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An Analysis of the Relationship between Business Confidence and Macroeconomic Factors: Türkiye Case

Reel Sektör Güveni İle Makroekonomik Faktörler Arasındaki İlişkinin Analizi: Türkiye Örneği

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Abstract

Investor sentiment plays an important role in the all level of economic activities. Confidence as an indicator of investor sentiment has become an important and interesting concept in recent years. Confidence indicators are a way in assessing economic developments in the short term. The aim of this study is to analyze the long and short term relationship between the Real Sector Confidence Index and macroeconomic/financial variables for the period of January 2007 – December 2021. The Johansen Cointegration Test results prove a long-term cointegration relationship. Vector Error Correction Models for both macroeconomic and financial variables are statistically significant at the 5% level. In the short run, Manufacturing Capacity Utilization Ratio, Official Reserves, Domestic Debt Stocks, Real Exchance Rate, US Dollar/TRL Buying Rate, Non-Residents' Stock Portfolio and Volatility Index have a statistically significant effect on the changes in Real Sector Confidence Index. Thus, this study informs investors to predict the effects of changes in the confidence index on financial instruments bilaterally and contribute to their investment decision.

Keywords: Business Confidence Index, financial forecasting, VECM analysis, Türkiye

Paper Type: Research

Öz

Yatırımcı duyarlılığı, ekonomik faaliyetlerin her düzeyinde önemli bir rol oynamaktadır. Yatırımcı duyarlılığının bir göstergesi olarak güven, son yıllarda önemli ve ilgi çekici bir kavram haline gelmiştir. Güven göstergeleri, kısa vadede ekonomik gelişmeleri değerlendirmenin bir yoludur. Bu çalışmanın amacı, öncü gösterge olan Reel Kesim Güven Endeksi ile makroekonomik/finansal değişkenler arasındaki uzun ve kısa dönemli ilişkiyi Ocak 2007 – Aralık 2021 dönemi için analiz etmektir. Johansen Eşbütünleşme Testi sonuçları uzun dönemli bir eşbütünleşme ilişkisini kanıtlamaktadır. Vektör Hata Düzeltme Modelleri hem makroekonomik hem de finansal değişkenler için %5 düzeyinde istatistiksel olarak anlamlıdır. Reel Kesim Güven Endeksi'ndeki değişimler üzerinde kısa vadede İmalat Kapasitesi Kullanım Oranı, Resmi Rezervler, İç Borç Stokları, Reel Döviz Kuru, ABD Doları/TL Alış Kuru, Yurt Dışı Stok Portföyü ve Oynaklık Endeksi istatistiksel olarak anlamlı bir etkiye sahiptir. Böylelikle bu çalışma, yatırımcılara güven endeksindeki değişimlerin finansal araçlar üzerindeki etkilerini ikili olarak tahmin etmeleri ve yatırım kararlarına katkı sağlamaları konusunda bilgi vermektedir.

Anahtar Kelimeler: Reel Sektör Güven Endeksi, finansal tahminleme, VECM analizi, Türkiye

Makale Türü: Araştırma

Giriş

Psychological and sociological factors are as effective as macroeconomic factors in the good functioning of economic systems. The main factors are confidence, loyalty and perceptions. The confidence in an economy has a close relationship with investor and consumer

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expectations. Thus, the economic events that these people encounter at the micro and/or macro level are effective in their decisions such as consumption, savings and investment for the future. Being optimistic or pessimistic about the future expectations of consumers and investors creates different economic results. Optimistic expectations encourage people to spend. The pessimistic expectations result in reducing the expenditures and being more cautious. This will affect the financial performance of companies in the real sector. Uncertainty or risk environment for the future transactions brings the factor of confidence to the fore. In this context, confidence in the markets is of great importance for both the consumer and the producer (Kıyılar and Akkaya, 2016).

