabi tutulmuştur. Araştırmaya katılanların % 62,7'sinin kadın, % 37,3'ünün ise erkek olduğu belirlenmiştir. Yaş gruplarında en çok katılım gösteren kişilerin 23-42 yaş aralığındaki (% 48,3) kişiler olduğu tespit edilmiştir. Daha sonra katılım gösteren kişilerin yaş sırasını %39,4 ile 18-22 yaş arası, % 8,6'yla 43-57 yaşındaki kişiler oluştururken en az katılımı %3,7'yle 57 üzeri yaş aralıklarında bulunan kişilerin oluşturduğu belirlenmiştir. Medeni durum yönünden en fazla katılımı bekâr bireyler (% 76) sağlamıştır. Araştırmaya katılım gösteren

kişilerin % 65,3'ünün 4.250 Ł'den az aylık gelire sahip olduğu saptanmıştır. Katılımcıların öğrenim düzeyleri incelendiğinde ise sırasıyla lisans (% 54,8), lise (% 16,8), önlisans (16,3), lisansüstü (% 5,4), ilköğretim (% 6,7) mezunlarının katılım gösterdiği tespit edilmiştir. Diğer taraftan araştırmaya büyük oranla öğrenciler (% 44,8) katılım göstermiştir.

3.2. Araştırmadaki Veri Toplama Araçları

Araştırmada literatür araştırması sonrasında çalışma için en uygun olacak ölçüm araçları belirlenmiştir. Araştırmada kullanılan tutundurma ölçeği konuya uygun olacak şekilde uyarlanmıştır. Ancak seçmen güveni ve oy verme niyeti ölçeklerinin alındığı kaynak İngilizce olduğu için Türkçeye çevrilerek konuya uygun şekilde düzenlenmiştir. Ayrıca araştırmanın anket formu üç uzman tarafından incelenmiştir. Daha sonra uzmanların görüşü doğrultusunda anketin uygulanabilir olduğuna karar verilmiştir.

Araştırmada kullanılan ölçekler için Yüce (2014) ve Dabula'nun (2017) çalışmalarındaki ölçeklerden faydalanılmıştır. Araştırmada tutundurma karması için Yüce'nin (2014) çalışmasından yararlanılmıştır. Ölçek araştırmanın amacına uygun olacak şekilde düzenlenmiştir. Ölçek 16 ifadeden ve 4 boyuttan oluşmasının yanı sıra 5'li Likert tipi (1-Kesinlikle Katılmıyorum, ..., 3-Karasızım, ..., 5-Kesinlikle Katılıyorum) şeklindedir.

Seçmen güveni ve oy verme niyetini ölçmek için Dabula'nun (2017) çalışmasından yararlanılmıştır. Ölçekler araştırma amacına uygun olacak şekilde düzenlenmiştir. Ölçeklerin her ikisi de 5'er ifadeden oluşmasının yanı sıra 5'li Likert tipi (1-Kesinlikle Katılmıyorum, ..., 3-Karasızım, ..., 5-Kesinlikle Katılıyorum) şeklindedir

3.3. Araştırmada Kullanılan İstatistiki Yöntemler ve Analizler

Araştırma verilerinin analizinde SPSS 22.0 ve AMOS 21.0 paket programları kullanılmıştır. Bu programlarla tutundurma karması, seçmen güveni ve oy verme niyeti ölçekleri için açıklayıcı ve doğrulayıcı faktör analizleri, korelasyon analizi ve regresyon analizi yapılmıştır. Çalışmalarda gerçekleştirilecek analiz tekniklerinin yönünü belirlemek için ilk olarak normallik testi analizi uygulanmıştır. Araştırmada normal dağılımı belirlemek amacıyla çarpıklık ile basıklık değerleri göz önüne alınmış, uygulanan test sonucunda değerler -1,96 ve +1,96 arasında olduğu için (Babadağ, 2017: 129-130) (tutundurma karması: çarpıklık= ,452; basıklık= -,197, seçmen güveni: çarpıklık= ,203; basıklık= -,049 ve oy verme niyeti: çarpıklık= -,380; basıklık= -,532) verilerin normal dağıldığı belirlenmiştir.

Normallik testinden sonra her bir ölçek için güvenilirlik ve geçerlilik analizleri gerçekleştirilmiştir. Çalışmadaki güvenilirliği belirlemek için Cronbach Alpha katsayısından yararlanılmış ve düzeltilmiş ifade toplam puan korelasyonu

katsayısının 0,30 üzerinde olması dikkate alınmıştır (Kerse, 2019: 92). Analizlerde Cronbach alpha için; $0,00 ≤ α < 0,40$ ölçek güvenilir değil, $0,40 ≤ α < 0,60$ ölçeğin güvenilirliği düşük, $0,60 ≤ α < 0,80$ ölçek oldukça güvenilir, $0,80 ≤ α < 1,00$ ölçek yüksek derecede güvenilir referansları dikkate alınmıştır (Kalaycı, 2009: 405). Yapılan analizler sonucunda ölçeklerin düzeltilmiş madde toplam puan korelasyonun ,30'dan büyük olduğu belirlenmiştir. Analizler sonucunda tutundurma karması (0,934), seçmen güveni (0,791) ve oy verme niyeti (0,828) ölçeklerinin güvenilir oldukları belirlenmiştir.

Güvenilirlik analizlerinden sonra açıklayıcı ve doğrulayıcı faktör analizleri ile ölçeklerin faktör yapılarına bakılmıştır. Bu analizlerde KMO sonucunun en az 0,50 üzerinde, Barlett's testinin 0,05'ten küçük ve faktör yükünün 0,40'dan yüksek olması referans alınmıştır (Kerse, 2019: 92-93). Araştırmada dört boyuttan oluşan tutundurma ölçeği Türkçe bir ölçekten uyarlandığı için açıklayıcı faktör analizi yapılmamıştır. Ölçeğe yapılan doğrulayıcı faktör analizinde faktör yükleri reklam ve halkla ilişkiler boyutu için 0,77 ile 0,90 arasında; iletişim boyutu için 0,71 ile 0,77 arasında; propaganda boyutu için 0,67 ile 0,83 arasında ve danışman grubu boyutu için 0,57 ile 0,78 arasında değerler almıştır. Dolayısıyla ölçekteki ifadelerin 0,40'tan yüksek değerlere sahip olduğu belirlenmiştir. Ayrıca analizde model uyumuna ilişkin indekslerin referansları sağlamaması nedeniyle kabul edilebilir değerlere ulaşmak için kovaryanslara ilişkin düzetme önerileri yapılmıştır. Bu öneriler doğrultusunda reklam ve halkla ilişkiler boyutundan 2 madde (TRH5 ve TRH6), iletişim boyutundan ise 1 madde (Tİ1) analizden çıkarılmıştır. Bunun yanında maddeler arası modifikasyonlar yapılmıştır. Son durumda uyum indekslerinin referans değerlerine ulaşıldığı gözlenmiştir (Tablo 1).

Araştırmada seçmen güveni ile oy verme niyeti ölçekleri orijinal ölçeklerden uyarlandığı için açıklayıcı faktör analizi yapılmış ve tek faktörlü bir yapıya sahip olduğu belirlenmiştir. Açıklayıcı faktör analizinde seçmen güveninin (KMO= 0,758) ve oy verme niyetinin (KMO= 0,775) KMO değerlerinin referans kriterleri sağladığı ve Barlett değerlerinin 0,000 olduğu görülmüştür. Faktör yükleri incelendiğinde seçmen güveni için 0,587 ile 0,832 arasında değerler aldığı; oy verme niyeti için 0,647 ile 0,822 değerler aldığı görülmüştür. Sonrasında doğrulayıcı faktör analizi yapılmış ve faktör yükü değerlerinin seçmen güveninde 0,62 ile 0,79 arasında ve oy verme niyetinde 0,66 ile 0,74 arasında olduğu görülmüştür. Uyum indeksi değerleri için modifikasyonlar yapılmış ve tüm kriterler referansları karşılamıştır (Tablo 1). Dolayısıyla da ölçeklerin güvenilirliği ve geçerliliği için kriterler sağlanmıştır.

Tablo 1: Modifikasyondan Sonra Ölçeklerin Uyum İndeksi Sonuçları

İndeksler	Referans Değeri	Tutundurma Karması	Seçmen Güveni	Oy Verme Niyeti
CMIN/DF	$0 < X^2/sd \leq 5$	3,640	3,057	1,673
RMR	$\leq ,1$	,100	,088	,075
CFI	$\geq ,90$	,951	,986	,995
IFI	$\geq ,90$	,943	,986	,995
TLI	$\geq ,90$	,951	,973	,992
RMSEA	$< ,05 - \leq ,08$	,079	,069	,040

Not: Referans değerleri için Kerse (2019)'nin çalışmasında dikkate aldığı değerler kullanılmıştır.

3.4. Hipotez Testleri

Araştırmanın hipotezlerinin testi için öncelikle korelasyon analizi yapılmıştır. Korelasyon analizinde Pearson Korelasyon analizi ile ilişkiler belirlenmeye çalışılmıştır. Elde edilen bulgular Tablo 2'de gösterilmiştir.

Tablo 2: Korelasyon Analizine İlişkin Bulgular

Değişkenler	Tutundurma Karması	Reklam Halkla ilişkiler	İletişim	Propaganda	Danışman Grubu	Seçmen Güveni	Oy Verme Niyeti
Tutundurma Karması	1						
Reklam Halkla ilişkiler	,842**	1					
İletişim	,855**	,612**	1				
Propaganda	,793**	,484**	,634**	1			
Danışman Grubu	,802**	,508**	,640**	,585**	1		
Seçmen Güveni	,457**	,331**	,358**	,450**	,392**	1	
Oy Verme Niyeti	,461**	,333**	,369**	,478**	,367**	,550**	1
** 0.01 anlamlılık düzeyinde (2-uçlu)							

Tablo 2'ye göre tutundurma karması ile seçmen güveni (0,457) ve oy verme niyeti (0,461) arasında pozitif yönde ilişki bulunmaktadır. Bu ilişkilere boyutlar düzeyinde bakılırsa da aynı durum söz konusudur. Reklam-halkla ilişkiler ile seçmen güveni (0,331) ve oy verme niyeti (0,333) arasında; iletişim ile seçmen güveni (0,358) ve oy verme niyeti (0,369) arasında; propaganda ile seçmen güveni (0,450) ve oy verme niyeti (0,478) arasında ve danışman grubu ile seçmen güveni (0,392) ve oy verme niyeti (0,367) arasında pozitif ilişkiler olduğu görülmüştür.

Korelasyon sonrası basit regresyon ve çoklu regresyon analizi yapılmıştır. Tutundurma karması ve boyutlarının bağımsız, seçmen güveninin bağımlı değişken olduğu durumda elde edilen bulgular Tablo 3'te verilmiştir.

Tablo 3: Tutundurma Karması ve Boyutlarının Seçmen Güvenine Etkisi

	β	Std. Hata	Standardize β	t	*p*
Reklam ve Halkla İlişkiler	0,074	0,041	0,100	1,821	0,069
İletişim	-0,002	0,059	-0,002	-0,033	0,974
Propaganda	**0,261**	**0,049**	**0,307**	**5,294**	**0,000**
Danışman Grubu	**0,141**	**0,051**	**0,163**	**2,779**	**0,006**
R: 0,484	R²: 0,234		ΔR²: 0,227		F: 32,463
TUTUNDURMA	**0,457**	**0,043**	**0,457**	**10,609**	**0,000**
R: 0,457	R²: 0,209		ΔR²: 0,207		F: 112,553

Tablo 3'teki bulgular incelendiğinde boyutlar düzeyinde sadece propaganda ve danışman grubunun seçmen güvenine etkisi istatistiksel olarak anlamlı (p<0,05) bulunmuştur. Bu etkinin düzeyi propaganda boyutunda 0,307, danışman grubu boyutunda 0,163'tür. Bunun yanında genel tutundurma karmasının da seçmen güvenini 0,457 düzeyinde anlamlı olarak etkilediği belirlenmiştir. Bu bulgulardan hareketle H₁a ve H₁b reddedilmiş, H₁, H₁c ve H₁d ise kabul edilmiştir.

Araştırmada tutundurma karması ve boyutları bağımsız, oy verme niyeti bağımlı değişken olarak ele alınmış ve yapılan regresyon analizi bulguları Tablo 4'te verilmiştir.

Tablo 4: Tutundurma Karması ve Boyutlarının Seçmen Güvenine Etkisi

	β	Std.Hata	Standardize β	t	*p*
Reklam ve Halkla İlişkiler	0,090	0,050	0,099	1,814	0,070
İletişim	0,020	0,072	0,018	0,278	0,781
Propaganda	**0,384**	**0,060**	**0,365**	**6,353**	**0,000**
Danışman Grubu	0,098	0,062	0,091	1,566	0,118
R: 0,498	R²: 0,248		ΔR2: 0,240		F: 34,874
TUTUNDURMA	**0,571**	**0,053**	**0,461**	**10,743**	**0,000**
R: 0,461	R²: 0,213		ΔR2: 0,211		F: 115,411

Tablo 4'e göre boyutlar düzeyinde propaganda boyutu oy verme niyetini anlamlı düzeyde etkilerken; reklam ve halkla ilişkiler, iletişim ve danışman grubu boyutları anlamlı düzeyde etkilememektedir. Propaganda boyutunun oy verme niyetine etki katsayısı 0,365 düzeyinde ve pozitif yönde gerçekleşmiştir. Genel tutundurma karması ise oy verme niyetini 0,571 düzeyinde pozitif yönde etkilemiştir. Bu nedenle H2 ve H2c hipotezleri kabul; H2a, H2b ve H2d hipotezleri ise reddedilmiştir.

4. Sonuç

Bu araştırmada, politik partilerin sosyal medyada gerçekleştirdikleri politik tutundurma karması bileşenlerinin seçmen güvenine ve oy verme niyetine etkisi belirlenmeye çalışılmıştır. Bu amaç doğrultusunda öncelikle politik pazarlama tutundurma karması, seçmen güveni ve seçmen davranışı (oy verme niyeti) kavramları açıklanmıştır. Sonrasında ise bu kavramlar arasındaki ilişkiler belirlenmeye çalışılmıştır. Bunun için Türkiye'de sosyal medya kullanan 18 yaş ve üstü bireylerden veriler elde edilmiş ve yapılan analizlerle aşağıdaki sonuçlara ulaşılmıştır.

Öncelikle araştırmada, politik tutundurma karmasının seçmen güvenini pozitif yönde ve anlamlı düzeyde etkilediği bulgusu elde edilmiştir. Elde edilen bu sonuç literatürdeki çalışma bulgularıyla karşılaştırılmış (Saahar ve Saabar 2014; Painter, 2015; Şirin 2019) ve paralel yönde bulgular elde edildiği görülmüştür. Dolayısıyla sosyal medya ortamındaki politik tutundurma faaliyetleriyle seçmenlerde güvenin sağlanabileceği gözlenmiştir. Bunun yanında tutundurma karmasının tüm boyutlarında bu etkinin bulunmadığı belirlenmiştir. Reklam ve halkla ilişkiler ile iletişim boyutları seçmen güvenini etkilememiş, dolayısıyla da seçmen güveninin oluşmasında herhangi bir rolünün bulunmadığı tespit edilmiştir. Boyutlardan propaganda ve danışman grubu seçmen güvenini etkilemiş, bu

nedenle de bu boyutlar özelindeki çalışmalar sayesinde seçmende güvenin sağlanabileceği gözlenmiştir. Başka bir ifadeyle seçmenlerin güvenini elde etmek isteyen parti ya da parti mensupları sosyal medyada tutundurma karmasından genel manada yararlanabileceği gibi, tutundurma karması içinden ise daha çok propaganda ve danışman grubu faktörlerine odaklanarak seçmenlerde güven yaratabilirler. Burada danışman grubu olarak sosyal medya fenomenlerinden yararlanılması önerilebilir. Sosyal medya fenomenlerinin siyasi parti ile ilgili yapacağı paylaşımlar takipçilerin o partiye güvenmesini sağlayabilir.

Araştırmadaki bir diğer bulgu politik tutundurma karmasının oy verme niyetini pozitif yönde etkilediği yönünde olmuştur. Bu bulgu Yoon vd.'nin (2005), Ikhsan ve Shihab'ın (2010), Morar vd.'nin (2015) ve Zarouali vd.'nin (2020) bulgularıyla paralellik göstermiştir. Dolayısıyla sosyal medya ortamında gerçekleştirilen politik tutundurma faaliyetleri ile seçmenlerin oy verme niyetinde artış olduğu belirlenmiştir. Diğer taraftan araştırma sonucunda tutundurma karması faaliyetlerinden olan reklam ve halkla ilişkiler, iletişim ve danışman grubu çalışmalarının seçmenlerin oy verme niyetlerini etkilemediği görülmüştür. Bunun yanında tutundurma karması faaliyetlerinden biri olan propaganda ile oy verme niyetinin güçleneceği sonucuna ulaşılmış, dolayısıyla özellikle propaganda çalışmalarına ağırlık verilerek seçmenlerin oy verme niyetleri artırılabilir.

