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# THE RELATIONSHIP BETWEEN THE FINANCIAL SERVICES CONFIDENCE INDEX, CREDIT DEFAULT SWAP, AND THE BIST SERVICES INDEX: AN EMPIRICAL ANALYSIS

FİNANSAL HİZMETLER GÜVEN ENDEKSİ, KREDİ TEMERRÜT TAKASI VE BIST HİZMETLER ENDEKSİ ARASINDAKİ İLİŞKİ: AMPİRİK BİR ANALİZ

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#### **ABSTRACT**

The financial services sector is a cornerstone of economic growth, with confidence indices and risk premiums serving as key indicators of market dynamics. The Financial Services Confidence Index (FSCI) and Credit Default Swap (CDS) premiums reflect risk perception and investor expectations, while the Borsa Istanbul Services Index (XUHIZ) is an important gauge of Türkiye's services sector performance and its link to financial markets. This study examines the relationship between the FSCI, CDS premiums, and XUHIZ using monthly data from August 2012-when the FSCI was first published-through February 2025. The analysis employs the symmetric causality test of Hacker and Hatemi-J (2006) and the asymmetric causality test of Hatemi-J (2012). Stationarity tests and optimal lag length selection were conducted prior to analysis. The symmetric causality test found no statistically significant causal relationships among the variables. However, the asymmetric causality test revealed that the effects of the FSCI and CDS premiums on XUHIZ differ across components. These findings suggest that while there is no direct causality between the FSCI and the BIST Services Index, indirect effects emerge through specific shocks.

**Keywords:** Financial Services Confidence Index (FSCI), Credit Default Swap (CDS), Symmetric Causality, Asymmetric Causality.

#### ÖZET

Finansal hizmetler sektörü, ekonomik büyümenin temel taşlarından biridir ve bu sektörle ilişkili güven endeksleri ile risk primleri, piyasa hareketlerini anlamada kritik göstergeler olarak hizmet eder. Finansal Hizmetler Güven Endeksi (FHGE) ve Kredi Temerrüt Takası (CDS) primleri, finansal piyasalarda risk algısını ve yatırımcı beklentilerini yansıtan temel değişkenlerdir. Borsa İstanbul Hizmetler Endeksi (XUHIZ), Türkiye hizmetler sektörünün performansını ve finansal piyasalarla olan etkileşimini analiz etmek için önemli bir gösterge olarak kabul edilmektedir. Bu çalışma, FHGE, CDS primleri ve XUHIZ arasındaki ilişkiyi araştırmayı amaçlamaktadır. FHGE'nin yayımlanmaya başlandığı tarih Ağustos 2012 ile Şubat 2025 arasındaki aylık veriler kullanılarak, söz konusu değişkenler arasındaki ilişki Hacker ve Hatemi-J (2006) tarafından geliştirilen simetrik nedensellik testi ve Hatemi-J (2012) tarafından geliştirilen asimetrik nedensellik testi kullanılarak analiz edilmiştir. İlk olarak değişkenlerin durağanlığı test edilmiş ve optimal gecikme uzunluğu belirlenmiştir. Simetrik nedensellik testinin sonuçları, değişkenler arasında doğrudan bir nedensel ilişki olmadığını göstermektedir. Ancak, asimetrik nedensellik testi sonuçları, FHGE ve CDS primlerinin XUHIZ üzerindeki etkisinin bileşenlere göre değiştiğini ortaya koymuştur. Sonuçlar, FHGE ile BIST Hizmetler arasında doğrudan bir nedensellik bulunmamasına rağmen, belirli şoklar yoluyla dolaylı etkilerin meydana geldiğini göstermektedir.

**Anahtar Kelimeler:** Finansal Hizmetler Güven Endeksi, Kredi Temerrüt Takası, Simetrik Nedensellik, Asimetrik Nedensellik.