"Homo economicus" constitutes the basic assumption of classical and neo-classical economics. In traditional finance theories, it is assumed that investors are rational and markets are efficient. Assets reflect their fundemantal value, as investors participating in financial markets access all information without cost. "Homo economicus" describes many aspects of human behavior. Although "homo economicus" is helpful in understanding many features of human behavior, it falls short in explaining moral behavior and anomalies. Studies on the validity of the Efficient Market Hypothesis and traditional finance theories have revealed that investors do not act rationally as stated, financial models do not fit the market in many cases, and anomalies exist. Behavioral Finance and its concepts of investor sentiment and investor psychology gained momentum after the 1980s. Behavioral Finance emphasizes that investors should be considered "normal" rather than rational. Investors not only make decisions based on risk. Also they focus on return and utility maximization. They also make decisions based on satisfaction shaped by cognitive and emotional biases. Other variables besides risk and return are effective in investment decisions, and that investors make decisions that will satisfy them at best instead of maximizing utility. Thus, there must be a close interaction between human behavior and macroeconomic parameters (Kıyılar and Akkaya, 2016).

Confidence as an indicator of investor sentiment, has become an important and interesting concept in recent years. Confidence is a pragmatic value and an important fluid of the social system. Also, confidence is the product of communities that are based on common moral norms and values and go back to ancient times. Lack of confidence leads to weakening of economic performance, and in fact, the problem stems from the lack of social capital. Social capital is defined as the ability of people to work together as a group or organization for a common purpose. The ability to unite with the sharing of norms and values emerges. These shared values form the confidence (Fukuyama, 2001).

Confidence indicators are a way in assessing economic developments in the short term. These sentiment indicators provide crucial information about the current economic situation and the future expectations of economic decision-makers. Sentiment or confidence indices emerged by chance. Consumer confidence was fist formulated by Katona (1968) at the University of Michigan in the 1940s to empirically measure consumer expectations within spending and saving behavior models. Analysts and economic agents use 2 indicators to make predictions about the state and future of the economy: consumer confidence indice and business confidence indicators. Business confidence shows the expectations of the companies based on the surveys regarding production, orders and finished products in the sector. This index is especially important for macroeconomics, as it characterizes the productivity of economic activity and the prospects for the development of the country's economy as a whole.

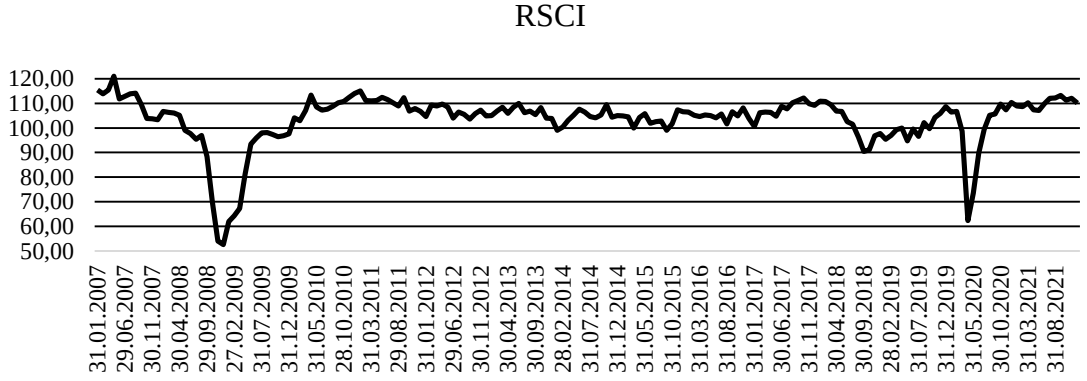
Tendency surveys for the real sector using different methods are in use for many countries. The main purpose of these surveys is to reveal the general trend in periodical developments and to provide information for economic decision units about the necessary future expectations. The Central Bank of Republic of Türkiye (CBRT) prepared Business Tendency Survey (BTS) in 1987 in order to learn the thoughts of the senior executives of the private sector institutions, and created the Real Sector Confidence Index in 2005 using the Business Tendency Survey. BTS has a comprehensive revision in line with the European Union Commission.