Araştırma sonucunda genel bir değerlendirme yapıldığında; sosyal medyada tutundurma faaliyetleri sayesinde seçmenlerin parti ya da parti üyelerine güvenlerinin ve oy verme niyetlerinin arttığı belirlenmiştir. Bu durumun da partiye başarı getireceği söylenebilir. Çünkü parti ve parti üyeleri sosyal medyada gerçekleştirecekleri tutundurma faaliyetleri ve özellikle de propaganda çalışmaları sayesinde seçmenlerin hem güvenlerini hem de oy vermeye yönelik niyetlerini arttırarak rakip partilere karşı önemli bir rekabet avantajı elde edebileceklerdir.

Araştırmada örneklem olarak 18 yaş ve üstü sosyal medya kullanan seçmenlerin kullanılması, kendilerine gönderilen linklere güvenmeme durumu nedeniyle çalışmaya katılmak istememeleri ve zaman ve maliyet açısından yaşanan zorluklar araştırmanın kısıtlarını oluşturmaktadır. Gelecek araştırmaların bu kısıtları dikkate alması, tutundurma karması ile seçmen bağlılığı, seçmen memnuniyeti, seçmen ilgilenimi gibi değişkenlerin ilişkisini incelemesi önerilmektedir.

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Governing The International Wars; Theory, Legislation, Human Rights, Critical Human Security, And Ethics

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Abstract

The study indicates wartime "programmed" violence's implications within the liberal interpretation of contemporary legislative and human rights debates. It discusses related war theories and practices, the problematizing instrumentalization of instilling new global ethics, arguing that humanitarian interventions often became "usable" in the new millennium's geopolitics; wars fatally affect the innocent. It points out that the origins of democracy are structurally violent and that the threat of terrorism, in addition to revealing new forms of "democratic violence," is having a transformative effect on the very character of democracy. How the concept of cause agrees with armed humanitarian intervention, and do we have the right to impose democracy by force? Whether the theory of just war in its positivist-legalist paradigm that combines universalist principles with utilitarian harm-weighing versus profit can offer a comprehensive method of morally contemplating current wars. The distinction between liberal cosmopolitan arguments and social democratic ones is apparent. The arbitrariness and the imposition of individual states' views create issues, leading to fragility (human security, socioeconomics, economic development, health). The compulsory international focus and responsibility should incorporate critical medical (children) - "the right to health" and humanitarian goods. Implementing rules to control war's destructiveness is less effective in intercultural conflicts. The doctrine of "just war" application is questionable, and no new victim should suffer even when the goal of the intervention is entirely legitimate and "humane." It cannot be just that it will exempt intervention forces from applying international humanitarian law, nor does the legitimacy of the intervention exempt them from respect for international humanitarian law. The international law concept has evolved from an instrument of promoting peace to an agent of the violent argument of force realization. Ethics is often imposed as politics; human rights ethics transformed into war ethics, leading to human rights violations and civilian casualties. War justice and the moral paradigm within globalization's contemporary forms are questioned. A broader discussion of the assumptions of the universality of Western values that have driven international law for centuries is required.

Keywords: War Governing, War legislation, Liberalism, Ethics, Violence, Civilians, Humanitarian intervention, Human rights, human security

Introduction

Three traditions dominate ethical reflections on war, realism, pacifism, and just war theory. Of course, there are other considerations, but they are contradictory, are not subject to classification, and do not enter these divisions. Let us start from the assumption that it is impossible to eliminate the very possibility of war. There are two perspectives we can conceptualize a world without war - and both lead to a philosophical paradox position. One would be to imagine ourselves as unfree so that by abolishing freedom, which is subversive, abolished the basis for the possibility of conflict; others to make every attack a priori followed by the current capitulation, that is, to be a world without freedom, in which everything is previously determined and in which there is no room to choose, that is, to change one's mind. So if war is possible, not only logically but also practically, as that "inevitable" choice in which all other alternatives have been consumed, as the only remaining way to conflict resolved, how do we understand war? The just war theory's main controversial proposition claims that states have a reason and moral justification for going to war. War is sometimes, of course, not always morally just. The Allied War in World War II exemplifies a morally justified war. In the last few centuries, significant efforts have been made to formalize the rules of war through international laws and conventions and reduce cultural differences by applying rules and laws derived from Western tradition.

Democracy is the eminent political system, the most essential as the people's rule, including competitive elections, a constitution that protects individual rights and divides power. It justifies using force in international law to promote democracy but does not allow it. Using force in promoting democracy resists liberal theory, just war tradition, and international law. The liberal peace debates have produced a body of critical research that has analyzed the theory and practice of contemporary peace interventions from different positions. These debates have questioned the paradigm of liberal peace, inquiring about how liberal and prosperous these interventions are. Without offering a definitive solution, it may be time for a broader discussion of the assumptions of the universality of Western values that have driven international law for centuries. The corpus of human rights has been widely used to achieve the desired geopolitical interests. Mass media are used for economic sanctions, hybrid warfare, and humanitarian military interventions. In that context, human rights protection becomes the formal basis of interventionism, which shapes the political situation in many countries. The concept of international law has evolved from an instrument of promoting peace to an agent of violence, legitimizing the argument of force. Ulrich Beck considers the human rights regime a "very effective strategy that" revolutionizes the world political order "in such a way that the meta-power of global civil society (NGOs), as a new subject of international relations,

imposes autonomy on the nation-state. National or social rights lose their advantage over the human rights regime, which opens up a boundless power space in world domestic politics. Western, globally influential states and non-governmental organizations interfere intensely in others' domestic politics to change their power structures. Beck speaks of "a mixed form of humanitarian selflessness and the imperial logic of power, especially expressed in military humanitarian interventions, and points out that global civil society topics such as human rights protection are often instrumentalized by the United States (US), Europe (EU), and other global actors. Become very useful "ideological equipment for economic and military wars." (Beck, 2012)

Throughout contemporary history, global peace has been a powerful objective. Unfortunately, it has also been one of the most inaccessible. Wars and conflicts produced their share of pessimists as well as visionaries. Pessimists saw war as an inescapable part of the human condition. Optimists viewed growing wealth, expanding self-government, and advancing technology as drivers of slow but steady moral progress. Economic sanctions have been regarded as an alternative to war. However, for most people in the interwar period, the economic weapon was the essence of total war. Therefore, the initial intention behind creating the economic weapon was not to use it. Instead, economic sanctions were intended to be a form of deterrence. Those who lived in the early twentieth century's pre-nuclear decades raised a frightening prospect. A nation put under comprehensive blockade was on the road to social destruction. The experience of material solitariness left its mark on society for decades afterward, as the effects of poor health, starvation, and malnutrition were transmitted to unborn generations. Weakened mothers gave birth to underdeveloped and undersized children. The economic weapon thereby cast a long-lasting socio-economic and biological gloom over targeted societies, not unlike radioactive fallout. (Mulder, 2022)

War is an irreversible process because it establishes a new right and a new class of people (even if they were the winners) deceived, humiliated, and disgraced, not by opponents but by their institutions and individuals. Implementing rules to control war's destructiveness is less effective in intercultural conflicts or conflicts where one or more antagonists arbitrarily choose to deviate from the rules hoping that the reward will outweigh the price. The idea in the UN Charter and the Universal Declaration of Human Rights that ethical convergence leads to the global acceptance of Western liberal ideas does not reflect reality. The conflict between al Qaeda and the West resists this idea. Nevertheless, it still represents the legal and ethical framework for war. The answer to the question "What is war" has enormous consequences. The notion of war is manipulated and adapted to political and moral needs. Is addressing a "war on terror" after 9/11 ethically acceptable? What does the use of geopolitical language contain concerning the norms of international law?

Regarding the concept of war, international law takes the relationship between states as a starting point. The war is open to the legal introduction of a state of emergency. At the same time, international law determines the formal requirements for war and waging war, the use of uniforms, the types of weapons, the treatment of prisoners, and other relations. The response to military aggression presupposes that challenges are accepted. Civilians need protection. Therefore, in international law, the regulation and conduct of war are imperative because legal concepts are narrow in the historical and social context. There are attempts to uphold the rules of internal conflict in international war law, but civil wars are still uncovered.

A significant issue relates to the legitimate aims of a just war that the proposed revisions call into question. The only way to return the theory of just war to its critical potential is to understand the criterion of the just cause of war in a much narrower sense to make it impossible to justify acts of aggression. Whether this would mean limiting justified wars to only those of self-defense, how the question of humanitarian military interventions would be considered in that context, and whether their consideration required a completely new theoretical basis, utterly different from that provided by the theory of just war, remains to be seen. Contemporary issues facing the theory of just war are related to the possibility of incorporating the ethical principles of just war into the consideration and resolution of military and national security strategies. A realistic theory of "just war," as "applied ethics for foreign policy and military actors," proves that "warfare within the limits of moral permissibility is useful for the national interests of states." (Morkevičius, 2015) There is significant compatibility between the realistic theory of international relations and the theory of just war; moral conditions/rules should be integrated into the decision-making processes of war and their governing. It is important to note that with change like war, the third area of the just war theory appears, which is being established. And before the area of end-of-war ethics: jus post-Bellum. Its subject matter is a set of principles and criteria to be followed after the conflict's end in re-stabilizing war-torn societies and territories. A state that does not respect the rules of a just war (Ius ad Bellum, Ius in Bello, Ius post-Bellum) endangers the ethical paradigm and its fundamental national interests. In the genuine liberal aspect of waging war, there should be two main principles - the principle of discrimination of military and civilian goals and the principle of proportionality of the evil created by the war and the achieved well.

Conceptions of a new cosmopolitan democracy or global rule rely on the relative weakening of nation-states' sovereignty as their condition of possibility. The global state of war has promoted liberal cosmopolitanism into an essential political stance and seemingly viable alternative to US global control. Monopolarity was created during the 90s of the 20th century through

the idea of the New World Order, The US as the only remaining global superpower, and the unification of Germany as an economic power (which aspired to economic supremacy in Europe corroborated by both political influence and ambition after unification), imposed new rules of the game. The US has pursued a consistent foreign policy for the last 100 years, which is the main goal - to prevent any force from gaining too much power in Europe. The Russian Federation is trying to regain its influence in various countries points of the planet and through types of economic and political integrations and alliances like CIS (Commonwealth of Independent States) and the Eurasian Union or the BRICS (economic connections: Brazil-Russia-India-China-South Africa), in an era often referred to as "post-American." BRICS is the largest market globally, with 2.9 billion people or about 40% of the global population.

National and international security doctrines and a realpolitik approach exist today. Moreover, states are embroiled in military, technological, and economic competitions. The modus operandi is different. Although there is no universal definition, the main feature of hybrid war is its legal asymmetry, as hybrid antagonists deny their activities and operate on the fringes of international law. Conflicts are fought in unique, innovative, and radically different forms. With the advent of modern hybrid warfare, they became more psychological, technological, and economical. Hybrid warfare is not just the absence of armed conflict. Instead, it has gained significant relevance in contemporary conflicts. States often employ non-state actors and information technology to suppress their competitors. Hybrid wars and conflicts can destabilize and undermine entire societies and cause numerous casualties and entire post-war human rights spectrum abuse. Moreover, it creates disputable "critical" human security and state-wellbeing.
For example, the multiethnic/multireligious socialist Yugoslav society has been violently transformed, producing antagonistic ethnonational societies. Post-war Peacebuilding, liberal peace approach, and the international war effort (1999- NATO strikes on Serbia) have not reduced violent ethnic/religious ethnopolitics and pastoralism as potent identity manifestations of the social capital. However, simultaneously, inter-ethnic reconciliation and restoration of political pluralism in the former Yugoslavia have been going on since 1995. As a result, the solid clerical-national conservatism aimed to reduce socio-political pluralism while renewing the old war rhetoric. Since under the international community, "resorting to armed struggle" is not possible for now, it takes on ideologically sophisticated but psychologically transparent forms of hybrid conflicts. Hybrid wars are maintained in non-violent form with frequent secessionist processes and territorial disputes. (Hadzic, 2020) Therefore, the crisis condition and hybrid conflict persisted in former Yugoslavia (particularly Bosnia and Herzegovina - B&H and Kosovo), fearing minor or significant consequences and escalation. Hybrid wars and internationally monitored (OHR) status quo are maintained

in non-violent form with frequent secessionist processes and territorial disputes. Therefore, the crisis condition and hybrid conflict persisted in former Yugoslavia (particularly Bosnia and Herzegovina - B&H and Kosovo), fearing minor or significant consequences and escalation. Moreover, the power of the (OHR) has been undermined by a lack of Western resolve and Russian challenges.

The legitimacy and legality of humanitarian interventions are not the only ones essential to which international law should be considered. The humanitarian intervention to protect civilians and cities must not create new victims and destruction. International humanitarian law should be applied equally to all, even to the participants in the humanitarian intervention, as those who should protect human rights do not commit crimes themselves. After the Cold War, new "primordial" enemies of the West and the "democratic world," Western geopolitical planners marked Islamic states as "suitable" for a new role and replacement for the former communist states of the "eastern camp." As a result, Shiite Iran has been declared an "axis of evil." In contrast, Libya, Syria, and Egypt's regimes have been described as "undemocratic and dictatorial." The political and economic consequences of military interventions in Afghanistan, Iraq, and Libya and the failure to "democratize" these states nullify the fundamental idea of "military humanitarianism": protecting the civilian population. Many new questions have come with the change in the nature and perception of war. What are the legitimate goals of wars? Are wars morally justified only by pure self-defense or those that lead to defending "others," such as humanitarian military interventions? In other words, can the defense be anything other than one's territory and identity? If so, under what conditions? Is it legitimate to wage war as a preventive action to suppress a latent - but specific danger that will follow shortly? Does a state waging an unjust war have equal rights in war? As well as the side whose war is justified? Finally, how do modern wars end?

After Iraq, the US became inclined to carry out unilateral military actions. Namely, the primary goal of American foreign policy is the messianic promotion of democracy, with the focus of security and defense policy shifting towards preventive action against the so-called undesirable states that threaten international peace. The doctrine of preventive attack includes the use and application of several different measures to overthrow enemy regimes: from political and economic sanctions and supporting the opposition to undertaking direct military interventions that may have the character of a unilateral operation to overthrow enemy regimes in the preface to the 2002 National Security Strategy. It is stated that "the war on terror is a global endeavor of indefinite duration," so the US foreign policy approach becomes the basis of military force. (The National Security Strategy of the United States of America, 2002) The violent democratization of states in the Middle East is

presented in the US and other Western countries. In this context, protecting human rights becomes the formal foundation of American interventionism. This suitable political instrument shapes the political situation in European semi-periphery countries (Ukraine, Macedonia, Kosovo) or violently overthrows undesirable regimes in North Africa and the Middle East.

The human security notion is focused on people. It deals with how people live in society, universally, living in rich or developing countries, who freely exercise their numerous choices, how much access they have to market and social opportunities, and whether they live in conflict or peace. Human security is defined in its broadest definition as a triad: freedom from fear, freedom from want, and freedom from indignity. Freedom from fear, explicitly recognized in fundamental human rights treaties, has been forgotten in human rights discourse. Nevertheless, fear can have a profound effect on behavior. Without recognizing the importance of freedom from fear, the fulfillment of many human rights, especially physical security, is at stake. Freedom from want refers to individuals' protection to satisfy their basic needs and the economic, social, and environmental aspects of life and livelihoods. Freedom from indignity refers to promoting an improved quality of life and enhancing human welfare, permitting people to make choices and seek opportunities that empower them. Because of the connections between poverty and insecurity, poverty is tackled as a determining influence on maintaining peace in countries that recently emerged from conflict. However, from a critical security studies perspective – and non-traditional security studies more broadly – is the concept of human security something which should be taken seriously? Does human security have anything significant to offer security studies? Both human security and critical security studies challenge the state-centric orthodoxy of conventional international security, based upon military defence of territory against 'external' threats. Both also challenge neorealist scholarship, and involve broadening and deepening the security agenda. Yet critical security studies have not engaged substantively with human security as a distinct approach to non-traditional security. (Newman, 2010)

This study indicates wartime programmed violence's implications within the liberal interpretation of contemporary legislative and human rights debates. The manuscript discusses related war theories and practices, problematizing instrumentalization of instilling new global ethics, arguing that humanitarian interventions often became "usable" in the new millennium's geopolitics; wars fatally affect the innocent. It points out that the origins of democracy are structurally violent and that the threat of terrorism, in addition to revealing new forms of "democratic violence," is having a transformative effect on the very character of democracy. How the concept of cause agrees with armed

humanitarian intervention, and do we have the right to impose democracy by force? Whether the theory of just war in its positivist-legalist paradigm that combines universalist principles with utilitarian harm-weighing versus profit can offer a comprehensive method of morally contemplating current wars.

Methodology

The study includes the theoretical and conceptual frameworks and uses general scientific methodology. The research relied on meta-analysis, analytical, historical-comparative, descriptive, and content analysis methods. The data acquisition method and the content analysis are related to numerous sources. The study included an in-depth theoretical literature review and examination of vast sources, such as primary documents (scientific and chronological media records).

1. Governing the wars; between theory, and practice

We know from experience that war is brutal, unjust, and cruel. At the same time, it remains a central problem in human history. These two facts are alarming and exist despite or even thanks to human character. Recent events on the world stage, Afghanistan, the Arab Spring, the Darfur crisis, the bombing of Madrid and London, and North Korea's threats, show that the human race is not getting smarter when resolving violent conflicts. The significant threat of terrorism poses new challenges and questions. Classic/traditional mass wars will decrease, and the battlefield may become a remote civilian zone. In modern times, the use of violence is the state's prerogative. How is Max Weber stating, "Only the state has the right to carry out violence." The institutionalization of violence began at the same time democratic institutions were established.