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#### 1. INTRODUCTION

Understanding the relationship between financial market operations, investor confidence, and economic indicators is very important for both academic studies and policymakers. The Financial Services Confidence Index is a sentiment indicator based on the assessments of representatives from the financial sector (including banking, insurance, and investment services) regarding the current situation and future expectations. Specifically, the financial services sector, being a cornerstone of economic growth, highlights confidence indices and risk premiums as critical indicators for comprehending market movements. Credit Default Swaps (CDS) are financial derivative instruments that allow investors to exchange the credit risks they face with one another. This mechanism enhances contractual flexibility by enabling market participants to either unwind or maintain exposure to bond-related positions (Czech, 2021: 1). Widely used by investors for many years, CDS contracts offer protection to the buyer in the event that a specific reference entity defaults, in return for regular premium payments made to the seller. CDS markets enable the redistribution of risk across the financial system by facilitating the transfer of credit risk between parties. Through this function, they can help reduce market inefficiencies and contribute to the overall improvement of market functioning (Fan et al., 2022: 2). FSCI and CDS premiums represent key variables reflecting risk perception and investor expectations within financial markets. Likewise, the BIST Services Index (XUHIZ) is considered an essential measure for analyzing the performance of Türkiye's services sector and its interactions with financial markets.

Motivated by the increasing importance of sentiment and risk indicators in financial markets, this study explores the potential causal interactions among the relevant variables. Understanding how financial services confidence indices affect investor sentiment and service sector markets may yield significant implications for economic forecasting models. The primary motivation of this study is to reveal direct and indirect relationships among these variables by assessing the impact of financial confidence and country risk premiums on market movements at the sectoral level.

Accordingly, using monthly data from the period between August 2012 and February 2025, this study empirically examines the relationship among FSCI, CDS premiums, and XUHIZ. The dataset was analyzed using the symmetric causality test by Hacker and Hatemi-J (2006) and the asymmetric causality test by Hatemi-J (2012).

This study contributes to the literature as one of the first detailed investigations into the effects of FSCI and CDS premiums on the BIST Services Index. While the existing literature generally examines broader stock market indices, this study specifically focuses on the sectoral impact of FSCI and CDS premiums. The study begins with the review of existing literature that addresses the relationships among financial confidence indices, credit risk premiums, and stock market indices to establish a theoretical framework. Following the literature review, the dataset and methodology used in the study are described, and variables such as FSCI, CDS premiums, and the XUHIZ are explained. This study applies the symmetric causality test by Hacker and Hatemi-J (2006) and the asymmetric causality test by Hatemi-J (2012) to identify symmetric and asymmetric causality relationships among the variables. The empirical analysis section details the test results, highlighting the effects of FSCI and CDS premiums on XUHIZ. Finally, the results are discussed, providing insights into the dynamics between financial confidence indices and the services sector. The study concludes with a synthesis of the empirical findings and offers policy-oriented recommendations based on the observed dynamics.

#### 2. LITERATURE REVIEW

The relationship between financial markets and confidence indices has long been a subject of discussion in the academic literature. Keynesian economic theory posits that confidence levels in markets shape economic activity (Keynes, 1936), while behavioral finance suggests that investors make decisions influenced by irrational psychological and emotional factors (Shiller, 1998). Within this framework, the effects of confidence indices and CDS premiums on financial markets have been increasingly examined with academic interest.

One of the earliest studies focusing on the Turkish market, conducted by Bolaman and Mandacı (2014), revealed a long-term relationship between the Consumer Confidence Index (CCI) and the BIST-100 index during financial crises. This study highlighted the interaction between investor sentiment and stock market performance in times of crisis.

In the study by Köse and Akkaya (2016), a bidirectional causality was identified between the Real Sector Confidence Index and BIST sector indices, emphasizing the mutual interaction between real sector confidence and capital markets.

Iskenderoğlu and Akdağ (2017) examined whether there is a causal relationship between the Financial Services Confidence Index (FSCI), the BIST 100 index, and the CBRT's net funding using the Granger (1969) causality test and the Breitung and Candelon (2006) frequency domain causality test. The results indicated a long-term, persistent, and mutual causality relationship between the FSCI and the BIST 100 index.

Eyüboğlu and Eyüboğlu (2018) examined long-term relationships between the Economic Confidence Index and the BIST 100, BIST Industrial, and BIST Services indices, revealing the persistent effects of confidence indices on markets.

In another study conducted in the same year, Erem Ceylan, Ceylan, Tüzün, and Ekinci (2018) analyzed the effects of CDS premiums on Turkish stock markets and found a unidirectional causality from CDS premiums to the FSCI, suggesting that CDS premiums influence market confidence.

Canöz and Erdoğdu (2019) examined the relationships between the FSCI and sectoral confidence indices using symmetric and asymmetric causality tests, highlighting the nonlinear nature of these relationships.