CBRT announces the Real Sector Confidence Index monthly since 2007 January. The Real Sector Confidence Index is an indicator that reflects the short-term trends of the manufacturing industry by monitoring the opinions and thoughts of the top managers who direct the country's economy, regarding the recent and current situation, and their expectations for the future, with the economic orientation survey. This index is calculated as a function of the answers given to the questions of BTS about total orders, finished goods stock, exports, production, employment, fixed capital investment expenditure and general trend. This index provides advance information about periods of growth and contraction in economic activity, and is used to predict changes in economic activity.[2]

Consumer confidence indice are main indicators in investor sentiment studies. The another economic indicator known as the Business Confidence Index (BCI) is a method to measure the optimism or sentiment of producers about the economy. The BCI is a leading indicator of future developments in an economy. This index is formed from the opinions received through regular Business Tendency Surveys that provide information about production, sales, orders and product stocks in the manufacturing sector. The Central Bank of the Republic of Türkiye created the Real Sector Confidence Index to measure the confidence and expectations of the manufacturing sector in 2005 and has been publishing it regularly every month since January 2007. The Real Sector Confidence Index takes a value between 0 and 200. A value of 100 is considered a neutral point.

Figure 1 shows the changes in the Real Sector Confidence Index (RSCI) between January 2007 and December 2021, which is the analysis period of this study. The study period starts with the first announce of the Real Sector Confidence Index.

Figure 1. Real Sector Confidence Index for January 2007 – December 2021 period



Source: The Central Bank of the Republic of Türkiye

Households and the real sector shape their production and consumption not only according to the current situation, but also depending on the environment of confidence or instabity caused by the changes in economic conditions. Consumption and investment expenditures vary by country. Because the macroeconomic and financial dynamics of every country are not the same. Although intense economic, financial, political and cultural globalization has made countries economically and financially similar to each other, they have their own financial markets and political risks. The Turkish economy has also been under an intense globalization attack since 1980, when its economy opened up. However, Türkiye's economy, geography and politics have their own unique behaviors and risks. For this reason, it would be beneficial to conduct a Real Sector Confidence Index study specific to the Turkish economy.

[2] https://www.tcmb.gov.tr/wps/wcm/connect/EN/TCMB+EN/Main+Menu/Statistics/Tendency+Surveys/

This study aims to analyze the relationship between the Real Sector Confidence Index which is prepared by the Central Bank of Republic of Türkiye as a leading indicator in the markets, and the macroeconomic and financial variables with the Johansen Cointegration and VECTOE Error Correction Model (VECM). Studies in the literature include short-term and few variables. This study makes an important contribution with its 15-year long period and many variables. In addition, investor sensitivity is affected by both economic and psychological factors. It is useful to look at all possible economic variables in order to observe the psychological effects in investor sentiment studies. Therefore, this study includes 27 variables. This study presents an econometric model on real sector confidence and discusses its results.

1. Literature

Traditional finance theories, Expected Utility Theory and Efficient Market Hypothesis assume that individuals are rational and want to optimize their preferences. Behavioral Finance, which is based on psychology and sociology, assumes irrational behavior or limited rationality approach instead of rational decision model. The Prospect Theory developed by Tversky and Kahneman (1974) is the basic of Behavioral Finance. One of the prominent topics in Behavioral Finance is investor sentiment and investor psychology. The sentiment in Behavioral Finance is investors' apparent aggregate errors in securities prices. In the case of irrational euphoria, investor sentiment is evaluated as excessive optimism. The basis of the investor sentiment theory is the concept of "noise" in financial markets. The concept of noise trading developed by Black (1986) is transformed into a theory by De Long et al.(1990).

Investor sentiment plays a crucial role in all level of economic activities. Future expenditures can be given as an example. Investor sentiment also has a significant impact on stock markets. Thus, researchers use many variables in studies on investor sentiment and investor psychology. Confidence indices are the most preferred among these variables. The first study on consumer confidence was made by Katona (1968) in the late 1940s, and after Otoo's (1999) study, interest in confidence indices increased again. There are many studies on the consumer confidence index in literature (Acemoglu and Scott, 1994; Jansen and Nahuis, 2003; Fisher and Statman, 2003; Brown and Cliff, 2004; Ludvigson, 2004; Korkmaz and Çevik, 2007; Afshar et al. 2007; Bremmer, 2008; Çelik and Kaya, 2009; Topuz, 2011; Köse and Akkaya, 2016; Coşkun et al. 2016; Alper and Kara, 2017; Küçükçaylı and Akıncı, 2018, Evci, 2019, Aytekin and Doyar, 2019; Özakarlı and Küçüksille, 2020).