In addition to the realistic and pacifist, the theory of just war is one of the three basic war concepts. Just war theory views war as a purposeful activity subject to moral judgments like other human activity. Wars, therefore, are fought for various reasons, and only a few of them are once justified. A just war would then be a war that can be justified by applying the previously articulated norms, rules, and principles. A just war, Grotius thinks, is an instrument of retaliation or revenge for damaged rights, but only as a last resort: Engaging in it is driven by the inability to find another way to achieve peace. (Grotius, 2005) As such, a just war is not in conflict with either God's or with natural law (which is independent of God's law and draws its principles from reason), as well as with the law of nations, which includes a set of agreed rules which regulate conduct in war. Still, the war itself must meet specific criteria to be justified. Grotius deals with the issue jus ad Bellum, where it largely synthesizes what his predecessors have already said, offering all those reasons which they also stated to be valid as just reasons for war: self-defense,

the return of the abducted ownership, or collection of some debt, and punishment for previously caused damage which resulted from a violation of rights. In addition to a justifiable reason, war must be proportional to the bell's meaning. That means that the damage the war brings should not be greater than the benefits it produces. The ultimate goal of war should always be to achieve good or diminish evil. (Grotius, 2005) James Johnson, a historian of just war, believes that the theory's origin is classical Greco-Roman and even Christian values. (Johnson, 1981) We can find a starting point in Aristotle, Cicero, and Augustine. Many rules have evolved and, as such, entered into international codes relating to armed conflict. The UN, The Hague, and the Geneva Convention are just some international institutions that follow them. The tradition of just war theory undoubtedly influences and dominates the moral and legal discourses concerning war. The theory of just war can be divided into three parts: jus ad Bellum, which concerns justice in a war in general; jus in Bello, concerning justice in the war after it has begun; and jus post-Bellum, concerning justice in a war in the final phase of the war, upon completion. According to the realistic tradition of understanding interstate relations (from Thucydides to today), it is inappropriate to ask for war justice.

Modern theorists of just war speak of one reason, resistance to aggression. Aggression is armed force and an attack on one's fundamental rights. The fundamental rights of two types of entities are in force here: state rights and the rights of its citizens. International law confirms that states have many rights, primarily political sovereignty, and territorial integrity. An example of aggression is Germany's attack on Poland in 1939 and Iraq's on Kuwait in 1990, where the aggressor used armed force to overthrow its government, occupy territory, and establish its own rule. The attacked state has the right to a violent response to defense; it must stop the violent aggressor. The state has this duty because it needs to defend its population's rights; after all, the government is established to ensure its fundamental rights. If the state is equal to that, it is legitimate; if not, it has no right or reason to exist. From a moral standpoint, only legitimate governments have the right to go to war. The legitimate government theory must have a foundation for just war, as Thomas Aquinas observed well. (Reichberg, 2010) This connection to legitimacy is consistent with war's perspective: a violent conflict over how an area will be governed. There are three essential criteria for a legitimate government based on international law. The state has the right to rule and peace if all conditions are met. First, the state is recognized as legitimate by its people and the international community. The state, secondly, must avoid violating the rights of other legitimate states. In particular, legitimate states do not carry out aggression against other societies.

According to the practice of theories of just action (from Aurelie Augustine to the present day), it is necessary - according to ethical criteria - to differentiate

the only from the unjust wars. One approach focuses on principles rather than rules, emphasizing that laws and ethics should be considered together rather than separately. On whether war has changed so much that new principles are needed, it must be said that the tradition of just war provides an appropriate ethical framework. It is a strategically hazardous idea for the world to experience an entirely new form of war that requires different ethical principles. After all, the tradition of just war has adapted to geopolitical conditions and military technology changes for centuries. Applying traditional principles is undoubtedly challenging, but that does not mean they should be abandoned. (Metz and Cuccia, 2011) Traditional standards of war implementation, differentiation, and proportionality remain essential. They can also be applied to "war between the people" without removing the principles. Advanced nations must ensure that understanding the principles is spread at warfare's operational and tactical levels. Besides, realism provides a skeptical view of applying the moral concept to war. Moreover, the realists claim that only power and national security motivated states during the war period.

The jus ad Bellum and jus in Bello concepts were absent in the Romance and scholastic traditions. They were unknown to the civil code of the Middle Ages, as well as to international law. There was no division into two types of rules, ad Bellum and the other in Bello. Finding the terms jus ad Bellum and Jus in Bello before 1930 is challenging. None were mentioned during 1899 and 1907 at the Peace Conference, at which the laws of war were codified. During war research, the term jus ad Bellum was used in 1928 and 1931. The term itself gains in value only thanks to the Vienna School. Josef Kunz was one of the first to use these terms, who probably "coined" them. The terms were first published in an article in 1934 and then in a book in 1935. (Kunz, 1951) Alfred Verdross used the terms in the same sense as Kunz in his book on International law. Robert Regout also uses both terms in his book on just war doctrine. (Regout, 1935)

Nevertheless, no term in that period was published in any significant journalistic papers or appeared in any courses on war and peace at the Hague Academy of International Law or any other academy. After World War II, the terms began to be used en masse when Paul Guggenheim, a student at the Vienna School, used the terms jus in Bello and ad in Bello in the first significant international agreement postwar period. In works created under Guggenheim's leadership, published in 1956, Kotzsch takes them for granted as terms in wide use. As we can see, some ideas of a just war existed in ancient times, but today's terminology appears relatively late, only in the Middle of the last century.

The jus ad Bellum rules primarily apply to the country's political leaders since they are the ones who inaugurate wars, commence armies, and other jus ad Bellum principles. If they fail, then they have committed a war crime. According to Nuremberg prosecutors, an aggressive leader who starts an unjust war has committed a crime against peace. What constitutes a just or unjust war is determined by the rules of jus ad Bellum. A just and justifiable reason is the most important rule determining everything. A state can launch an attack only for the right reason. It includes self-defense against external attacks, defending others from the same events, and protecting the innocent from brutal, aggressive state systems. The symmetry of war refers to its characteristic, which is the basis of division jus ad Bellum and Jus in Bello.

The war cannot be just for both sides, but both sides can lead the war just way. Symmetrical wars imply mutual respect and reciprocity between warring parties, prima facie the moral equality of soldiers, and, among other things, the immunity of civilians on both sides. However, modern wars are often asymmetric armed conflicts in which victory no longer plays neither a constitutive nor a regulatory role and, therefore, one can no longer speak of a clearly defined winning and losing side. They are usually conducted outside their territory, and their goal is to "win the heart and minds," precisely those people or peoples on whose territory the war is being waged. (Babic, 2014) On the one hand, the difference between such political goals that go beyond the limits of the morally permissible and aspire to a kind of imperialism and paternalism and, on the other hand, clearly defined military goals is becoming pronounced in contemporary conflicts. Modern wars almost certainly result from a short-lived truce, not from a long-lasting peace, which violates the separate dichotomy of the state of war and peace: constant war, paradoxically, becomes a component of peace, and peace increasingly resembles a state of war.

Ethics has nothing to do with the cruel world of global politics, where only the strong survive. The states should pursue vital interests in security, influence over others, and economic growth, not moral ideals. The existing ethics has deep roots in the West, developed from the Roman and early Christian traditions. The laws of war arose after the Reformation and religious wars in the 16th and 17th centuries. Grotius, the father of modern international law, sought sources of principles outside religion to bridge the doctrinal differences between Protestantism and Catholicism. He found them in nations' common PracticePractice (international customary law) and all people's natural laws. It is a "stopped shot" of an evolving phenomenon. When significant changes occur, the insignificant ones that make that change must catch up. Such is the situation today. The Westphalian legal system created at the end of the Thirty Years' War (1648) stands on stability while respecting sovereignty. It regulated only the use of force between states. Over time, it became more restrictive

about the legitimate use of force, culminating in the Kellogg-Briand Pact of 1928, limiting force to self-defense. Then, as internal conflicts overcame international wars as the primary source of violence in the global security system, this legal framework became less relevant. However, the 9/11 attack was a destructive knell to the Westphalian - Kellogg-Briand system, demonstrating the appearance and ability of non-state players. Hence, the state-centric legal framework needed to be revised. However, the recent proliferation of non-state antagonists, minor bound by these laws and conventions, and the global challenges to the dominance of Western norms and rules have made the rights and alliance regime ineffective despite its impressiveness. Moreover, the best legal system means little if continuously ignored.

Furthermore, new participants in the war, e.g., private military and security companies and new technologies such as uncrewed aerial vehicles, robots, and non-lethal weapons, are testing a traditional Western legal and allied system of conventional nation-state warfare. The social-political arrangement in which we live, despite the occurrence of numerous supranational actors, is predominantly based on nation-states. It is a heritage 17th century, and the so-called Westphalia world order is compatible with international relations perspectives in which states are a vital source of power and are the only significant actor on the international scene. (Hadžić, 2020) Furthermore, whether traditional norms and laws need only be adapted or a comprehensive revision is needed to approach a war that disfigures states and non-state entities by predominantly unconventional methods.

Pacifists are happy to apply the moral concept and consider it necessary for international disputes. The question of the possibility of justifying an act of war is fundamental. However, the result of such a normative application is always that such action must not be taken. Where the theory of just war is lenient and allows war, pacifism is always against it. For pacifists, war is always wrong, and there is always some better solution to the problem. The theory of just war is one of the most influential theories on the ethics of war. The greats discussed and advocated this theory: Aurelie Augustine, Thomas Aquinas, Hugo Grotius, Suarez, and Wattel. Many consider Augustine also the originator of the just war theory unjustifiably. A. Augustine's questions dealt with justifying war and fighters' participation in the war on the just side. Namely, he tries to justify Christians' participation in the ongoing wars and afterward in The state of God and to reconcile the demands of the Christian faith with earthly limitations. According to Augustine, war is necessary in our imperfect world - a tool whose only goal is peace. All those who participate in the war are equally striving for peace: "Just as there is no one who does not want to rejoice, there is no one who does not want peace. Consequently, wars are fought in the name of peace. It follows that peace is a desirable goal of war

because every man, even at war, s for peace, while no one makes peace, does not strive for war." (Augustin, 2004) The UN Charter prohibits any unilateral use of force, except its use to suppress aggression, i.e., forces used for self-defense within the framework of Article 51. The principle of non-intervention and state sovereignty respect are two supreme norms that form international rights. According to the international community's official documents, the armed conflict, which is not multilateral and not ratified by the UN Security Council, is rejected as illegal and illegitimate. At this point, the legal codification of the just war theory criteria differs from the moral paradigm. Its overriding purpose is to enable actions and operations that are morally problematic (but sometimes necessary) by limiting their conditions and regulating their behavior. (Walzer, 2006)

Legitimate states must make every reasonable effort to satisfy their citizens' human rights, especially those concerned with life and liberty. States that do not meet these criteria do not have the right to rule or go to war. We can speak of legitimate or minimal states that meet these criteria. It is essential to discuss these rights because they give the state moral legitimacy; they show us why responding to aggression with violence is justified. Justice in a civil war, where there is no classic border crossing between countries and various factions fighting around one state, is also illuminated by these rules. Questions; which side has at least minimal justice and is defending itself, or seeking independence, helping which side should be chosen? The state must intend to wage war only for a just reason. Having a real reason to go to war is not enough: the motivation to go to war must also be morally appropriate. Other motives, such as power or alienation of the country, and irrational such as ethnic hatred, are excluded. The only real intention within a just cause can bring justice to war. With every other reason comes moral depravity. International law does not include this rule because it is difficult to prove the state's intent to attack. A state can go to war only if the decision is made by a legitimate authority, by a proper process, and made public with the knowledge of the people and the enemy state. Legitimate authority is usually specified in the constitution of that country. Countries that do not have minimum legality requirements do not even have the legitimacy to go to war. As a last resort, states can go to war only when they have exhausted all peaceful alternatives to resolving the conflict, especially negotiations at the diplomatic level.

The UN Charter requires all states to respect the sovereignty of other states and leave the possibility of intervention to achieve and maintain peace and eliminate security threats. However, international law only provides a clear answer to some questions. A dilemma between the legitimacy and legality of humanitarian interventions remains a subject of many debates. Suppose one has to choose between protecting human rights, preventing human casualties and suffering, and human lives, or waiting for the sluggish bureaucratic

apparatus of the UN dependent on the political interest for humanitarian intervention to be legal by international law. When one wants to declare war, one must be sure that it is the final practical and reasonable solution to resist aggression effectively. The theory of just war in its present form makes it possible to justify other "defenses" as well lately and preventive attacks as justified acts of defense. This tendency considerably diminishes the critical potential of just war theory. It is perhaps best seen in Volzer's book "Arguing About War," where he declares the war in Afghanistan and the military intervention in Kosovo as examples of just war theory's triumph. (Walzer, 2006)

On the contrary, these actions and the preventive war in Iraq call into question the survival of the just war theory as a reference framework for assessing the morality of war. However, what is the relation between the theory of just war in its positivist-legalist paradigm that combines universalist principles with utilitarian harm-weighing versus profit? This discourse might offer a comprehensive way of morally contemplating modern wars. Moreover, from different critical perspectives, Peacebuilding has been seen as a Western-driven strategy that fundamentally serves Western interests, whether as a form of control, discipline, extraction, or even a new form of imperialism. (Richmond, 2010)

The logic of such a theory must make it impossible to justify aggressor wars, such as those that defend the arguments of the necessity of regime change and preventive attacks, as a justified defense. It should enable us to return the concept of war to its original framework as a practice with limited political and military goals and serves primarily to restore peace. An attack can be justified if the danger is immediate and the threat is direct, and therefore the attack is immediate. The condition of maintaining the criterion of justification of war defined in this way implies the responsibility of the "strong" to react only in cases of preventing greater evil and not whenever there is a possibility for the spread of good. (Babic, 2016) Emphasizing the criterion of cause, which is, in a sense, the supreme principle, does not diminish the importance of other criteria jus ad Bellum.

A state that produces systemic rationality of the mentioned type in war situations is freed from the assumed relations for "higher goals." The linguistic reflection of such an attitude is universal, and it inaugurates an impersonal necessity, as evidenced by statements such as: "Such were the times, it could not have been otherwise." They are left with the Great Court of History as a consolation prize they would gladly give up, but they are also denied that act. In the Oxford Handbook of Levinas, Joshua Shaw asked whether individual beings also leave their truth to something that is everything, in which their appearance disappears. (Shaw, 2019). According to Tugendhat, violence does not show its sharpness in "hurting and destroying" as interrupting personality

continuity. This interruption continues that the participants in the war themselves are forced to betray their obligations and their substance, forcing them to perform acts that destroy every possibility of an act (Tugendhat, 1976). Some justly "valorize" all the survivors' anxieties, fears, and torments are not comforting because there are many those for whom such satisfaction comes too late. On the opposing views of globalization's social democratic critiques but still retaining a left-wing political position, there are liberal cosmopolitan arguments that globalization fosters democracy. Giorgio Agamben notes that the term "world civil war" appeared in the same year, 1961, in Arendt's On the Revolution and C. Schmitt's Theory of the Partisans. (Agamben, 2005)

We do not want to suggest that these authors do not criticize modern forms of globalization because they certainly do, especially in highly unregulated global capital activities. However, these are not arguments against capitalist globalization but for better institutional and political regulation. These arguments generally emphasize that globalization brings favorable economic and political terms and means to resolve the global state of war. In addition to bringing more significant economic development to globalization, their vision is that it also carries excellent democratic potential primarily because of the relative freedom from the rule of nation-states - and it is in this regard that the distinction between their views and social democratic ones is most apparent. Finally, any humanitarian intervention carries specific geopolitical implications, leaving short-term or long-term political and social consequences in the state in which it was carried out. Against the reality of US unilateral action, multilateralism is the primary method of cosmopolitan politics, and the UN is its most robust instrument. We could marginalize those who argue "that the US cannot go it alone and share some multilateral agreement with its global power and responsibility with other great powers to maintain the global order." (Hobbes, 2019) During the Trump presidency, the Israeli embassy was moved from Tel Aviv to Jerusalem. The Middle East countries can be divided into two groups, the allies (Turkey, Israel, and the Gulf countries) and the opponents of the US (Iran, to some extent, Syria, and Lebanon). The US protects its interests and allies in the Middle East, which are also major oil producers (except for Israel, which the US protects for other reasons). The US's most significant interest in the Middle East is the uninterrupted oil export and US oil supply. However, the variable most commonly tied to US energy security is dependence. The argument is that greater reliance on imported oil decreases US security. This dependence leaves the US vulnerable to ᵒuctuations in oil supplies, which drive up the price of oil and hurt the US economy. (Glaser, 2013)

Furthermore, as significant oil consumers, both European countries and Japan (Sönnichsen, 2021) have interests in the Middle East, and oil will continue to be the main export product of the Middle East. The territories' traditional

geopolitical issues also shape relations in the Middle East and North Africa. The regional order in the Middle East is not significantly structured, and there is no collective security system (Jones, 2020). Several countries in the region have more significant influence than others as Turkey and Iran, regional powers. The second group of subregional powers includes Israel and Saudi Arabia. (Harrison, 2021) Other countries must seek peace and security in cooperation with these countries or the US because the concept of neutrality in the Middle East cannot be animated. The security system in North Africa is not efficient as well. Egypt is a dominant regional power, given its population and geopolitical position. Algeria and Morocco (an essential ally of the US) could become subregional powers. Russia is the largest country globally with a second nuclear potential and is physically present in 1/3 of Eurasia. From this fact arises the importance of Russia in Eurasia. The Western policies are content when Russia is not acting in Eurasia but dealing with itself and its relations with the US and, to some extent, Europe. Turkey and Russia have been embroiled in numerous conflicts in Syria, Iraq, and Libya.