Gökalp (2019) analyzed the relationship between the CCI and the BIST 100 index in Turkey using the diagonal VECH model and found an effect flowing from consumer confidence to the stock market.

In the study by Kocabiyik and Alptürk (2020), the effects of the CCI, FSCI, and CDS premiums on the BIST100 index were examined. They identified unidirectional causality from the CCI and CDS premiums to the BIST100, and from the BIST100 to the FSCI, suggesting reciprocal interaction between country risk premiums and market confidence.

Alptürk, Tunçel, Çetenak and Bekçi (2021) analyzed the relationship between the FSCI and BIST city indices using the Toda-Yamamoto causality test and found unidirectional causality from the FSCI to the Bursa (XSBUR), Konya (XSKON), and Tekirdağ (XSTKR) city indices. The results indicate that financial confidence may have regionally differentiated effects.

The study by Topaloğlu and Metin (2021) analyzed the relationship between the CCI and the BIST Services Index (XUHIZ) returns and found that consumer confidence significantly affects stock returns in the services sector.

Turan and Zubaidullina (2024) examined causality between the FSCI and BIST sector indices in terms of positive and negative shocks and found that negative shocks significantly affected the BIST Financial index. Additionally, causality was found from the BIST Electricity and Financial Leasing Factoring indices to the FSCI. Finally, Özekenci (2024) examined the relationship between the FSCI and various BIST sectors using the ARDL bounds testing approach and found that changes in the FSCI negatively impacted the chemical and textile sectors.

Although previous studies have examined the relationships between confidence indices, CDS premiums, and stock market performance, most of them have focused on broad market indices and employed symmetric linear methods. There is a lack of sector-specific analysis that captures asymmetric effects of financial sentiment and risk perception. Therefore, this study fills a significant research gap by analyzing the asymmetric causal relationships between the Financial Services Confidence Index (FSCI), CDS premiums, and the BIST Services Index (XUHIZ), providing new insights at the sectoral level.

## 3. DATASET AND METHODOLOGY

This study aims to analyze the relationship among the FSCI, CDS premiums, and the BIST Services Index (XUHIZ). Monthly data for FSCI, CDS, and XUHIZ from August 2012, when the publication of FSCI started, to February 2025 were utilized in the research.

VariablesExplanationSourceFSCIFinancial Services Confidence IndexTCMB - EVDSCDSCredit Default Swap PremiumsInvesting.comXUHIZBorsa Istanbul Services IndexInvesting.com

Table 1. Variables Used in the Study

The Hacker and Hatemi-J (2006) test, which is a continuation of the causality test introduced by Toda and Yamamoto (1995), does not require prior knowledge of the cointegration relationships or the stationarity levels of the variables. The methodology of this study consists of two main phases. In the first phase, the causal relationship between the variables was analyzed using the symmetric causality test developed by Hacker and Hatemi-J (2006). Subsequently, the asymmetric causality relationships among the components of the variables were examined through the Hatemi-J (2012) test. Additionally, in cases where the error terms are not normally distributed, critical values were calculated using the bootstrap method to ensure more reliable results.

The relationship that reflects the impact of the Financial Services Confidence Index on XUHIZ can be modeled as follows.

$$FSCI_t = \beta_0 + \beta_1 XUHIZ_t + u_t \tag{1}$$

The relationship that reflects the impact of CDS premiums on XUHIZ can be modeled as follows.

$$CDS_t = \beta_0 + \beta_1 XUHIZ_t + u_t \tag{2}$$

Equations representing the symmetric causality test developed by Hacker and Hatemi-J (2006) are as follows:

$$\begin{bmatrix} FSCI_t \\ XUHIZ_t \end{bmatrix} = \partial_0 + \partial_1 \begin{bmatrix} FSCI_{t-1} \\ XUHIZ_{t-1} \end{bmatrix} + \dots + \partial_{p+d_{max}} \begin{bmatrix} FSCI_{t-p+d_{max}} \\ XUHIZ_{t-p+d_{max}} \end{bmatrix} + \mathcal{W}_t$$
 (3)

$$\begin{bmatrix} CDS_t \\ XUHIZ_t \end{bmatrix} = \partial_0 + \partial_1 \begin{bmatrix} CDS_{t-1} \\ XUHIZ_{t-1} \end{bmatrix} + \dots + \partial_{p+d_{max}} \begin{bmatrix} CDS_{t-p+d_{max}} \\ XUHIZ_{t-p+d_{max}} \end{bmatrix} + \mathcal{W}_t$$
 (4)

In equations (1) and (2), "p" represents the lag length determined employing the Vector Autoregressive (VAR) model, and dmax indicates the maximum order of integration. The optimal lag length is determined using various criteria.