The international literature has not ample study on the Real Sector Confidence Index (Ayuningtyas and Koesrindartoto, 2014; Sum, 2014; Los and Ocheretin, 2019). Some of the studies which are carried out in Türkiye are for the creation of the Real Sector Confidence Index. Other studies mostly and usually investigate the relationship between consumer confidence and stock returns. (Korkmaz and Çevik, 2009; Kale and Akkaya, 2016; Usul vd. 2017; Koy and Akkaya, 2017; Eyüboğlu and Eyüboğlu, 2018). The third type of studies investigates the relationship between the Real Sector Confidence Index and macroeconomic factors. Vector autoregressive models and causality tests are the main methods in these studies (Özsağır, 2007; Arısoy, 2012; Baştan et al. 2013).

Oral et al. (2005) carried out the first study on on the creation of the Real Sector Confidence Index in Turkiye. In this study, eight questions of the Business Tendency Survey, which is currently used in the index and which forms the basis of this index, have been determined.

Arısoy (2012) analyzes the relationship between real sector confidence and consumer confidence indices and stock market employment, production and consumption expenditures in the 2005-2012 period with the Vector Autoregressive Model (VAR). the Real Sector Confidence Index affects the Industrial Production Index and Borsa İstanbul 100 Index.

Albayrak (2018) investigates the relationship between the Real Sector Confidence Index and the Manufacturing Capacity Utilization Rate in the 2007 - 2017 period with the Johansen Cointegration Test and Granger Causality Test (1988). There is a long-term cointegration relationship between the variables. In addition, there is a one-way causality running from the Manufacturing Capacity Utilization Rate to the Real Sector Confidence Index. Aytekin & Bozkaya (2021) determine a long-term cointegration relationship between the variables by using the Autoregressive Distributed Lag (ARDL) bounds test, which is another cointegration model. A negative relationship occurs between inflation, exports and unemployment variables and economic confidence in the long run in Turkiye. Inversely, a positive relationship emerges between industrial production, real exchange rate and import variables and economic confidence.

Kaygısız (2019) investigates the relationship between Real Sector Confidence Index and Consumer Confidence Indices with macroeconomic variables in the period of 2010 – 2018 with the Vector Autoregressive Model (VAR). There is a significant relationship between the Real Sector Confidence Index, interest rates and the Industrial Production index.

2. Data

The aim of this study is to analyze the long-, and short-term relationship between the Real Sector Confidence Index, which is a leading indicator, and macroeconomic and financial variables. The study covers the period of January 2007 – December 2021.

Econometric analysis includes 27 variables and their monthly changes (Table 1). The studies discussed in the literature cover short-term and the number of variables used in the studies is relatively limited. This study is expected to make an important contribution to the literature with long-term and variable variety. This study acquires data mainly by the Central Bank of Republic of Türkiye. US 10-Year Bond Rate and Volatility Index data are gathered from yahoofinance.

Table 1. Variables and abbreviations

Abbr.	Variable	Abbr.	Variable
RSCI	Real Sector Confidence Index	IMP	Import Volume (USD)
BB	Budget Balance	IPI	Industrial Production Index
BIST	Borsa İstanbul 100 Index	MICUR	Manufacturing Industry Capacity Utilization Rate
CA	Current Account Balance	OR	Official Reserves
CCI	Consumer Confidence Index	RER	Real Exchange Rate
CDS	Turkiye 5-year Credit Default Premium	TLDR	TRL 1-Month Deposit Purchase Interest Rate
DBS	Domestic Debt Stock	USD	US Dollar / TL Buying Rate
DR	Dollarization Rate	USD10	US 10-Year Bond Rate
EXP	Export Volume (USD)	USDINX	US Dollar Index
ECR	Export Import Covarage Ratio	VIX	Volatility Index
FDI	Foreign Direct Investments	NRBP	Non-Residents' Bond Portfolio
FTB	Foreign Trade Balance	NRSP	Non-Residents' Stock Portfolio
GOLD	Gold Price (Gr.)	UR	Unemployment Rate
INF	Inflation Rate		