Many economic sanctions documented the devastating effects of pressure on civilians but wholly accepted them. Woodrow Wilson maintained that if "thoughtful men have (...) thought, and thought truly, that war is barbarous, (...) the boycott is an infinitely more terrible instrument of war." William Forster, a British blockade administrator, and devoted internationalist, revealed that during the Great War, "we tried, just as the Germans tried, to make our enemies force that their children should be born; we tried to obtain about such a state of destitution that those children if born at all, should be born dead." Internationalists were exceedingly open about this horrible actuality for a good reason. By spelling out the atrocity of enforced deprivation, they hoped to dissuade revisionist states from even thinking about questioning the Versailles order. Fear of being blocked would keep the peace. The initial intention behind making the economic weapon was thus not to use it. To interwar internationalists, economic sanctions were a form of deterrence, prefiguring nuclear plans during the Cold War. Of course, sanctions were not nearly as immediately destructive as nuclear weapons. Nevertheless, for anyone living in the pre-nuclear decades of the early twentieth century, they raised a frightening prospect. A nation put under comprehensive blockade was on the road to social destruction. The experience of material solitariness left its mark on society for decades afterward, as the effects of poor health, starvation, and malnutrition were transmitted to unborn generations. Weakened mothers gave birth to underdeveloped and undersized children. The economic weapon thereby cast a long-lasting socio-economic and biological gloom over targeted societies, not unlike radioactive fallout. Feminist politicians and academicians recognized this during the Great War, and many sought a vigorous campaign against the economic weapon's targeting of civilians. The women's activity played an active role in

the international history of sanctions, mainly opposing and intervening in their force—although sometimes sustaining them as preferable to war. (Mulder, 2022)

Hybrid wars and conflicts entail the fusion of conventional and unconventional instruments of power. These mechanisms are blended to exploit an opponent's vulnerabilities. The objective is to achieve synergistic consequences. Nevertheless, unfortunately, the citizens carry the most severe consequences. Numerous wars (e.g., Syria, Lybia, Afghanistan, Iraq, Yugoslavia) demonstrate adverse effects in human, economic, social, and political losses regardless of the objectives of conflicting parties. Dayton Peace Accords did stop the B&H war. However, it created a dysfunctional and highly fragile B&H, leaving many conscious and deliberate ambiguities, including some retrograde solutions. After the devastating war, B&H became a country of constant secessionism campaigns and hybrid wars. The year 2021/2022 in B&H was profoundly divided and faced the most significant political crisis since the signing of the Dayton Peace Accords. It included war rhetorics, army appearances, a total blockade of state institutions, and absolute country collapse.

The crisis condition and hybrid conflict persisted in B&H, fearing minor or significant consequences and escalation. The threefold ethnonational values protection (i.e., Bosniaks-Muslims, Serbs-Orthodox, Croats-Catholics in B&H) is like a non-aggression pact, as a social contract implies the totalization of exclusivity, abolishing politics between inclusion and exclusion. (Hadzic, 2020) The Western Balkan's national leaders within the socio-economic and political interests accompany the constant production of antagonism, national endangerment - the concept of "national value protection," historical revisionism, parallel memory politics, fascism, and unresolved territorial status issues. Wars were suitable grounds for the proliferation of corruption and immorality, favored by the dense and strong ties of the military, political, criminal, and commercial structures and the establishment of the structural factors of nepotism. It created socio-economic injustice. The foundation becomes a magnetic element keeping the countries within the mutual consolidation of ethnonationalism, fear of others, and social injustice, with the highest economic migrations and adverse socioeconomics almost 30 years after the Yugoslav wars. Croatia, an EU and NATO member and country with the highest GDP in the Western Balkans, and its national policies have caused the most extensive exodus of the population, reducing the tax base and jeopardizing pension health systems. A recent study (2018) in Croatia, the only Western Balkans EU member, shows that the main reasons for mass emigration are "an unorganized country, highly corrupt state and political amorality." (Juric, 2018)

2. Human rights, human security, and global ethics

If realism is supposed to explain why states compete in a competitive anarchical system, human security could be making value judgments on whether this behavior is morally acceptable, judged against the outcomes for individuals and communities as states' content. The corpus of human rights has been widely used to achieve the desired geopolitical interests. Mass media are used for economic sanctions, hybrid warfare, and humanitarian military interventions. War often emerges as the essential instrument of instilling new global ethics, and war fatally affects innocent people in the Middle East and elsewhere in the world. The concept of international law has evolved from an instrument of promoting peace to an agent of violent realization of market relations and legitimizing the argument of force. The performative part is embodied in the Declaration of Human Rights and Freedoms in the concept and preservation of the international ethical order. (The Universal Declaration of Human Rights - UDHR) It would be constructive if the concept were not instrumentalized.

Nicholas Mulder argues that the struggle to create and use the weapon of sanctions profoundly shaped the interwar world. Thus, the design of the political and economic order. It marked the emergence of a new state of liberalism that worked through a technical and administrative apparatus of lawyers, diplomats, military experts, and economists. These officials' work, in wartime and after 1919, had far-reaching effects. In a period when European governments granted suffrage and extended welfare and social insurance, sanctions made them see other populations as suitable targets of coercive force. As a result, long-standing traditions, such as neutrality protection, civilian noncombatants, private property, and food supplies, were eroded or circumscribed.

Meanwhile, new practices arose, such as police action against attacker states and logistical assistance to the victims of aggression- it amounted to an effective and complicated transformation of the international system. (Mulder, 2022) Economic sanctions in contemporary wars and conflict-related international sanctions extremely harm civilians and children - their critical human security. Furthermore, human security is essential not as a tool for research and analysis but as a signifier of (traditional) political and moral values. Moreover, it should focus on social and economic issues because they affect the citizens. Besides, regarding critical security studies and "critical" human security, Newman (2010) explored the relationship between human security and critical security studies and considers why human security arguments – which privilege the individual as the referent of security analysis and seek to directly influence policy in this regard – have not made a significant impact in critical security studies. In particular, the author suggests that human security scholarship must go beyond its (mostly) uncritical

conceptual underpinnings if it is to make a lasting impact upon security studies, and this might be envisioned as Critical Human Security Studies.(Newman, 2010) Furthermore, despite liberal sensibility, the prior conceptualization of critical security does not provide a theoretical basis for challenging the former Yugoslavia countries. Then, (in)security of people depended on violently creating ethically and religiously clean territories.

Let us recall and review the US sanctions on Iran, its global geopolitical framework, and its consequences. They have brought economic devastation to Iran for years. President Donald Trump intensified them after Iran attacked an Iraqi base housing American soldiers in retaliation for the US's killing of Iranian military leader Qassem Soleimani. As a result, the local currency has lost two-thirds of its worth. That means imported medicine to hospitals and pharmacies has become prohibitively expensive or inaccessible. So Iranians turn to black marketers. The street dealers assure customers that theirs is the highest-quality medicine made in Europe. It is smuggled into Iran through Turkey and northern Iraq, they say. "You can check the bar code on the package to see its authenticity," one dealer said with the bravado of a merchant selling overpriced rugs. He pulls out a cell phone, calls his supplier, and announces the price of the chemotherapy medication MabThera. In 2013, during the Obama administration's imposition of severe sanctions on Iran before the nuclear agreement, black-market MabThera cost $70 per 100 ml dose. Now the dealer offered it for $140. Used to treat lymphocytic leukemia, it typically requires eight doses over weeks. It is unaffordable to all but the very rich in a country where the average wage is $1,245 monthly.

Moreover, the dealer alerts that the MabThera might not be available immediately. "I could not even get cough syrup for my baby," one citizen said. "It is getting difficult, and I sell the drugs." Since 2018 the Trump administration has pressed the Iranian economy, intending to force Iran's leaders to negotiate a new nuclear deal. Sanctions are not intended to harm ordinary people, according to Trump bureaucrats. "A big part of US- Iran strategy from the beginning is standing with the Iranian people instead of standing with the regime," said Brian Hook, the US spokesperson for Iran. (Erlich, 2020) Therefore, sanctions against Iran harm the human right to health, particularly for children. Civilians, including children, are harmed by economic sanctions. Therefore, the human rights policy should be international responsibility to ensure the entire human rights spectrum (e.g., the right to health). Critical medical (particularly children) and humanitarian goods must constitute a specific international responsibility to ensure the entire human rights spectrum (e.g., the right to health). The Right to Health is enshrined in international Human Rights Law. It states that the enjoyment of the highest attainable norm of health is one of the fundamental rights of every human being.

The primary goal of humanitarian intervention is to protect human rights and prevent a humanitarian catastrophe, but this "humanitarian" goal also has limitations. Regardless of the accepted concept of responsibility to protect, each unilateral humanitarian intervention without the consensus and consent of the Security Council sets a dangerous precedent that ignores the contract and customary international law. After 9/11, Bush's national security strategy sought to address changes in the global security system outside international law. It expanded the traditional concept of preventive and predictive defense. After 9/11, humanitarian interventions took the form of a war on terrorism that directly called into question the sovereignty of the so-called "Outlaws state." Ranking other countries according to their "willingness to respect human rights and religious freedoms," the US often unilateral (unilaterally) intervened in local conflicts by applying US laws extraterritorial in the territory of other states. In 2003, the CIA kidnapped the Imam of Milan, Abu Omar, and transported him to Egypt. Priest Abu Omar was tortured for alleged links to Islamists. Following the public protest, Italian courts indicted over 26 CIA agents and many others over the international scandal. (Donadio, 2009) Critics of the Bush doctrine generally supported Kant's categorical imperative, "Act only following the maxim you want to become universal law simultaneously," the Obama administration deviated from the Bush doctrine by taking more traditional positions of preventive self-defense. Slaughter argues that as true heirs to Wilson's idea, liberal internationalists reject the concept of violent democratization and think that "democratic processes and institutions should be liberalized where they already exist." (Ikenberry et al., 2009)

Moreover, we reject US military primacy, assuming that it a balance of power in favor of liberal democracies worldwide" (Ikenberry et al., 2009). However, the authors did not explain how the alleged commitment to "maintaining the balance of power" could be reconciled with the explicit liberal and Wilson's rejection of realistic conceptions of international relations based on the theory of balance of power. It can also be argued that symbolic constructions and theses, such as "conflict civilization" and the like, we are supposed to help the West (primarily the US and NATO), which after the fall of communism, found themselves in an identity crisis, to be defined by a new non-friends, or "new threats." Thus the former main enemy, communism, the USSR, as its personification, should be replaced by "the new enemy"- Islamic civilization.

Possessing rare natural resources such as oil, gas, minerals, uranium, gold, and diamonds is a vital economic and geopolitical interest. Numerous wars have been waged to conquer or preserve natural resources essential to a state. We also have numerous examples of such wars. Kuwait's Iraqi invasion and occupation triggered the Gulf War of the 1990s between Iraq and the US-led coalition of Western countries to conquer oil fields. The rebels traded in diamonds and procured weapons from that profit in conflicts of interest in

many parts of Africa: Liberia, Angola, and Sierra Leone. However, even in ancient times, Aristotle placed war in the economic practice of acquiring goods. There are numerous conflicts in the world in which the cause is the ideology of a particular social group, nation, or state. We can define it as a conflict of political ideas; ideals emphasize one's view of the world by expressing one's interests and encouraging that group to achieve various political goals, conquest, or preserve political power. Thus, examples of wars have arisen due to cultural, religious, or ideological intolerance between certain social groups or states. Some of these wars are the Crusades. Wars waged between Christians and Muslims intended to liberate the Holy Land from Muslims. It was the Spanish Civil War in which battles were fought against the revolt of right-wing fascists and nationalists. The opposing interests that individuals and groups seek to realize are considered the root of all social conflicts. Interests are also the main drivers of conflict because different social groups take "actions" to accomplish them.

In the book Violent Democracy, Daniel Ross (2009) examines how democracies deal with a potentially endless war on terror. (Ross, 2009) We can problematize that the origins and heart of democracy are fundamentally violent and that the threat of a terrorist attack reveals new forms of 'democratic violence' and could transform the very character of the democracies. Paul Gilroy (2005) points out that continuers of the imperial and colonial past, Western powers, have militarized globalization processes and continue to shape the world's underdeveloped parts. (Gilroy, 2005) However, do we have the right to bring democracy to others by force? While it would be difficult to assess what impression the Libyan war ultimately left on the Arab-Islamic public, it could not be quickly put in a crusader-oil-imperialist framework, as the Libyan regime was convinced. Immediately after the terrorist attacks, the ruling party called for "national unity," the aim of such statements obscure class differences and divide the working class on national, ethnic, and religious grounds. It diverted attention from the struggle at the heart of capitalism and imperialism as his stage. We can problematize moments that need to be analyzed in more detail. When European and US ruling classes talk about terrorist attacks through some binary opposition of civilization to barbarism, they hypocritically obscure the context of these attacks and their specific causes, thus giving the impression that these attacks are products of some abstract (non) civilizational values.

The very concept of human rights is liberal and Western, and it incorporates the understanding of human rights (law) and the freedoms of the Western Enlightenment. It has right established as a general category, utterly separate from the actual existence of society and its specifics, peculiarities, traditions, and culture. Violent imposition of Western culture and norms through soft power or intervention leads to conflict. This ideology is the basis for Western

interventionism towards other countries and their affairs, which do not have any ties with the West. For example, the ideology of human rights was imposed on Russia after the collapse of the Soviet Union and is reflected in the new Russian legislation. The conflict in Angola, simmering for decades during the second hunting of the 20th century, is a characteristic example of the geopolitical use of one space through the struggle for freedom and the realization of desired human rights. (Hironaka, 2008)

A similar geopolitical conflict of regional actors occurs today in Yemen (conflict between Iran and Saudi Arabia). Human Rights Watch, a human rights organization, asked that Saudi Arabia be suspended from the UN Human Rights Council to implement Yemen's military campaign. In a report, they point out that Saudi Arabia committed "brutal and systematic human rights violations" in the UN Human Rights Council in two and a half years. Saudi Arabia abused its position and stopped independent investigations and criticism about how it started Yemen. The statement also cites human rights violations in Saudi Arabia, including the imprisonment of dissidents and discrimination against immigrant workers, women, and Shiite minorities. The wave of executions in Saudi Arabia has intensified. (Human Rights Watch, 2019) In 2018, Saudi journalist Khashoggi was killed at the Saudi embassy in Istanbul. In politics, nothing happens "accidentally" - the Arab Spring. The long-term effect of the Arab Spring is the most significant global refugee crisis since World War II, with its sociopolitical, economic, and human rights consequences. The human rights situation in Israel is also under media attention (illegally detained Palestinians).

The mass media prepared the ground for potential political and military actions by promoting universal human rights and freedoms norms and focusing on those who do not adhere to them. Geopolitical changes and the Great Powers, under their particular interests, affect human rights as a reason for interventions in other countries. Interventions of this type are often contrary to international law and the UN Charter. However, it arises in a complete socio-economic and political vacuum. Of course, such statements and obscurations are no coincidence. They often divert attention from the very concrete policies of US and European imperialism in the Middle East and Africa, which have created the conditions for the proliferation of reactionary fundamentalist terrorist groups. The practice of humanitarian interventions was based on protecting human rights (For example, Somalia, 1993; Haiti, 1994; Bosnia & Herzegovina, 1995; Serbia & Montenegro, 1999), after which human rights often became "usable" in the geopolitics of the new millennium. The conflict is never one-sided. It is a sum of intertwined causes from the geostrategic position and zone of influence between power centers to energy, natural resources, mineral resources, terrorism, and political and nationalist ideas. Humanitarian interventions have had long-term consequences on the

geopolitical picture of the Balkans and are visible even after 30 years. A comprehensive package of measures that includes more than just military intervention is needed. It is confirmed by the report of the Responsibility to Protect stating that funds should be provided for a more extended period to ensure reconstruction. (International Development Research Centre, 2001) Therefore, the new "humanitarianism" shifts the focus from saving lives to supporting social processes influencing political circumstances.