In cases where Hannan-Quinn and Schwarz information criteria suggest the same lag length, the optimal lag length is established accordingly. Ensuring the stability of the VAR(p) model and satisfying statistical conditions such as absence of heteroscedasticity and autocorrelation is crucial during this process. Hatemi-J (2003) developed a new approach to avoid confusion when information criteria indicate different optimal lag lengths. The optimal lag length is determined as follows:

$$HJC = ln + j \left(\frac{n^2 lnT + 2n^2 ln(lnT)}{2T}\right), j = 0 ..., ..., k$$
 (5)

Here, " $\Omega$ " refers to the variance-covariance matrix of error terms from the VAR model estimated at a given lag length, "n" to the number of equations in the model, and "T" to the number of observations (Değer and Pata, 2017:38). When performing unit root tests, it is essential to consider structural breaks and trends in series. Therefore, it is recommended to employ unit root tests that consider structural breaks.

Since financial market participants are heterogeneous, they respond differently to positive and negative shocks, though distinguishing these responses can be challenging. This heterogeneity can lead to misleading test results. Consequently, the asymmetric causality test introduced by Hatemi-J (2012), based on the Hacker and Hatemi-J (2006) framework, was applied. Shocks derived from the variables in this test are expressed as follows:

$$FSCI_{t}^{+} = \sum_{i=1}^{t} u_{1i}^{+}; \ FSCI_{t}^{-} = \sum_{i=1}^{t} u_{1i}^{-}; \ XUHIZ_{t}^{+} = \sum_{i=1}^{t} u_{2i}^{+}; \ XUHIZ_{t}^{-} = \sum_{i=1}^{t} u_{2i}^{-}$$
 (6)

 $FSCI_{t^+}$  and  $FSCI_{t^-}$  represent positive and negative shocks in the Financial Services Confidence Index, respectively, whereas  $XUHIZ_{t^+}$  and  $XUHIZ_{t^-}$  indicate positive and negative shocks in the BIST Services Index. The VAR model used is as follows:

$$\begin{bmatrix}
FSCI_t^+ \\
XUHIZ_t^+
\end{bmatrix} = \alpha_0 + \alpha_1 \begin{bmatrix}
FSCI_{t-1}^+ \\
XUHIZ_{t-1}^+
\end{bmatrix} + \dots + \alpha_p \begin{bmatrix}
FSCI_{t-p}^+ \\
XUHIZ_{t-p}^+
\end{bmatrix} + \gamma_t$$
(7)

Similar modeling can be applied to shocks related to the CDS variable.

In the first step, the maximum order of integration should be identified, and after applying trend-adjusted unit root tests, the lag length should be determined using the VAR(p+dmax) model.

**Table 2. Descriptive Statistics** 

Descriptive statistics	FSCI	CDS	XUHIX
Mean	16.232	3.259	0.017
Median	165.3	271.21	0.0153
Max	187.3	844.8	0.283
Min	118.1	119.67	-1.0
Standard Deviation	13.453	1.554	0.112
Skewness	-0.883	1.113	-4.576
Kurtosis	37.410	32.805	4.509
Jargue-Berra	23.111	3.529	11.673

When Table 2 is examined, it is observed that the statistics related to the FSCI variable deviate from normality, exhibiting negative skewness and high kurtosis, which indicate the presence of outliers. In other words, the distribution is not normal. Although the CDS series shows positive skewness, it does not follow a normal distribution in terms of kurtosis and the Jarque-Bera test. Finally, the XUHIZ series also deviates from normality; its negative skewness and high kurtosis suggest that the dataset contains outliers and has a long left tail.

### 4. RESULT

Before conducting the symmetric causality test, the initial phase of the analysis, the logarithmic returns of the data series were obtained, an essential first step in time series analysis. Subsequently, stationarity of the series was examined using a Single Structural Break Unit Root Test. The results are presented in Table 3.