3. Methodology and Results

This study applies to Johansen Cointegration analysis and Vector Error Correction Model (VECM). The cointegration analyzes the long-term relationship between integrated time series. The time series used in finance should not have a unit root, that is, should be stationary in order not to cause spurious or biased regression. If non-stationary time series are made stationary in differences, they diverge from their original values. When the differences are taken, both the short-term effects of the series and the long-term relationships disappear, and as a result, a long-term relationship will not occur. Cointegration tests are a method that eliminates these problems and provides an advantage. In other words, cointegration shows the long-run relationship between non-stationary time series. In addition, the ability to establish error

correction models of cointegrated series also enables the determination of short and long term relationships. Engle–Granger (1987), Engle–Yoo (1987) and Johansen (1988) methods are well known in cointegration analysis. Unlike the Engle-Granger test and the Engle-Yoo test, the Johansen test allows more than one cointegration relationship. In addition, the Johansen method can be used for estimation and there is no restriction in the method. Johansen cointegration test consists of Trace tests and Maximum Eigenvalue test. Both values of the test determine the existence of cointegration. The null hypothesis of both tests; there is no cointegration equation. The alternative hypothesis is simply that the number of cointegrating relationships is at least one (Sarıkovanlık et al. 2019).

Vector Error Correction Model (VECM) is suitable for variables to predict short-term relationships. Granger (1988) states that if there is cointegration between the variables, there is at least one-way causality between the variables and the Vector Error Correction Model (VECM) should be used for this condition. In the error correction model equations, there are first differences of the variables and one term lagged errors of the cointegration regression. Error correction models allow determining short and long term causality and smoothing out the imbalance between variables (Enders, 1995).

Table 2 presents the correlation between the Real Sector Confidence Index (RSCI) and macroeconomic and financial variables. Correlations are low except Consumer Confidence Index (CCI), Turkiye 5-year Credit Default Premium (CDS), the Manufacturing Capacity Utilization Ratio (MICUR) and Volatility Index (VIX). The high correlation between the RSCI and the Consumer Confidence Index (0.5123) is normal as expected. Because both indices have similar method. The correlation between the RSCI and the Manufacturing Capacity Utilization Rate is high and positive (0.6508), as expected. Because, interviews are conducted with the managers of the companies operating in the manufacturing industry. The high and negative correlations with CDS (-0,5665) and VIX (-0,5896) emerge as expected. Because both variables measure risk perception. The rise of these two variables indicates that the risks in the market increase.

Table 2. Correlations

RSCI		RSCI	
BB	0.1581	IMP	0.4756
BIST	0.2603	IPI	0.2314
CA	-0.3249	MICUR	0.6508
CCI	0.5123	OR	0.0649
CDS	-0.5665	RER	0.0882
DBS	0.0166	TLDR	-0.2366
DR	-0.0846	USD	-0.0586
EXP	0.2394	USD10	0.0084
ECR	-0.2822	USDINX	-0.1299
FDI	-0.0407	VIX	-0.5896
FTB	-0.4328	NRBP	0.2778
GOLD	-0.0093	NRSP	0.4873
INF	-0.0353	UR	-0.4406

The first step in evaluating the suitability of time series for analysis in finance studies is unit root tests. The time series to be analyzed should be stationary, that is, they should not carry a unit root. 1% significance level and Augmented Dickey-Fuller (ADF) unit root test developed by Dickey and Fuller (1979) are preferred for this study (Table 3).

The ADF test is the most widely used unit root test in finance studies. Augmented Dickey Fuller (ADF) works well on larger and more complex models. However, it has the disadvantage of a rather high Type 1 error rate. The augmented Dickey–Fuller (ADF) statistic, used in the test, is a negative number. The more negative it is, the stronger the rejection of the hypothesis that there is a unit root at some level of confidence.