If we examine military interventions' political and economic consequences, it is estimated that opium production in Afghanistan increased from 8,000 hectares in 2001 to 200,000 hectares in 2017. So, since NATO invaded Afghanistan, opium poppy production has increased as much as 25 times. (The Kaiser Foundation, 2016) For the necessity of armed response and legal and economical, the humanitarian reasons for protecting the civilian population from the crimes of Iraqis in 1991 were emphasized. One of the most famous stories of this type is the story of dead Kuwaiti babies: presented as a nurse who stated that Iraqi soldiers broke into the hospital in Kuwait where she worked, took newborn babies out of the incubator, and threw them in the floor, and the babies died - as many as 312 of them ". This young girl's testimony caused shock and significantly contributed to public opinion formation in the United States and beyond military action support. Then-President Bush mentioned this testimony more than 30 times in public appearances. Only nine months after Operation Desert Storm expelled Iraqis from Kuwait, the truth about this case and the young Kuwaiti woman's identity was revealed. The girl was not a nurse but the daughter of the Kuwaiti ambassador to Washington, and she did not come directly from Kuwait but stayed in the US continuously for several years. There was no eyewitness, nor were there any babies killed in such a form. The narrative represented the great propaganda success of public relations firm Hill and Knowlton, which received $ 12 million over several months of operation. (Mcarthur, 1992) The military intervention in Libya in 2011 was launched by the Western coalition led by the US, UK, and France after the UN Security Council passed Resolution 1973. In the book Myths, Lies, and Oil Wars, W. Engdahl sees the "humanitarian" war in Libya as a de facto act of neocolonialism, intending to change the regime forcibly and violate the fundamental norms of international law. The author states that the Libyan case attempts to introduce a threatening model of the Responsibility to Protect as a new standard in international security studies and human rights framework. Thus, the justification for using force in Libya is based on the priority of human rights protection. (Engdahl, 2012)

We can problematize the hypocritical form of realpolitik and the political behavior of some of the ruling classes. It is reflected in the ambivalence towards certain fundamentalist terrorist groups, with them sometimes

directly participating in the financing and training of such organizations. Consequently, it represents a directive for broad geopolitical interests. The fall of Gaddafi does not mean long-term peace for Libya, and NATO presence is still preferable. However, the rebels do not want foreign security forces in the country, especially Western ones. In the media, wars in the Middle East are often reduced exclusively to oil, (anti) imperialism, or religion. Reading the Middle Eastern wars as one great war - divided into various versions - goes beyond simplified interpretations. The common denominator would be that the Middle East has become a global tester of sovereignty concepts. We can open the thesis that justice must go hand in hand with morality, i.e., "decent" behavior. Western practices abundantly and violate just as much in many Middle Eastern countries.

What characterizes interethnic and interfaith conflicts in general? Are the Middle East and Southeast Europe an issue of "hatred of small differences? Because the more significant the closeness (linguistic, genetic, ethnic, cultural), the stronger the animosity and conflict among such communities. As characteristic examples, we can list the area of Palestine, Ukraine, and the Balkans. These minor differences (linguistic, religious, character, cultural) intentionally and purposefully deepen from the geopolitical centers of power. According to the form "divide and rule." Crisis hotspots are being created as the geopolitical centers of peace and broader economic and political reforms, imposing new cultural patterns and the desired corpus of human rights. Local norms often conflict with Western ones within intercultural conflicts, which can negatively affect troops. Besides, Western foreign policy often focuses on other countries' laws and institutions rather than on their culture, especially political cultures. The idea in the UN Charter and the Universal Declaration of Human Rights that ethical convergence leads to the global acceptance of Western liberal ideas does not reflect reality. The conflict between al Qaeda and the West resists this idea. Nevertheless, it still represents the legal and ethical framework for war.

The tendency is to argue that military effectiveness's strategic success requires staying within restrictive rules of action and trying to win the information war by disseminating the truth (assuming what the military says is an ethical issue and what it does). It is assumed that it was previously confirmed but requires careful study and discussion that has yet to take place. This lack of analysis reflects a long-standing feature of the Western approach to strategy, which, without debate, presupposes that the idea ultimately wins the free market's truth. The free market is a universal paradigm for political, economic, and informational social interaction with the West. (Metz and Cuccia, 2011) However, in information warfare, there is no free market of ideas. Extremists have no problem distorting the truth by choosing topics and parables based solely on strategic and tactical effects rather than ethics. In cultures that

support violent extremism, the truth usually has an affinity element rather than objective judgment. The audience's affinity partly defines the truth for the person making a claim or telling the parable. People are more likely to have confidence in similar ethnic, sectarian, racial, or tribal reasons. US troops in Iraq often encountered it. A "solid" truth sometimes has a more negligible effect than a non-factual explanation of someone whose target audience has an inherent affinity.

It is plausible to ask why the international community, as responsible, did nothing to prevent tragic situations, mainly because wars are complex processes whose symptoms are transparent enough for such short-sightedness as the so-called international community. Hasn't anyone noticed the German war preparations since 1934 or anticipated the annexation of Czechoslovakia, the war in Cambodia, Laos, Vietnam, and Cyprus's occupation, and the breakup of Yugoslavia? The logical answer would have been (logical, thus means the same as synoptic) had it been political assessment and discrepancy of interests. The rule of the moral equality of all denies the right to favor either side. Thus, the truth appears as "excess" in power." (Peters and Besley, 2014) The force that emanates meaning is similar to the argument of a snake swallowing its tail.

After the Cold War, millions of civilians died in violent conflicts, and tens of millions were displaced and brought to deprivation and poverty. According to some estimates, over five million people died in this period; 95% were civilians. The new geopolitical climate has changed the character of conflicts in which wars are fought in the name of and for the benefit of other actors supported by powerful forces, such as terrorist groups and various revolutionary independence movements. These are often internal wars in which political and criminal violence is used to weaken the state. Given that we live in a period of constant and protracted conflict, this imposes the need for great powers to protect their interests and improve their security by deploying their instruments of power globally. It creates political pressure and uncertainty, and military, economic, and other fields of states are marked as victims. These types are trade wars, diplomatic blackmail, and special operations; conventional threats are slowly being overcome. Terrorism, cyber-attacks, and spy "games" are increasingly used. It is a period of civil wars and new so-called terrorist conflicts, cyber attacks in which the goal is not to destroy the enemy, i.e., of his armed formations then. The targets are often civilians.

The question also arises about how the concept of cause agrees with armed humanitarian intervention. When the state does not commit the aggression of crossing the border but brutally turns against its people, it starts massacres against many citizens. Such events occurred in Cambodia and Uganda in the

1970s, Rwanda in 1994, Serbia and Kosovo in 1998-1999, and Sudan / Darfur in 2004. The definition allows us to intervene on behalf of the victims and attack and overthrow such a regime. Because aggression occurs not only by crossing borders, it uses armed force against other people's fundamental human rights. Usually, in humanitarian interventions, the international community's armed forces are vital to effective resistance against the aggressors because the domestic population is primarily incapable or at least disadvantaged by the aggressors. Terrorists can also carry out aggression. There is nothing to rule out; they can also use armed force with the intent to violate someone else's rights. After such aggression, they renounced all non-aggression rights. Terrorists, even in most of their actions, commit aggression because terrorism uses sporadic violence properly chosen to maximize the effect, mainly used against civilians, with the desire to spread fear among the population, hoping that fear will accelerate some of their political or other demands.

There is a very indicative and well-known example of the Taliban and Osama bin Laden, who were supported and trained by the US authorities to fight the Soviet forces on Afghanistan's territory. Osama bin Laden also declared himself a freedom fighter in the 1980s by the US and British political elites. Later, due to changing circumstances, the same Taliban political elite and their self-supporting fundamentalism were used to justify actions that pushed their interests. Another example - is Kurdish fighters who die on the ground every day in the fight against ISIL terrorist fundamentalists and who succeed in that fight with their limited resources are not offered any help by hypocritical political elites from the West because it is not in their interest. The point is that while the ruling classes are lamenting and crying over some abstract 'European' and 'civilization' values, very concrete imperialist interests are at stake. They imply expansion into new markets and territories to exploit state political power and domination and manifest in several ways.

In some cases, imperialism is indicated in a formal-legal form (such as the contractual imposition of economic obligations). In contrast, it is expressed purely militarily (an example of this is the NATO alliance as an expression of this type of imperialism). Of course, regardless of the specifics, the imperialist policy's goal is to accumulate profits for the elites and expand the state's military and political power that enables this. It took almost three weeks from the start of the US-led Iraq invasion for millions of viewers to watch the collapse of Saddam Hussein's sculpture in Baghdad in front of small screens. Nevertheless, that image of April 9, 2003, entered the collective memory of humanity.
Nevertheless, even 18 years later, there are still many open questions. Thus, how many Iraqis were killed during the Iraq war and the chaos is not clarified. Estimates range between 150,000 and half a million dead. Some severe research comes up with much higher numbers.

In 2006, the prestigious medical journal Lancet calculated more than 650,000 additional deaths. In addition to the violent death, the research also included the consequences of bombing the destroyed infrastructure, schools, and health institutions. R. McGovern is a veteran who has worked for the CIA for 27 years, including in senior positions. In 2003, he and his colleagues from other secret services founded the Veterans Intelligence Professionals for Sanity (VIPS). DW (Deutsche Welle) stated: "The intelligence was not simply wrong, but was falsified." Despite further clear warnings that the veracity of Curveball's (code name) statements should be questioned, these statements became a significant part of Powell's recruitment for the war. (Hein, 2018)

Furthermore, without pretensions to comprehensively explain the war, re-examining the ethics of war endings in a just war theory is needed. Contemporary debates on the wars in Iraq and Afghanistan are illustrations that indicate the need to rethink an appropriate war ending. For Vivianne Jabri, Peacebuilding signals a much more profound transformation of the nature of war and the maintenance of international order where war and peace have an intimate and co-constitutive relationship. (Jabri, 2013) Rapid, unconditional withdrawal deprives the Afghan government of the leverage to negotiate a fair peace solution in Istanbul. There is a risk of destabilizing the country, increasing the likelihood of civil war and the return of terrorist groups. It is not the end of the war. It is just the end of its direct American phase. With the US withdrawal from Afghanistan in 2021, some of its episodes are genuinely reminiscent of the former events in Vietnam. Or some of the withdrawal of British and French military forces from Gallipoli in 1915.

It is crucial to view the terrorist attacks that have taken place in recent years, or the phenomenon of terrorism in general, through the prism of the moments mentioned in this text. The first is that these attacks do not occur in a vacuum, that they are not the product of some abstract 'civilization' differences, but are the product of concrete imperialist policies and their consequences. The second point is the least talked about - under the auspices of the 'war on terror,' a vast space is left for the ruling elites to implement all sorts of restrictive measures. These measures will surely break on the backs of various progressive movements. To endeavor to organize politically in the struggle against capitalism.

Suppose we observe the Israel – Palestine conflict; according to Amnesty International, various human rights groups and many video materials clearly showed that snipers "shot unarmed protesters, bystanders, journalists and medical staff approximately 150-400m from the fence in Gaza, where they did not pose any threat." (Reeve, 2019) The significant dilemma of Israel and Palestine's relationship is not exclusively religion or ideology but land and

territory. Thus, the Israel-Palestinian seventy-year conflict and question are essential for the international order. The just war concept challenges assessing the Palestinian-Israeli conflict's moral character and the field within the threat and violence in military occupations. They often fail to participate in that conflict's comprehensive mechanisms and ethical issues of control and power. These challenges demand new conceptualizations of its principles and appropriate behavior rules. Suppose we accept that Israel's main aim is to prevent further rocket attacks or terrorism and that killing civilians is non-intentional. However, it remains debatable. Moreover, the Israel-Palestinian issue is fundamental for global peace and stability.

Results and conclusion

States and substate groups have long sought to develop and implement rules to control war's destructiveness, formal or informal. It is functional when participants acknowledge and acquire the rules. The doctrine of "just war" application is questionable, and no new victim should suffer even when the goal of the intervention is entirely legitimate and "humane." The thesis of "just war," formulated by Augustine, which allowed people to judge the war's character, is disputable in the contemporary world. It cannot be just that it will exempt intervention forces from applying international humanitarian law, nor does the legitimacy of the intervention exempt them from respect for international humanitarian law. It applies to all humanitarian interventions, regardless of whether they take place with the consent of the United Nations. Those who intervene on behalf of the international community with armed forces to prevent serious human rights violations and ensure they must respect international humanitarian law. According to the realistic tradition of understanding interstate relations, it is inappropriate to ask for war justice.

In contrast, ethical criteria are necessary to differentiate the only from the unjust wars within the action theories. The distinction between liberal cosmopolitan arguments and social democratic ones is apparent. Shortly, we should look at waging (defending) a just war, of course, with a tendency to reduce finding aggressive solutions. Human rights theorists and practitioners should have been given a more significant role despite nation-states' power. We should gradually achieve a more peaceful coexistence of various religions, policies, and races globally by appealing to and introducing more just laws.

The arbitrariness and the imposition of individual states' views create issues, leading to fragility (human security, socioeconomics, economic development, health). When sales of medicines that improve the right to health and prevent suffering are halted in a country, and no equivalent alternative product is available - human rights are abused, particularly "the right to health." The compulsory international focus and responsibility should incorporate critical medical (particularly for children) - "the right to health" and humanitarian

goods. Moreover, human security principles privileging the individual as the referent of security analysis and seeking to influence policy directly have yet to impact critical security studies significantly.

Implementing rules to control war's destructiveness is less effective in intercultural conflicts. Ultimately, it is necessary to consider the challenges of intercultural conflicts when local norms conflict with Western ones. Many conflicts show the endangerment of promoting democracy in undemocratic transnational systems. Western policymakers would be more successful in promoting democracy globally without an explicit Western model and the humility to admit that they have often failed to meet their highest ideals. The fundamental value of liberal democracy is the power it gives individuals to choose their paths. The international law concept has evolved from an instrument of promoting peace to an agent of the violent argument of force realization. Ethics is often imposed as politics; human rights ethics transformed into war ethics, leading to human rights violations and civilian casualties. One may ask whether the necessity of universalization does not support human rights and why the context is lost sight. In the turbulence of war expressions, justice is often abandoned within globalization's contemporary forms, and the moral paradigm is questioned. The point is that contemporary warfare inflicts the most damage on those not engaging in military operations. Thus, the origins of the democratic warfare paradigm are structurally "democratically violent" and have a transformative effect on the sheer quality of democracy. It is not out of place to encourage thinking about the rules of war that are agile enough to operate in today's vague operational conditions. Creators of wars must consider the limitations of the rules on military effectiveness. Whether the damage the war brings is not greater than its benefits is debatable. Is it useful, and where is the moment of human rights and transitional justice? The rational analysis of illegitimate war processes can gradually open political spaces to distinguish between just and unjust forms of violence. War processes, particularly post/war transitional violence, can erode the fragile democratic regimes that continue to undermine the rule of law, justice, and respect for human rights in societies. In the war and post-war processes, the capacity to demonstrate control over violence leads to innocent civilian fatalities.

Current events in the Middle East suggest: to what extent are they the result of spontaneous democratization and humanitarian intervention processes, and to what extent are they internationally politicized? War can be an extension of politics by other means, behind politics in its globalism foundation. Only one of the potentials stands for powerful material interests; capital, profit, insurance of raw materials, energy, and markets. According to rules, organizations, and states, different means are used within specific political and economic strategies of interest, creating a controlled disorder

that affects civilians. The hypocritical geopolitical "realpolitik" often reflects the contemporary world's state, and latitude or longitude is irrelevant in this discourse. For most of modern Western history, people have accepted a liberal interpretation of the causes of war. It is time to examine this assumption and discuss whether the West can develop a more effective strategy with a completely different idea of the cause of war. A broader discussion of the assumptions of the universality of Western values that have driven international law for centuries is required. Further analysis of conceptual and strategic divisions about war is needed, defined as organized state violence for political purposes and other organized or semi-organized violence forms.

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Enhancing Local and National R&D Competitiveness: Strategies for Improving Turkey's Innovation Landscape

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Abstract

In recent years, the literature has underlined the importance of industrial and innovative approaches in regional development and economic growth. The investments of R&D startups by giant international companies can inhibit national and local production capability and domestic competitiveness of developing countries. This study uses an innovative mindset to the innovation and R&D paradigms with a multi-disciplinary approach. It argues that since multinational companies can earn more value from their existing capacities and provide new ones in developing economies by investing more in R&D projects, developing countries can invest in and support to R&D startups on reverse engineering of existing innovation. Companies in emerging economies could theoretically learn from and catch up with investing multinationals and develop their capacities via venture capitalist fundings on corporate shares. Nevertheless, to do so, they need to build their innovative capabilities and move from a process to a product focus and from imitation to innovation, as Chinese global large firms do.

Keywords: R&D, Innovation, Innovative Economies, Open Innovation, Product Development

Yerli ve Ulusal Ar-Ge Rekabetçiliğinin Artırılması: Türkiye'nin İnovasyon Manzarasını İyileştirme Stratejileri

Öz

Son yıllarda literatür, endüstriyel ve yenilikçi yaklaşımların bölgesel kalkınma ve ekonomik büyümedeki öneminin altını çizmektedir. Uluslararası dev şirketlerin Ar-Ge girişimlerinin yatırımları, gelişmekte olan ülkelerin ulusal ve yerel üretim kabiliyetini ve yerel rekabet güçlerini engelleyebilmektedir. Bu çalışma, çok disiplinli bir yaklaşımla inovasyon ve Ar-Ge paradigmalarına yönelik yenilikçi bir zihniyet kullanmaktadır. Çokuluslu şirketler, Ar-Ge projelerine daha fazla yatırım yaparak mevcut kapasitelerinden daha fazla değer kazanabilecekleri ve gelişmekte olan ekonomilerde yenilerini sağlayabilecekleri için, gelişmekte olan ülkelerin mevcut inovasyonun tersine mühendislik konusunda Ar-Ge girişimlerine yatırım yapabileceğini ve destekleyebileceğini savunmaktadır. Gelişmekte olan ekonomilerdeki şirketler, teorik olarak, yatırım yapan çok uluslu şirketlerden öğrenerek onlara yetişebilir ve şirket hisseleri üzerinden risk sermayesi fonları yoluyla kapasitelerini geliştirebilir. Bununla birlikte, bunu yapmak için, Çinli küresel büyük firmaların yaptığı gibi, yenilikçi yeteneklerini geliştirmeleri ve bir süreçten ürün odağına ve taklitten yeniliğe geçmeleri gerekmektedir.