Table 3. Unit Root Test Results

Variables	Level	Level			
	T-Statistic	Probability	Break Date		
FSCI	-5.958227**	0.00001	9.1.2012		
CDS	-3.879528	0.00001	9.1.2012		
XUHIZ	-7.324999**	0.00001	2.1.2013		

<sup>\*\*</sup>Denotes significance at the 5% level.

As seen in Table 3, all variables are stationary at level (I(0)). Furthermore, interpreting the structural break dates, it can be argued that structural breaks observed in September 2012 and February 2013 are mainly associated with global economic developments. During that period, the FED's quantitative easing and tightening policies significantly influenced financial indicators in emerging markets. The break in the BIST Services Index (XUHIZ) might also be attributed to shifts in investor behavior. At this stage, the optimal lag length was identified as 1. ARCH effects and normality were tested; the presence of ARCH effects and non-normal distribution of residuals in the VAR model were detected. Hence, the causality test should be applied using the leveraged bootstrap method. Results of the symmetric causality test by Hacker and Hatemi-J (2006) are reported in Table 4.

**Table 4. Symmetric Causality Test Results** 

Hypotheses	Wald Statistic	Critical Value (5%)	Lag
FSCI has a causal effect on XUHIZ	0.01229767	2.705543	1
XUHIZ has a causal effect on FSCI	0.0147388	3.841458	1
CDS has a causal effect on XUHIZ	0.041536	6.634896	1
XUHIZ has a causal effect on CDS	2.451209	3.218923	1

The optimal lag length was determined using the HJC criterion.

All Wald statistic values are lower than their respective critical values at the 5% significance level. Thus, it can be stated that there is no causal relationship between the variables. This result indicates that there is no symmetric causal relationship between these variables. Consequently, the asymmetric causality relationships between the positive and negative components were analyzed using the Hatemi-J (2012) Causality Test. Before conducting this analysis, however, the maximum integration orders of the variables were determined by applying the ADF Unit Root Test. The results are as follows:

**Table 5. Unit Root Test Results** 

	Level		1st Difference	
Variables	T-Statistic	Probability	T-Statistic	Probability
FSCI+	-3.486707	0.4595	-4.486707***	0.0000
FSCI-	-3.154312	0.4195	-3.474714***	0.0000
CDS+	-0.803483	0.9618	-2.266274***	0.0000
CDS-	-1.007854	0.9066	-3.348148***	0.0000
XUHIZ+	-1.896534	0.9994	-3.009946***	0.0000
XUHIZ-	-0.805671	0.9304	-5.098550***	0.0000

<sup>\*\*\*</sup> Denotes significance at the 1% level.

As seen in Table 5, all components of the variables are stationary at their first differences (I(1)). Therefore, the maximum order of integration of the series is identified as I(1) prior to proceeding with the Hatemi-J (2012) Causality Test. The asymmetric relationships between variables were sequentially analyzed. Table 5 reports the causality test results between components of FSCI and XUHIZ.

Table 6. Results of Shocks of FSCI and XUHIZ

Hypotheses	Wald Statistic	Critical Value (5%)	Lag
FSCI+ has a causal effect on XUHIZ+.	4.406***	3.102	1
FSCI- has a causal effect on XUHIZ	0.011	3.196	1
FSCI- has a causal effect on XUHIZ+.	0.126	3.142	1
FSCI+ has a causal effect on XUHIZ	0.203	3.139	1
XUHIZ+ has a causal effect on FSCI+.	0.312	3.026	1
XUHIZ- has a causal effect on FSCI	0.092	3.103	1
XUHIZ- has a causal effect on FSCI+.	0.238	3.247	1
XUHIZ+ has a causal effect on FSCI	7.162***	3.098	1
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<sup>\*\*\*</sup> Denotes significance at the 1% level.

Table 6 indicates that positive shocks in FSCI significantly affect positive shocks in XUHIZ, whereas positive shocks in XUHIZ lead to negative shocks in FSCI. This suggests an indirect causality relationship between FSCI and XUHIZ through their components in Türkiye, even though no direct symmetric causality relationship was identified between these variables.