Table 3. ADF test results

Variable	Level	prob.	1. diff.	Prob.	Variable	Level	prob.	1. diff.	Prob.
RSCI	- 0,4196	0.5308	- 10,9124	0.0000	IMP	- 3,0885	0.0293	- 19,4589	0.0000
BB	- 0,7944	0.8177	- 9,0253	0.0000	IPI	1.9262	0.9871	- 4,2427	0.0000
BIST	- 0,7631	0.8265	- 13,2443	0.0000	MICUR	- 0,3155	0.5707	- 11,5166	0.0000
CA	- 1,7803	0.0714	- 3,0093	0.0028	OR	0.6648	0.8587	- 11,4477	0.0000
CCI	- 0,0613	0.6610	- 9,9391	0.0000	RER	- 0,0182	0.9548	- 10,2425	0.0000
CDS	- 0,8631	0.3408	- 14,4137	0.0000	TLDR	- 0,8316	0.3543	- 6,5966	0.0000
DBS	2.0489	0.9999	- 10,6402	0.0000	USD	4.2764	1.0000	- 11,4477	0.0000
DR	0.7271	0.9925	- 11,5159	0.0000	USD10	- 1,4613	0.1341	- 12,6730	0.0000
EXP	- 2,6935	0.0772	- 11,0621	0.0000	USDINX	0.3170	0.7761	- 13,5388	0.0000
ECR	- 2,4628	0.1265	- 13,9103	0.0000	VIX	- 1,2122	0.2061	- 12,2741	0.0000
FDI	- 1,3501	0.1637	- 13,4268	0.0000	NRBP	- 0,6816	0.4205	- 9,8879	0.0000
FTB	- 1,1090	0.2421	- 11,5159	0.0000	NRSP	- 0,7961	0.3699	- 9,8879	0.0000
GOLD	4.0443	1.0000	- 9,6581	0.0000	UR	- 2,4546	0.1287	- 2,8900	0.0040
INF	- 0,4866	0.5038	- 10,6402	0.0000					

The ADF test shows that all the variables used in the analysis are not stationary, that is, they have unit roots. Also, non-stationary variables become stationary at the 1st difference. Thus, the Cointegration test is suitable for the analysis of the long-term relationship and the Vector Error Correction Model (VECM) for the short-term modeling.

The optimal lag length must first be determined to apply the cointegration test to the variables. Using F-tests or information criteria, the appropriate lag length should be selected. (AIC) Akaike Information Criteria, (LR) Test statistic and (FPE) Final Estimation Error define the number of lags as 4 (Four) (Table 4). * indicates lag order selected by the criterion

Table 4. Lag length criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-10904.90	NA	1.64	128.42	128.63	128.50
1	-9888.00	1890.23	4.36	117.88	120.31*	118.87*
2	-9693.58	336.24	1.87	117.02	121.69	118.91
3	-9508.22	296.57	9.13	116.26	123.16	119.06
4	-9360.44	217.33*	7.23*	115.94*	125.08	119.65

The Johansen Cointegration Test analyzes the variables affecting the Real Sector Confidence Index in the long run, The variables in the analysis are divided into two groups: macroeconomic and financial variables. The null hypothesis for macroeconomic variables is rejected and the model is significant for the 5% level. In the long run, model has at most 7 (seven) cointegration equations among the variables. Thus, a long term cointegration relationship emerges between its variables and the series move together in the long run. (Table 5).

Table 5. Johansen Cointegration test results for macroeconomic variables

Series: RSCI CA INF EXP ECR FTB IMP IPI OR MICUR UN				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value 0,05	Prob.**
None *	0.508420	561.2875	285.1425	0.0000
At most 1 *	0.474354	444.1159	239.2354	0.0000
At most 2 *	0.418345	337.9997	197.3709	0.0000
At most 3 *	0.334847	248.5898	159.5297	0.0000
At most 4 *	0.322703	181.3130	125.6154	0.0000
At most 5 *	0.216208	117.0215	95.75366	0.0008
At most 6 *	0.144463	76.82567	69.81889	0.0124
At most 7 *	0.123356	51.08146	47.85613	0.0241
At most 8	0.100819	29.35846	29.79707	0.0561
At most 9	0.062562	11.82369	15.49471	0.1656
At most 10	0.007029	1.163898	3.841466	0.2807

* 0.05 level

In the long run, model has at most 16 (sixteen) cointegration equations among the financial variables (Table 6).