Anahtar Kelimeler: Ar-Ge, İnovasyon, Yenilikçi Ekonomiler, Açık İnovasyon, Ürün Geliştirme

Introduction

The global capitalist system is currently facing a significant crisis that necessitates finding solutions to alleviate the recurring large-scale crises that arise every 9-10 years. It is crucial to address the repercussions experienced by regions or countries that have lost their profitability. When these areas are neglected, capital mobility tends to shift towards regions or countries with a higher rent/land-return rate, perpetuating a cyclic pattern. Furthermore, it is important to acknowledge the covert interventions, such as military coups, terrorist events, wars like the Ukrainian invasion, riots, and occasional pandemics like the Coronavirus, which are orchestrated to hinder the progress of developing countries or maintain their neutrality. Consequently, regions or countries that have lost their profitability continue to be overlooked, while capital mobility gravitates towards areas with higher rent/land-return rates in this cycle. However, countries with a resilient economic structure, open to the global market, are less vulnerable to speculative activities of international finance capital and capital movements driven by hit-and-run tactics and proxy wars. Such countries, driven by high added value, advanced technology, and export-based growth models, are better positioned to withstand economic fluctuations due to the high market demand for their products. Moreover, countries that establish robust production systems through innovation and research and development (R&D) enjoy greater stability than developing nations, regardless of their oil reserves.

The study aims to explore the extent to which innovative R&D initiatives contribute to national and local development amidst the challenges posed by global capitalism. It seeks to identify the impact of innovation on economic competitiveness, particularly in developing countries struggling with the "middle-income trap."

The study has the following assumptions:
1. Effective leadership in an economy, as highlighted by Akdemir et al. (2022), encompasses innovation as a crucial element.
2. Successful innovation ecosystems mirror the natural innovation processes observed in Divine creation, emphasizing the importance of continuous innovation and the development of new products.
3. Sustainable strategies and moral obligations necessitate resource efficiency, avoidance of unnecessary consumption, and adherence to essential needs.

The study has the following hypothesis:

Hypothesis 1: Technological paradigms follow a lifecycle encompassing birth, development, maturity, and stagnation phases, where diminishing returns to scale play a significant role.

Hypothesis 2: Technological advancements and the resulting changes in output lead to both quantitative and qualitative transformations in the socio-economic and political structures of nations.

The success of innovation ecosystems is based on their ability to imitate natural innovation within Divine creation in the nature. Continuous innovation and new products are also identified with capitalist production and consumption processes. While constant innovation is necessary, not wasting resources, not buying unnecessary products, and staying on the necessity scale are vital for sustainability strategies and religious&moral obligations.

1. Literature

There is much research in the literature on this area. Charles Alexander drew attention to the transition from a heavy industry economy to a new technology-based economy (Alexander, 1983). Shepherd (1997) wrote about the New Economy. In addition, in a public opinion survey conducted in March 2000, 57% of the consumers of the United States of America (USA) stated their belief that the American economy has transitioned to a new economy that is very different from the industrial economy (Kallio & Mallat, 2004). The underlying reason for this belief is the developments in information and communication technologies (ICT) and the globalization of companies. Together, these two reasons have created a new transformation and a new kind of economy. Opinion polls do not provide sufficient scientific evidence for the existence of such a new formation, but basic statistics on the transition to the New Economy are also available. Jalava and Pohjola (2002) found that, on average, two-thirds of the improvement in labor productivity for the USA is due to ICT. ICT industries accounted for 3-4% of employment, 6-9% of value-added, 10-25% of exports, and 25-40% of research and development expenditure in 1997 for countries such as the European Union (EU), Japan the USA (Koski *et al.*, 2002).

Ketteni et al. (2011) demonstrated the non-linear relationship between ICT and productivity for several OECD countries and a non-linear relationship between human capital and productivity. They write that the reason for this is that governments are at different stages in the transition process. Sánchez et al. (2009) confirmed the impact of ICT on per capita income using data from 102 countries. Shao and Shu (2004) measured productivity growth using the Malmquist total factor productivity (TFP) Index and find that each country's ICT industry exhibits a unique behavior. Jorgenson et al. (2011) identified 40% of the total productivity increase of TFP originating from the ICT-production sector. Daveri and Mascotto (2006) are other studies supporting this idea.

Thus, the transition to the New Economy originating from the ICT revolution is supported by basic statistics. There are other names for New Economy such as Digital Economy, Network Economy or Knowledge Economy. However, terms such as Internet Economic or E-Economy are insufficient to explain the whole transformation process and only describe a part of this economy (Tapscott, 1997).

Within this study's scope, the New Economic structure can be briefly defined as follows: It is the adaptation of globalization and ICT to the production and trade processes of the old economy. The reason for using this definition is the assumption that productivity, inflation-unemployment dilemma, cyclical fluctuations, and changes in enterprises are the basis for the New Economy according to Deardorff's Glossary of International Economics (2013). Since it is an ongoing process, its mechanisms are not fully resolved, and its main characteristics are not understood. It is not easy to give the correct definition for the New Economic relationships today (Kiracı, 2016). The techno-economic paradigm, which determines innovation in developed and developing countries, is radically transformed. Before this change, innovation was shaped around mass production, economies of scale, and corporate R&D predominantly. According to the studies in the literature, it has been revealed that R&D expenditures have a positive effect on exports, and exports have a positive impact on growth (Külünk, 2018). Since the last twenty years of the 21st century, this situation has been primarily replaced by the export-based economies of scale, the benefits of being connected, the flexible production systems, and R&D centralization. Flexibility, connectivity, and business collaboration are all based on IoT, facilitating research diversity and interdisciplinary approaches. Due to rapidly changing market conditions, national science-technology policies, and national innovation systems. Some developing countries like Turkey try to replace their production infrastructure and whatever has strategic importance in production supremacy with national and local ones due to foreign trade wars. All government plans, programs, and strategies are designed to mobilize this opportunity.

Innovation is an economic and social issue as it concerns the whole society. While economists need to increase or support the growth rate, it is also an essential issue for those who want to change the quality of goods, the direction of economic progress, or improve the quality of life. Economics is closely related to applying business and other social sciences to industry and firms. Innovation is limited to making several inventions and improvements in the use of the product, the production method, and process and new developments in management, information networks, organizational structure, and financing methods (Hacıoğlu, 2021).

In practice, R&D expenditures are generally used to evaluate the impact of innovation on economic growth. For example, in OECD countries, R&D expenditures within the gross national domestic product have increased over time. Therefore, it is observed that R&D activities substantially positively affect the growth process. However, in some studies, it is observed that the R&D investments made by the public inhibit the increase in output due to the exclusion effect in cases where the private sector replaces R&D investments (Tansel & Güngör, 2003; Özçelik & Taymaz, 2008; Günay, 2018). Economic development depends on the quantity and quality of the factors used in production. Therefore, in addition to the amount of labor, capital, and natural resources, factors that increase productivity, such as technological advances, innovative procedures, institutional maturity, and human capital accumulation, should also be considered as the key links between R&D and development. The link between R&D and development, highlighting key discussions and empirical evidence supporting this relationship in the literature:

1. Importance of R&D for Economic Development: Research suggests that R&D activities contribute significantly to economic growth and development (Smith, 2018). By investing in R&D, countries can stimulate technological progress, leading to improved productivity, increased competitiveness, and enhanced living standards (Grossman & Helpman, 2015). R&D activities are essential for fostering innovation and knowledge creation, which are central drivers of long-term economic growth (Aghion & Howitt, 2017).

2. Technology Transfer and Knowledge Spillovers: R&D investments facilitate the diffusion of technology and knowledge across sectors and countries, thereby promoting development (Arora, Fosfuri, & Gambardella, 2019). The presence of strong linkages between R&D-intensive industries and other sectors enhances the transfer of ideas, expertise, and best practices (Belderbos, Gilsing, Lokshin, & Carree, 2015). Knowledge spillovers resulting from R&D activities can generate positive externalities and amplify development effects in both developed and developing countries (Mohnen & Hoareau, 2019).

3. R&D and Human Capital Development: Investments in R&D contribute to the accumulation of human capital, fostering development (Aghion & Howitt, 2017). R&D-intensive sectors tend to attract highly skilled workers and promote skill upgrading through knowledge-intensive activities (Akcigit, Grigsby, & Nicholas, 2017). The development of a skilled workforce, in turn, enhances productivity, innovation, and competitiveness, creating a positive

feedback loop between R&D and development (Barlevy & Tsiddon, 2019).

4. R&D and Sustainable Development: R&D can play a critical role in addressing global challenges and promoting sustainable development (Acemoglu & Restrepo, 2021). Investments in clean technologies, renewable energy, and environmentally friendly innovations can contribute to mitigating climate change, improving resource efficiency, and promoting a sustainable future (Bosetti, Cattaneo, Fiorese, Verdolini, & Vergalli, 2015). R&D-driven advancements can enable the decoupling of economic growth from environmental degradation, leading to more sustainable development pathways (Weitzman, 2018).

The link between R&D and development is well-established, with empirical evidence highlighting the positive impact of R&D on economic growth, technology transfer, human capital development, and sustainable development. Encouraging R&D investments and fostering an environment conducive to innovation are crucial for countries aiming to promote long-term economic development and address societal challenges.

2. Problems and Barriers in Innovative R&D

The application of innovations is acknowledged as a driver for economic and social development. However, the processes of technology development and transfer are affected by numerous barriers, which are understood as any limitations that hamper the effective functioning of a system of the generation, execution, and transfer of innovative technologies (Maruzkiewicz, 2018). The essence of R&D is the transformation of scientific knowledge into a unique service or product with economic value by using technology. For this, the scientific knowledge produced must be qualified. To make qualified scientific knowledge, talented scientists, suitable materials, orientation to the solution of a realistic problem, ensuring correct and sufficient cooperation between the necessary disciplines, conducting the whole process within the framework of ethical rules, and a suitable place and material are required. Together, these conditions constitute the indispensable environment for healthy R&D, which we call a "scientific climate." We can also think of the scientific climate as the atmosphere surrounding the institutions, organizations, and countries that will carry out R&D. The more suitable the climate, the more valid and sufficient R&D outputs can be. The inadequate scientific climate in a country is the main reason for insufficient R&D. Turkey's R&D inadequacy, which was started under the previous title, is also directly related to this situation. Scientific climate inadequacy covers all R&D activities, not just the health field. The problems and obstacles of the health field are not very different from other R&D activities in the context of scientific climate deficiency. In this

article, our subject is the problems and obstacles for R&D in health, but the determinations and explanations we will make below will be valid for other R&D activities and health.

Figure 1. Problem sources of innovation and R&D
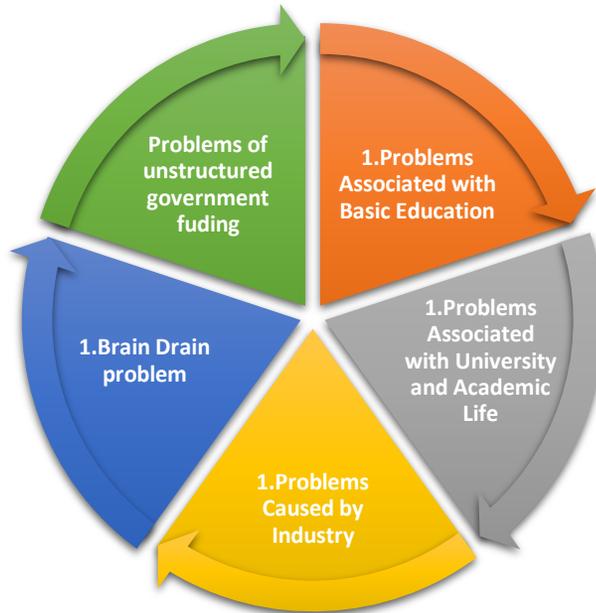
2.1. Problems Associated with Basic Education

The results of studies measuring and comparing the quality of education in countries confirm the above criticisms. In a wide-ranging assessment based on reading comprehension and mathematical and scientific knowledge, Turkey appears to be average or below average in student scores, investment in education, and education quality (Roser *et al,* 2019). In evaluating the Program for International Student Assessment (PISA) based on mathematics, science, reading comprehension, and analysis for students around 15, Turkey is among the low-ranking countries with low scores (PISA, 2019). A report of the World Economic Forum also evaluated the quality of countries' mathematics and science education. In this evaluation, Turkey was ranked 104th among 137 countries. Countries such as Colombia, Pakistan, Vietnam, the Philippines, Saudi Arabia, Iran, Qatar, and Lebanon (Reddit, (2018).

The capacity of primary education to train qualified personnel for R&D is limited in Turkey. The system is generally far from an approach that inquires analytically, identifies problems correctly, asks logical questions for solutions, and teaches how to produce answers from primary school to university. In addition, many children or young people who have R&D aptitude and the

potential to be good scientists are lost in the system. University is seen as an institution that provides social labels and job guarantees to people rather than contributing to individual development and providing a correct perspective on specific areas. The approach of the last 30-40 years in the selections made for better education schools and universities is to find the right option within the question type that offers five different options within a certain period. The lessons taken by the student both at school and in special education and private teaching institutions for reinforcement purposes showed a completely result-based rote approach. Instead of teaching the subjects covered in a cause-effect relationship, only memorizing the results was deemed sufficient. While explaining the information presented by science to the student, the reasons, methods, scientific methodology, and questioning approaches related to the discussion of existing knowledge are neglected. The primary purpose of such a system is to acquire private schools or universities somehow. The decline in teacher quality, the fact that qualified teachers are more involved in paid education, and the transformation of education into trade and students into customers has limited equal and competent education access to most of the population. Foreign language education can be seen as another problem.

2.2. Problems Associated with University and Academic Life

Engineering schools are among major establishments where vital research and technological development activities occur. However, academia has its way of doing things and accomplishing research goals. It can be postulated that academic R&D teams require a unique portfolio of management practices, which has not been broadly discussed in the literature (Berber & Kurul, 2009). Countries with solid R&D activities all over the world have strong universities. Because universities provide education, they train good and research-oriented academicians and form an essential step towards transforming their scientific knowledge into technology through research laboratories, application, research centers, technoparks, incubation centers, technology transfer offices, and R&D incentives programs.

The world domination of Europe and America depends on the importance they attach to science, the fact that they have created a scientific culture, and scientific freedom and autonomy. Encouraging research has enhanced scientific creativity. For new ideas, it is necessary to think differently or differently. Most innovations and new ideas throughout history have come from excluded and blocked. Since it is known as a general fact that in history many important inventions were initially opposed and not accepted, satisfactory measures need to be taken to prevent research scientists' inhibition and encourage their work. Unfortunately, another critical obstacle in front of R&D in Turkey is that "pure research universities" have not yet

emerged or the inadequacy of research expected to support R&D in universities. Although some universities' efforts to be thematic and try to give job definitions to others is correct in terms of R&D, the job definitions for research areas of most universities are not clear yet. It is because industry is not at the same level of maturity that produce innovative products based on R&D. Government incentives to set-up robust relationship and collaboration between universities and industry for productive R&D are not satisfactory and prolific. Therefore, cooperation and research activities for qualified R&D are insufficient. In countries with inadequate R&D, science and scientific research are often sacrificed for monetary gain. There are various reasons for this. We can list them as follows:

1-Universities focus on education rather than research. In countries with developed R&D, research and education activities in universities are either carried out separately or by different universities or researchers. Academicians working at universities in Turkey try to carry out research and education together. An outstanding researcher can spend most of his time preparing lectures or attending various classes. The primary motivation source of scientific research in universities is the academic stages. For this reason, research activities are directed towards publishing articles rather than discussing established theories, putting forward new approaches, making discoveries.

2-Especially in post-doctoral research, there is a need for publications to be appointed to associate professor or professor positions at universities.

3-The academic staff of universities is primarily planned according to education. The academician who has reached certain academic stages by creating a certain number of publications can be a director, dean, rector, etc. Co-assignments are made to centers, laboratories, or units that need to deal with R&D, and exceptional staff and teams are not established for R&D units.

4-Here is the answer to why we cannot produce sufficient and qualified outputs even though we are no different from many countries with developed R&D in terms of space, tools, and equipment, and even better than some of them. Investments are made in buildings and tools rather than people. It needs a qualified R&D qualified workforce. Innovation is the creative force bringing new ideas (discoveries) to inventions that turn into technology. Innovation is the use and application of creativity. Creativity is thinking about new things, and the design shows that a technological product can be made. Innovation turns this product into a commercial value (Günay, 2018).

5- Industry-based R&D mainly supports the assembly and the creation of imitation products.

6- Postgraduate education is critical to train the qualified workforce for R&D activities. In comparison, the number of research scientists per 1000 people in South Korea and Germany can be considered close to us. Still, this figure is around one in Turkey. The opening of many new master's and doctorate programs, especially in foundation universities, will increase this number. Still, the serious problem here is that master's and doctoral education is gradually getting more accessible and diluted with commercial approaches. It does not seem possible to create human resources for essential activities such as R&D with unqualified personnel with a doctorate. Developing a severe roadmap or policy to restructure universities and their R&D activities is necessary to overcome these problems.