Table 6. Johansen Cointegration test results for financial variables

Series: RSCI BB BIST CCI CDS DDS DR FDI GOLD OR RER TLDR USD USD10 USDIND VIX NRBP NRSP				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value 0,05	Prob.**
None *	0.633963	752.2776	334.9837	0.0000
At most 1 *	0.588926	586.4491	285.1425	0.0000
At most 2 *	0.479652	439.7669	239.2354	0.0000
At most 3 *	0.420937	331.9794	197.3709	0.0000
At most 4 *	0.376715	241.8326	159.5297	0.0000
At most 5 *	0.275000	163.8286	125.6154	0.0000
At most 6 *	0.535924	739.7102	334.9837	0.0000
At most 7 *	0.490498	611.5031	285.1425	0.0000
At most 8 *	0.480319	498.8914	239.2354	0.0000
At most 9 *	0.408075	389.5832	197.3709	0.0000
At most 10 *	0.360888	302.0126	159.5297	0.0000
At most 11 *	0.280928	227.2508	125.6154	0.0000
At most 12 *	0.261592	172.1753	95.75366	0.0000
At most 13 *	0.240167	121.5310	69.81889	0.0000
At most 14 *	0.179842	75.66324	47.85613	0.0000
At most 15 *	0.141857	42.55421	29.79707	0.0010
At most 16 *	0.090042	17.00576	15.49471	0.0294
At most 17	0.007446	1.248168	3.841466	0.2639

Table 7 presents Vector Error Correction Model (VECM) results for macroeconomic variables. Vector Error Correction Model is statistically significant at the 5% level. In the short run, Manufacturing Capacity Utilization Ratio (MICUR) and Official Reserves (OF) have a statistically significant effect on the RSCI. In other words, these variables cause changes in RSCI in the short run.

Table 7. VECM results for macroeconomic variables

Excluded	Chi-sq	df	Prob.
D(CA)	7.314295	4	0.1202
D(FTB)	4.862154	4	0.3017
D(INF)	6.158171	4	0.1876
D(EXP)	5.086815	4	0.2785
D(ECR)	1.279735	4	0.8648
D(MICUR)	16.33989	4	0.0026
D(UR)	2.299419	4	0.6809
D(IMP)	5.149242	4	0.2723
D(IPI)	4.882380	4	0.2996
D(OR)	14.68794	4	0.0054
All	96.65063	40	0.0000

Table 8 reflects VECM results for financial variables. Model is again statistically significant at the 5% level. In the short run, Domestic Debt Stocks (DDS), Real Exchance Rate (RER), US Dollar / TRL Buying Rate (USD), Official Reserves (OR), Non-Residents' Stock Portfolio and Volatility Index (VIX) have a statistically significant effect on the changes in RSCI. TRL 1-Month Deposit Purchase Interest Rate (TLDR) and Borsa İstanbul 100 Index (BIST) are also significant at the 10% significance level.

Table 8. VECM results for financial variables

Excluded	Chi-sq	df	Prob.
GOLD	6.798351	4	0.1469
BB	6.525737	4	0.1632
BIST	8.284666	4	0.0817
DR	6.278691	4	0.1793
FDI	5.685955	4	0.2239
DDS	11.75103	4	0.0193
RER	11.42075	4	0.0222
CCI	1.009839	4	0.9083
TLDR	8.237767	4	0.0832
OR	13.40278	4	0.0095
USD	9.991313	4	0.0406
USD10	5.715282	4	0.2214
USDIND	2.549843	4	0.6357
VIX	19.45896	4	0.0006
NNBP	6.283737	4	0.1789
NRSP	9.961272	4	0.0411
CDS	4.417210	4	0.3525
All	159.1203	68	0.0000

Discussion and Conclusion

The concept of confidence, which is also social capital, enables the individual to take part in economic events and reveals the effect of individuals not only on their behavior but also on economic cases. From a macro point of view, confidence provides a solid basis for the formation of a stable economic structure. Real sector and macro variables are affected in proportion to people's expectations and their confidence in the economy. Thus, the main thing in the economy is to create an environment of trust that will positively affect expectations. The expectations of individuals and their confidence in the economy affect the real sector and macro variables.

This study analyzes the long and short term relationship between the Real Sector Confidence Index and macroeconomic - financial variables for the period of January 2007 – June 2021. The Johansen Cointegration Test results prove that a long-term cointegration relationship emerges between RSCI and variables, and the series move together. Vector Error Correction Models for both macroeconomic and financial variables are statistically significant at the 5% level. In the short run, Manufacturing Capacity Utilization Ratio (MICUR), Official Reserves (OR), Domestic Debt Stocks (DDS), Real Exchance Rate (RER), US Dollar / TRL Buying Rate (USD), Non-Residents' Stock Portfolio and Volatility Index (VIX) have a statistically significant effect on the changes in RSCI. The relationship between the RSCI and the Manufacturing Capacity Utilization Rate is normal as expected. Because, the managers of the companies in the manufacturing industry answer. BTS questions. Official reserves are significant in both models. Reserves contribute to the stability of the financial system and are a balance sheet item that central banks follow very closely. International reserves reduce the costs that may arise in times of crisis. Therefore, reserve adequacy constitutes one of the most important indicators of economic and financial fragility of countries. Domestic Debt Stocks, Real Exchance Rate, US Dollar / TRL Buying Rate constitute the risk map of the country. The rises and falls in these affect the expectations of both the producer and the investor. The exchange rate is one of the most important indicators in the Turkish economy. Exchange rates directly affect both domestic and international trade.

After 1980, the Turkish economy built its growth model on the current account deficit and capital inflows together with financial liberalization. Especially after 2002, portfolio inflows of non-residents became the driving force of the economy. Stock potfolio investments stand out in this regard. Portfolio investments have direct effects on the economy, and also indirect effects on the exchange rate, domestic debt stock, interest rates and official reserves.

The variables that are significant in this study are in line with theory and practice that explain the level of an economy and investor confidence.

The findings prove that there is a significant relationship between the Real Sector Confidence Index and financial and production indicators. The manufacturing industry capacity utilization rate as a production indicators, is significant. The Turkish economy has been providing economic growth with domestic borrowing, current account deficit, direct investment and portfolio investments since the January 24 decisions, when liberalization steps started. This economic growth model is achieved by making choices between the US Dollar/Turkish Lira exchange rate and the interest rate. In the Turkish economy, there are fluctuations in exchange rates or interest rates in some periods. Direct and portfolio investments are an important long-term resource in maintaining the current account deficit. Direct investment encourages the growth of the exports of the invested countries and also increases the financial account and reserves of these countries. Although short-term and risk sensitive, portfolio investments are an important item in Turkiye's balance of payments. Foreign residents invest in Borsa Istanbul (BIST) and government domestic debt securities as portfolio investments. In this respect, it has a significant effect on the exchange rate and the domestic debt stock. Central banks determine the policy rate by looking at all these indicators. Imbalances on exchange rates and interest rates arising from foreign trade, production indicators, capital flows and volatility index or all of them will rationally affect the confidence of the real sector.

The studies show that consumer and real sector trust is important in the economic channel and that confidence indices can be used as leading indicators. The basis of the economy and financial markets is confidence. There can be no economic development without confidence. For this reason, the public authorities develop systems and means to ensure and reinforce confidence in financial markets all over the world. The level and types of confidence in financial markets and an economy need to be carefully analyzed and monitored. Thus, this study informs investors to predict the effects of changes in the confidence index on financial instruments bilaterally and contribute to their investment decision.

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ETİK ve BİLİMSEL İLKELER SORUMLULUK BEYANI

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