2.3. Problems Caused by Industry

Research findings indicate that public R&D support significantly and positively affects private R&D investment. There seems to be even an "acceleration effect" on firm-financed R&D expenditures. Given the scarcity of studies on R&D support in technologically weaker economies, we hope that the less-developed countries can exploit these findings in constructing socially beneficial technology policies (Özçelik & Taymaz, 2008). One of the most common clichés in R&D processes is "university and industry cooperation." In Turkey, remarkable projects have started to emerge in other fields of R&D such as automotive, chemistry, and electronics; however, we cannot talk about good cooperation in health sciences.

Universities see pharmaceutical and biotechnology R&D as a long-term, expensive, and complicated process. Another problem is venture investors' lack of promising discoveries or preliminary products. In Turkey, science is a field that does not even cross the minds of risk investors. Those who have extra money or want to invest in risk, instead of investing in a diagnostic kit or a patented drug molecule ready for preclinical research, invest in foreign currency, gold, interest, etc. They prefer immovables such as movable or real estate. It is necessary to solve the issues related to primary education and universities. In addition, establishing a genuinely domestic pharmaceutical industry and adding it to a research university with a well-defined job description to produce R&D projects in medicine and technology can provide the necessary support for removing restrictions.

2.4. Brain Drain problem

Turkey's first "brain drain" wave began in the 1960s, with doctors and engineers among the first group of emigrants. In recent years, attention has shifted to young university graduates who are seriously contemplating starting their careers abroad due to the current economic crisis which is not limited to local or national context but global. Postgraduate studies overseas provide the

first step for many in fulfilling this goal (Erduran *et al,* 2019). To contribute to the qualified workforce in science, Turkey has sent many of its staff to developed countries, mainly covering the post-doctoral period, with scholarships supported by the state at various levels. What is expected from the scholarship programs is that those who are sent improve themselves, return to Turkey and produce important R&D projects. However, it was not expected. In this case, unfortunately, Turkey has become a country that creates human resources for developed countries by giving money to the top.

One important discussion surrounding the brain drain problem in Turkey is the impact on the economy. Emigration of highly skilled professionals can lead to a scarcity of specialized expertise and talent within the country, hindering economic growth and innovation (Özden, Parsons, Schiff, & Walmsley, 2011). This can have negative consequences for key sectors such as healthcare, education, research, and technology.

Another crucial aspect of the brain drain problem is its impact on human capital development. When skilled individuals leave their home country, the loss of their knowledge and skills can impede the development of local industries and hinder the transfer of knowledge to other workers (Yumrutepe, 2013). This can create a cycle of limited human capital accumulation and hinder the country's overall progress.

Additionally, the brain drain problem in Turkey has been discussed in the context of social and political implications. The departure of highly skilled individuals may lead to a "brain waste" phenomenon, where their skills and qualifications are underutilized or not recognized in their host countries (Tansel, 2013). This can cause frustration and dissatisfaction among emigrants, potentially affecting their sense of belonging and social integration.

To address the brain drain problem, various strategies have been proposed. These include creating a conducive environment for professionals to thrive, improving job opportunities, and investing in education and research to retain skilled individuals (Akkoyunlu-Wigley & Güngör, 2013). Additionally, policies that encourage diaspora engagement and knowledge transfer between emigrants and their home country have been suggested as a way to mitigate the negative effects of brain drain.

Developed countries have attractive scholarship programs that will attract qualified and trained staff. These programs offer many promising opportunities to people who want to do scientific research and serious projects. On the other hand, working in an environment with a sufficient scientific climate is also essential for a talented and creative scientist to show himself, reveal crucial data, and make discoveries. Talented minds who cannot find a good research environment in Turkey continue to be admitted to suitable countries where they can express themselves.

The only way to prevent brain drain is to create a scientific climate. This is based on solving the problems listed so far and removing some obstacles. Providing "reverse brain drain" by delivering more salaries and opportunities does not seem to contribute to the solution either. There are two fundamental reasons for this: First, no developed country loses its trained workforce to another underdeveloped country. Migration is always for the better. There is no migration from good to bad. An active scientist with essential projects that he is currently conducting and well-integrated into the system does not return by leaving them.

Secondly, Whether the mediocre or idealist thinks and turns out to be the best, their contribution to qualified R&D will be limited due to their inability to find the order they are used to and other problems arising from the system. Their grants to the universities they are involved in will not go beyond small or medium-sized projects and scientific publications. Moreover, the opportunities provided to good scientists abroad are much better than those offered by Turkey.

2.5. Problems of Unstructured Government Funding

Assessments by Ilyash *et al.* (2021:35) shows that the reform changes should relate to the redistribution of financial flows in the direction of stimulating domestic production of high-tech products. In fact, there is a chaotic incentive structure and financial flows that are "wasted" in the hands of the multi-headed bureaucracy, which is disconnected from each other, lacks strategic integrity, and has scattered goals and objectives. An incentive structure that promotes everything and ultimately nothing is harmful. That everyone chases and is never satisfied; although there are those who are satisfied, an incentive structure, which remains an exception, is an obstacle to innovation (Erten, 2008). The directing of scarce public resources financed with budget revenues due to incentives to inefficient areas causes a waste of resources on the one hand, and negatively affects income distribution on the other hand. Because, through incentives, public resources are manifested in the form of redistribution of income to certain sectors, regions, and individuals. Since the payments made for the incentives are met from the general budget, the budget gives a deficit equal to the incentives given, and these deficits are financed either by new taxes or by borrowing. For this reason, considering that every incentive given has an economic cost, the economic and social gains to be obtained due to the incentive should be implemented in a way that at least compensates for the budget expenditures (Ersungur & Takım, 2008).

3. The reality, research, and development

Understanding and analyzing reality usually differ from the scientific and religious points of view. Data from science teachers suggest that they consider

the importance of testing in science. They refer to an 'objective' reality beyond the individual experience. On the other hand, religious education teachers refer to claims of truth that cannot necessarily be tested or need not refer to a reality beyond the individual's experience of this reality (Erduran *et al,* 2019). When it is called R&D, technological research, laboratories, and big projects come to mind for more innovative products. However, in the historical process, there was no R&D. Isn't it research of truth since the prophets and first-age philosophers?

According to materialist philosophy, everything comes from matter and continues as matter. Idealism and materialism investigate the nature of reality and come to different conclusions. The fundamental question is: What is reality, and why does it occur? In postmodernism, universality, totality, objectivity, and truth enforcing thesis were rejected. Postmodernist thinkers argue that objective reality has a more complex structure than we perceive. They put the human factor and its differing perceptions in front of everything while considering humans under the conditions of materialist philosophy. In the postmodernist conception, the reality is not something that exists outside our consciousness as in materialist understanding, and we shape reality. Everything like symbiotic factories is so intertwined that nothing is for its own sake in its material assets, services, and relationships. All needs are given in perfect order and balance without confusion.

The increase in the number of R&D investments and the number of companies opening is promising but still open to improvement, so many problems must be solved. To survive and grow under the conditions of today's heavy competition, companies need to constantly change, differentiate, and renew their products, services, methods of work, structuring, and social responsibility. Realizing this fact, the companies increase their R&D investments every year and pay attention to their activities in this field. In the last ten years, the brand of R&D investments in Turkey attests to the importance given to this issue. R&D and innovation have become indispensable elements of the competition of brands today. Since countries supported with active R&D incentives are at the highest levels in the World Competition Ranking, technoparks and R&D laboratories, opened after another, reveal institutions' importance to this subject.

3.1. East-West race in R&D

By showing the differences in knowledge mechanics, J.S. Mill shows that the historical distinction between 'West and East' countries is seated on the uneven diffusion of knowledge among people (Manioudis, 2021). The development of R&D and innovation activities worldwide, especially in China and the Asian countries, is remarkable. According to 2017 data, the graphic shows R&D spending sizes according to countries. The Chinese economy

ranks second after the USA economy, estimated to exceed USD 18 trillion by 2020. China's total R&D spending was $ 354 billion as of 2019, with more than 4 million researchers. Still, the USA ranks first in terms of the country based on the investments made in R&D. China is followed by China, the developing power of Asia. China, Japan, Germany, and Turkey in the list, followed by South Korea ranks 20th.

Figure 2. R&D Spending Per Country
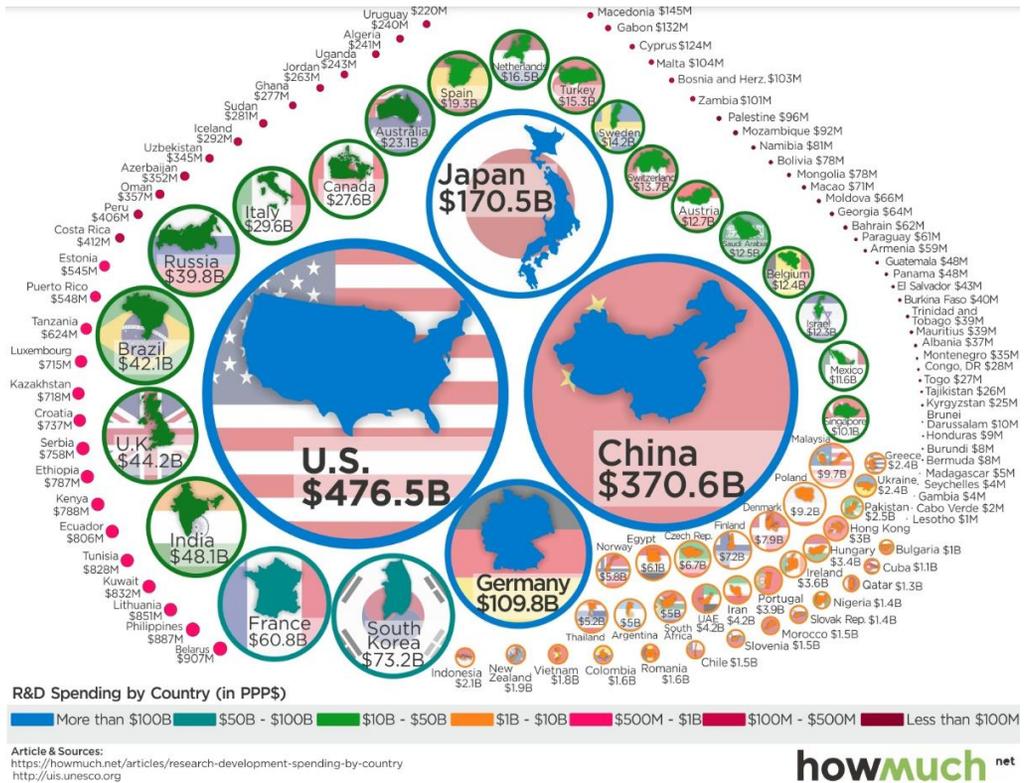
Figure 3. Map of R&D Expenditures Per Country
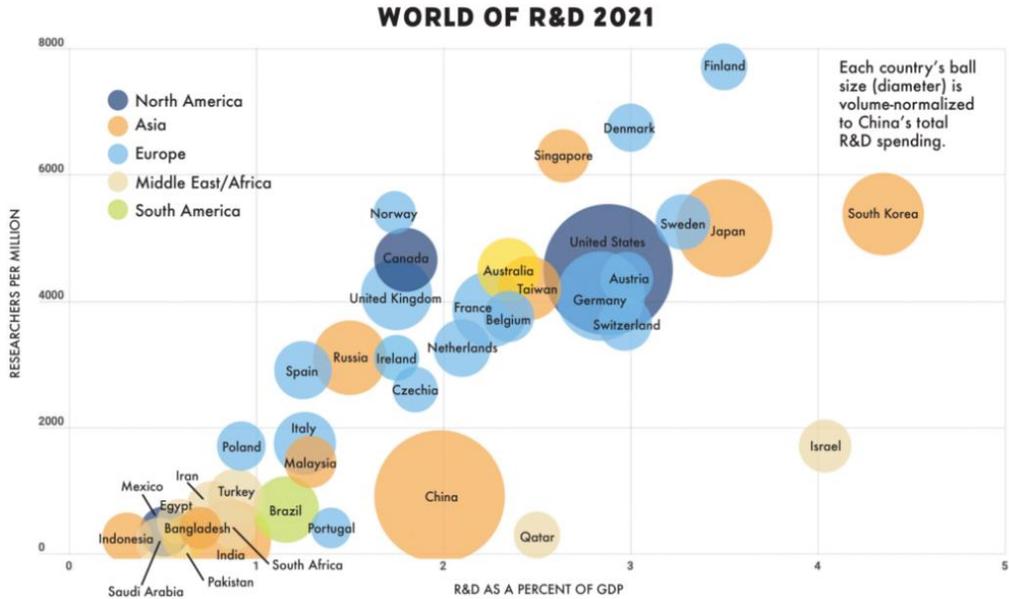
3.2. R&D in Turkey

GEM (2017, p. 13) classifies economies under three groups according to their economic development level, namely factor-driven, efficiency driven, and innovation driven economies. Accordingly, Turkey is classified as an efficiency driven country, which means it has enhanced its competitiveness with more-efficient production processes and increased product quality, but it is yet to effectively develop knowledge-intensive sectors. (Cansız & Tekneci, 2018: 160).

In the last fourteen years, Turkey's economy has demonstrated a strong performance in terms of macroeconomic stability. Turkey recorded significant improvements in the provision of R&D expenditure and is still unable to take part in top positions in the world in terms of competitiveness. Indeed, the World Economic Forum (WEF) Global Competitiveness Index shows that the World Bank Doing Business Index and United Nations major global indices such as the Human Development Index in Turkey are far from the desired position. Turkey, 43 in the Global Competitiveness Index (among 144 countries), the Ease of Doing Business 71 (among 175 countries), and # 90 on the Human Development Index (out of 187 countries) are available (Çağla, 2019).

Turkey's R&D expenditure increased by 17% in 2019 to 30 billion 615 million TL. As a result, the share of R&D expenditures in the Gross Domestic Product (GDP) increased to 1.06% in 2019. The Government of the Republic of Turkey's

3% annual R&D expenditure has set a target until 2023. Despite this increase, the ratio of R&D expenditures in GDP (1.06%) has not yet reached the desired point. When we look at the first 15 countries with the highest GDP ratio, we see that the average R&D expenditures are 3%. Another essential element of R&D is innovation, which creates value in the market by transforming the idea or invention into a new product or service. It is possible to add new products or ideas to the existing idea or product in simple terms (Uzbay, 2007). Turkey is dominated by a wavy appearance in the distribution of patent data; the share of residents abroad in the past has increased the percentage of high While residents in recent years. Meanwhile, Turkey is still lagging behind other countries in many areas despite the progress made in these areas over the last decade that followed. In particular, the number of patents shows a weak picture compared to other comparative countries.

3.3. R&D in health

Healthcare-specific R&D may be for administrative or medical purposes. Administrative R&D activities include research projects and studies created to identify and solve problems to increase the efficiency and quality of general health services and the services provided to patients in health institutions such as hospitals. Medical R&D activities, on the other hand, are research aimed directly at the diagnosis, treatment, and prevention of diseases. The results of these activities are expected to be now reflected in the clinic. It is seen that areas that have an indirect relationship with health and health in the world constitute approximately a quarter of general R&D activities, and health ranks first among all industrial R&D areas. Here, medicine and biotechnology have a significant contribution with a share of 16.5% (Uzbay, 2017). In Turkey, health has been declared a priority area as a state policy. R&D priorities in health are listed under the titles of drugs and vaccines, medical diagnostic kits, biomaterials, and biomedical equipment. Thanks to three-dimensional printers, medical equipment and medicines can be printed out. Soon, this technology will also produce various organs and tissues. Although R&D studies on health are increasing in Turkey, they are still insufficient compared with developed countries (Gümüş, 2017).

3.4. Türkiye's R&D in the world?

In information societies considered the most advanced social stage, land and capital have been replaced by human capital and innovative technological know-how, defined as qualified human capital. Therefore, while the quantity of production factors comes into prominence in the economic development of industrial societies, the quality of the production factors in the information societies has strategic importance, which is being greatly affected by innovation capability. As a result, developing countries have begun to step back to the competition, requiring them to implement more active policies.

University technology transfer has been receiving significant government funding since 2012. The Turkish government and society now expect results of this substantial investment in terms of better teaching and research performance and new jobs, new products and services, enhanced regional development, and contribution to economic growth (Ranga *et al,* 2016). Turkey applied science and technology policies based on monetary support to development projects. This process, which started with the establishment of technoparks in the 2000s, continued with establishing Regional Development Agencies in 2006 and Technology Transfer Offices (TTO) after 2011, with accelerators, entrepreneurship centers, and financial support programs speeding the initiatives. As a result, the number of techno-parks, development agencies, TTOs, hatchers, and accelerators and the number of firms and entrepreneurs benefiting from these interfaces increased exponentially. This is only the scale, whereas the main problem is how we did with this scale, i.e., the quality and capability of the innovation ecosystem. For the size of the R&D activities in Turkey, we look at the value that indicates the scale, in other words. Turkey's total R&D expenditure of around 5 billion euros in 2017, 8 billion euros in 2018, and 10 billion in 2019. In the list of the 2500 companies that make the most R&D investments, there are only 2 Turkish companies in the first 1000; there are only 6 Turkish companies in the list.

Figure 4. Technology Transfer Ecosystem in Turkey

Source: http://ttaturkey.org/29/turkish-technology-transfer-ecosystem
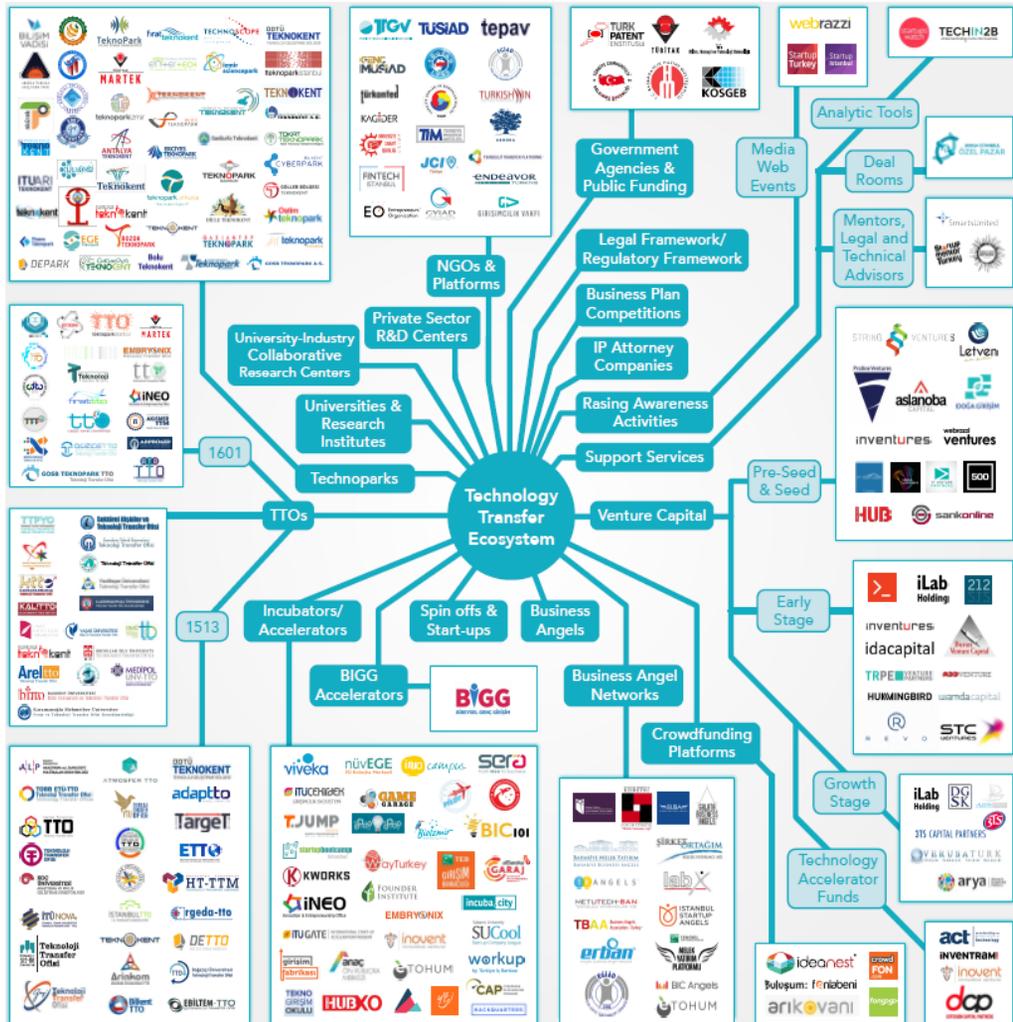
Government-backed organizations such as Havelsan, Aselsan, Roketsan, TUBITAK, and TAI are examples of institutions and agencies forcing and pulling the industries to produce national and local innovative products. In addition, science, technology, industry, and innovation policy are experiencing a cycle in every technological paradigm. For example, Turkey is currently designing innovation policies that apply microprocessor technology to virtually any field. However, the competitiveness and quality are still far behind the developing markets. Therefore, we will see the increasing importance of science and industrial policies at the new technological paradigm threshold.

Various ways or reports can be used when comparing Turkey's R&D with the world. Practical R&D outputs can only be obtained from qualified scientific knowledge transformed into technology. For this reason, to determine the R&D potential of an institution or a country, it must first can produce scientific knowledge and transform it into technology with economic added value. The capacity to produce practical scientific knowledge and transform it into technology is a country's most effective source of wealth and global prestige power. A study to measure this was published by Tulp (2017) in which, 25 countries with scores ranging from 100 to 1 were included. The USA took first place with 100 points, Germany took second place with 20 points, and Finland took 25th place with 1 point. While countries such as India and Taiwan were also included, Turkey could not. Other countries include the UK, China, South Korea, Canada, Italy, Spain, Israel, Sweden, Singapore, and Brazil. We can look at the list to measure countries' capacity to transform scientific knowledge into technology with economic added value. Most of the countries here are also actors driving the global economy in the world. When the same study was updated in 2015, no significant change occurred, and Turkey still could not find a place on the list (Tulp, 2017)

Turkey, which has more than two hundred state and foundation universities, does not seem to have a satisfactory performance not only in health R&D but also in general R&D activities and outputs. For example, looking at Turkey's situation in pharmaceutical R&D can give a more concrete idea. As mentioned above, pharmaceuticals and biotechnology have a valuable contribution to health R&D. The value of the world pharmaceutical market and the economic added value to the countries engaged in pharmaceutical R&D are increasing. Approximately 500 billion dollars at the beginning of the millennium, the world pharmaceutical market approached 1 trillion dollars in 2012. The expected figure for 2020 is around 1.5 trillion dollars. According to the Pharmaceutical Working Group report in the Development Plan, the share of Turkey's pharmaceutical R&D expenditures in Gross Domestic Product (GDP) is at a negligible level of 0.01%. GDP is one of the essential indicators of economic size. It is the monetary value of all final goods and services produced within a country's borders in a specific period. This report also points out that Turkey's number of registered pharmaceutical and biotechnology product patents is unsatisfactory (TCKB, 2014). The number of patents obtained by countries is the most critical indicator of reflecting technology to the economy and using scientific knowledge in economic development. In an evaluation made by comparing the share of R&D expenditures in GNP with the number of scientists who can do R&D, Turkey is quite behind countries such as Malaysia, Pakistan, Iran, and Argentina (Karagüllü, 2013). The significant economic problem we are experiencing nowadays is the inability to produce qualified products based on R&D.

4. Brands that brand R&D

Companies should see a brand as a "patent" through which customers emotionally connect and choose their products and services over competitors. Just as patents are designed to provide exclusivity in a market, the brand offers that, tacitly, if properly executed. Branding can establish an autonomous relationship between customers and the producers, thereby helping companies to be protected from patent infringement. In this study, the author shows evidence of the lack of any viable branding strategy on innovation by the few Turkish firms that have filed patents. This explains the lagging of the Turkish companies in internationalizing their brands (Aydoğan-Duda, 2012).

The top 10 companies that spend the most on R&D across the globe are Volkswagen, Samsung, Amazon, Alphabet, Intel Co., Microsoft, Roche, Novartis, Johnson & Johnson, and Toyota. However, when we look at the top 10 companies that make the most investments in innovation worldwide, we see a different picture. The top 10 companies led by technology giants are Apple, Alphabet, 3M, Tesla Motors, Amazon, Samsung, Facebook, Microsoft, General Electric, IBM.

Figure 5. Biggest Spenders on R&D
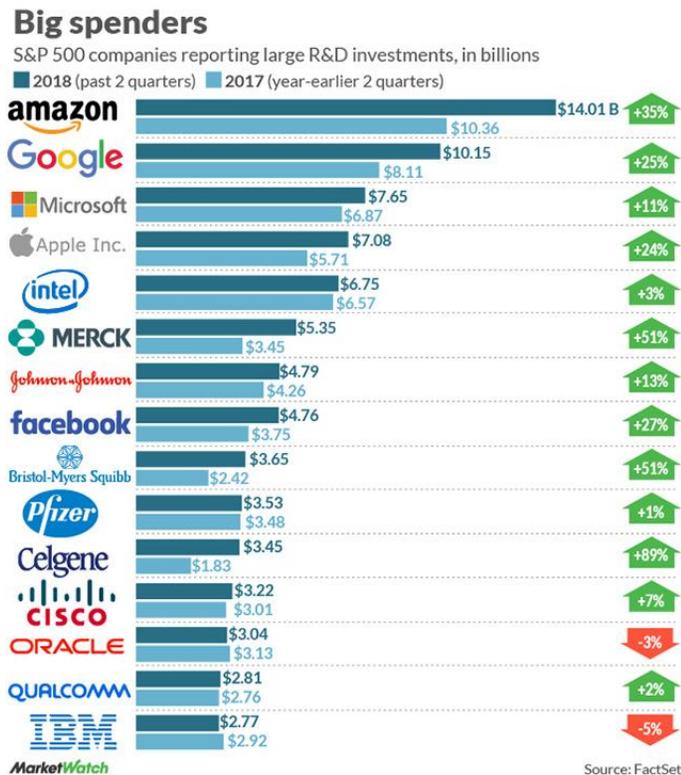
According to Turkstat, Turkey's R&D spending in 2015 was about 7.6 billion dollars. This figure is far behind even Volkswagen, which ranked first in the company's R&D budget of 13.6 billion euros. However, the country's R&D report, although the worst two entities of the coaching group Tofas and Ford Research in the automotive world-Gee that invests most in two thousand taking place among the 500 companies, announces Turkey's name globally league.

5. The future of R&D prospect

The prospects for Turkey are discussed concerning the present level of the country's technology infrastructure. It is emphasized that if Turkey achieves a better trade balance and a prominent share of world exports in the future, merely increasing its business sector's weak R&D expenditures will not be sufficient. Moreover, in the case of both R&D expenditures and researchers, quality and quantity are required, with the number and quality of the latter being crucial both for innovating and absorbing foreign technology (Ege & Ege, 2017). TÜBİTAK should work in the research sector for the industry. R&D and Innovation studies should be conducted from multidisciplinary and interdisciplinary sources, and public R&D incentives should be collected and focused on target technologies. Private-sector experts should be actively involved in the commissions where R&D projects are to be supported. Therefore, projects should be monitored to increase efficiency. In the United States, there is not much R&D incentive from the government to companies. Instead, companies find investors for R&D ideas. In this way, the investor provides capital to the company and becomes a partner. The period of making money from money is over. It would be a more profitable investment to invest a promising idea into a project instead of keeping the money in the bank. As individuals, we need to support projects and startup companies or angel investors. We should capitalize on projects and provide all kinds of moral support and coaching during the transformation of the business idea or project into a product. The role of incubating centers is of crucial importance, and they are being developed very rabidly in numbers as is seen in the table below, but the maturity and quality of system need time.

Albaraka Garaj	http://albarakagaraj.com
Anaç Pre-Incubation Center	http://bigganac.anadolu.edu.tr
Atom	http://www.atom.org.tr
BIC101 XO	http://bic101.com
Bioİzmir	http://www.bioizmir.com/
CAP (Bilkent)	http://cap.cyberpark.com.tr
Embryonix	http://www.yenifikiryenihayat.com
eTohum	http://www.etohum.com

Founder Institute Istanbul	http://www.fi.co
Game Garage	http://www.gamegarage.org/
Garanti Partners	http://www.garantipartners.com
Girisim Fabrikası	http://www.girisimfabrikasi.com
Hackquarters	http://www.hackquarters.co
incuba.city (Sehir TTO)	http://incuba.city/
Incubation İstanbul - İAÜ	http://incubation.istanbul/
InnoCampus	http://www.innocampus.org
Inovent	http://www.inovent.com.tr
ITU Gate	http://www.itugate.com
ITU Çekirdek	http://www.itucekirdek.com
Kadir Has iNEO	http://www.khasineotto.com
KWORKS	https://kworks.ku.edu.tr/
Ege, EU Incubation	https://www.nuvege.org/
Sera Incubation	http://www.seraincubation.com
StartersHub XO	https://www.startershubxo.org/
StartersHub XO	https://www.startershubxo.org
StartupBootcamp Istanbul	http://www.startupbootcamp.org
SuCool	http://www.sucool.sabanciuniv.edu
T-Jump	http://t-jump.com
Tekno Girişim Okulu	http://www.teknogirisimokulu.com/
Teknoloji Türkiye	http://www.teknolojiturkiye.com.tr
TIM TEB	http://www.teblegirisim.com
Türk Telekom Pilot	http://www.turktelekompilot.com.tr
Viveka	http://www.viveka.com.tr
Way Turkey	http://wayturkey.com/Index.aspx
Workup	http://workup.ist
YFYI	http://www.yfyi.odtuteknokent.com.tr

6. Conclusions

Efficient, cost-effective manufacturing of new products requires an R&D organization that understands and interacts effectively with the production department. How does a company create an environment where its R&D organization comprises market-savvy, production-friendly experts in diverse technologies? (Heney, 2021). Many companies in Turkey have Research and Development (R&D) departments, and many even have R&D Centers or Centers. According to the Ministry of Industry and Technology data dated January 5, 2021, there are 1229 R&D Centers, 360 Design Centers, and 87 Technology Development Zones in Turkey. According to the latest updated

data published by TURKSTAT, the share of R&D expenditures in Turkey's gross domestic product (GDP) increased to 1.06% in 2019, and private companies made 64.2% of R&D expenditure in Turkey.

For this reason, today's intellectual capital of companies determines business values. This is the difference between book value and market value. R&D must be sustainable. The business must allocate a reasonable proportion of its income to R&D activities, just as it allocates to marketing activities. Companies where innovations are not followed, and developments are not made cannot be long-lasting. Once a strong will has been demonstrated, one should never step back from R&D. Awareness of intellectual property rights should be created in companies. The design, utility model, and patent protections must be prepared to protect the project outputs. Trademark registrations should not be neglected either. Firms should increase the number of patents and use patent databases very well. Personnel who obtain patents and make innovations and improvements should be rewarded. If possible, staff with doctoral degrees and professional certifications should be employed in R&D departments. Increasing the number of innovative personnel, including those with Ph.D. degrees, should be encouraged. It should not be forgotten that the most important values of the companies are the patents they have obtained and the brands they have developed. Awareness about patents should be created in the business. Also, R&D should not be introverted. It is essential to follow technological developments with national and international experts in different disciplines. Problems should be solved with teams consisting of members with diverse expertise. Only in this way the "problem identification" phase, which is the first step of R&D and innovation, can be carried out correctly and effectively. It is essential that the technology preparation level is low but that the subjects considered a competency to be acquired transferred to universities and that effective planning is done. In this way, a structure that deals with companies' university problems and brings innovative solutions can be created. Thus, it may be possible to train qualified human resources suitable for the needs of the industry.

Where the concepts of open innovation and co-creation are spoken more and more every day, the principles of joining forces must be adopted. Today, the shortening of product life cycles, especially in high-tech products, and the increasing demands of customers have necessitated the sharing of resources and competencies among companies that will require continuous innovation. In realizing some projects, the business's resources alone may not be enough. Partnerships make the tasks easier both financially and in terms of the workforce. To give an example, when a few companies allocate resources for a project that is likely to be realized in 20 years, the resources allocated do not put the companies in trouble, and the burden is shared. Today, just for this

reason, automotive companies act together to develop electric vehicles. The formation of this culture is of great importance. Otherwise, carrying out the project with a single business will cause difficulties and inefficient use. In addition, international cooperation should be given priority, and different cultures should be benefited from it. The principle of "win-win" should always be considered in collaboration.

Turkey can improve its local and national R&D capacity with innovative technology by implementing several strategies, such as:

1. Encouraging private-sector investment in R&D: The government can offer tax incentives, subsidies, and grants to companies that invest in R&D. This will encourage companies to invest more in R&D and thereby increase their competitiveness in the global market (Gokmen & Ozer, 2019).

2. Strengthening the science and technology infrastructure: The government can allocate more funds for the development of science and technology infrastructure, such as universities, research institutions, and technology parks. This will create an environment conducive to R&D and innovation (Gokmen & Ozer, 2019).

3. Fostering collaboration between academia and industry: The government can support collaborations between universities and companies in R&D activities. This will increase the transfer of knowledge and technology from academia to industry and vice versa (Kamil & Haci, 2019).

4. Improving the quality of education and training: The government can invest in education and training programs to improve the quality of education and to produce a highly skilled workforce. This will increase the number of highly qualified professionals who can contribute to R&D activities (Kamil & Haci, 2019).

5. Collaboration between the Public and Private Sectors: Turkey can foster closer cooperation between the public and private sectors to drive R&D initiatives. The government can provide support for private companies to collaborate with universities and research institutes to develop innovative technology.

6. Encouraging Entrepreneurship: Turkey can create an environment that supports entrepreneurship and innovation by providing funding and support for startups. This will encourage the development of innovative technology and increase competitiveness in the local and national R&D sector.

7. Encouraging International Cooperation: Turkey can encourage international cooperation with other countries to share knowledge and expertise in R&D. This will help to accelerate the development of innovative technology and increase competitiveness.

In conclusion, improving the local and national R&D competitiveness of Turkey requires a multi-faceted approach that involves investment in R&D, education, collaboration between the public and private sectors, entrepreneurship, and international cooperation.

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