Table 7. Results of Shocks of CDS and XUHIZ

Hypotheses	Wald Statistic	Critical Value (5%)	Lag
CDS+ has a causal effect on XUHIZ+.	0.827	3.721	1
CDS- has a causal effect on XUHIZ	0.245	4.026	1
CDS- has a causal effect on XUHIZ+.	4.323***	4.198	1
CDS+ has a causal effect on XUHIZ	0.409	4.199	1
XUHIZ+ has a causal effect on CDS+.	5.192***	4.286	1
XUHIZ- has a causal effect on CDS	0.428	4.128	1
XUHIZ- has a causal effect on CDS+.	0.198	4.526	1
XUHIZ+ has a causal effect on CDS	0.397	4.394	1

<sup>\*\*\*</sup> Denotes significance at the 1% level.

Table 7 shows that positive shocks in XUHIZ trigger positive shocks in CDS, while negative shocks in CDS positively affect XUHIZ. This finding indicates an asymmetric causal relationship between CDS and XUHIZ in Türkiye. Specifically, there is no direct symmetric causal relationship between CDS and XUHIZ; however, a meaningful indirect link through their components is observed. Decreases in CDS premiums can contribute positively to the growth of the services sector index, suggesting that lower credit risk premiums foster growth in the services sector.

## 5. CONCLUSION

This study was conducted to examine the relationships among the Financial Services Confidence Index (FSCI), CDS premiums, and the BIST Services Index (XUHIZ) using monthly time series data covering the period from 2012 to 2025. The analysis was limited to monthly data and focused solely on the services sector. In determining the causality relationships, the Hatemi-J symmetric and asymmetric causality tests were employed. This study, which investigates the relationship between the FSCI, CDS premiums, and the BIST Services Index (XUHIZ), demonstrates that positive shocks in the Financial Services Confidence Index significantly influence positive shocks in the BIST Services Index, whereas positive shocks in XUHIZ lead to negative shocks in the FSCI. This finding suggests that while financial services confidence can be directly associated with the performance of the services sector, this relationship is not unidirectional but rather characterized by indirect causality through their respective components. These findings support the conclusions of previous studies by Eyüboğlu and Eyüboğlu (2018) and Canöz and Erdoğdu (2019). An increase in financial services confidence may bolster expansion in the BIST Services Index, whereas excessive growth in the BIST Services Index could induce volatility in financial services confidence, leading to heightened risk perceptions.

However, the absence of significant impacts of negative shocks in FSCI on XUHIZ indicates that declines in financial services confidence do not directly harm the services sector's performance. However, the potential indirect and longer-term repercussions of negative developments in the financial sector on the services sector should not be overlooked. Additionally, when examining the relationship between the BIST Services Index and CDS premiums, results indicate that

positive shocks in XUHIZ increase CDS premiums, whereas negative shocks in CDS lead to positive movements in XUHIZ. This result aligns with the study carried out by Kocabiyik and Alptürk (2020), demonstrating that reductions in risk perceptions in financial markets may encourage growth in the services sector. Lower CDS premiums were also seen to increase investor interest in the BIST Services Index. Conversely, increases in CDS premiums were observed to have no direct negative impact on XUHIZ, indicating that changes in global risk perceptions have limited direct effects on the services sector, and investors consider sector-specific opportunities rather than relying solely on macroeconomic risk indicators.

In conclusion, the relationship between financial confidence indices, credit risk premiums, and the XUHIZ performance is characterized not by direct, symmetric causality but rather by indirect, asymmetric dynamics driven through their components. Increased confidence in the financial sector promotes growth in the services sector, whereas excessive growth in services may heighten financial risk perceptions. Similarly, declines in CDS premiums positively affect the services sector, whereas increases in CDS premiums do not directly harm it. These findings underscore the importance for investors and policymakers to consider asymmetric and indirect relationships rather than solely focusing on direct effects when evaluating the impact of financial confidence and risk perception on markets. Investors can enhance their strategies by considering both direct and indirect effects of financial indicators. Policymakers, meanwhile, can formulate more effective economic policies by considering sector-specific impacts rather than focusing exclusively on financial markets. Specifically, measures aiming to reduce CDS premiums and improve financial confidence will contribute positively to the healthy growth of both financial markets and the real economy. This study lays important groundwork for understanding the relationships among financial confidence indices, credit risk premiums, and the performance of the XUHIZ. Future research may further deepen insights by expanding analyses to include different sectors, long-term relationships, crisis periods, and behavioral finance perspectives, thereby enhancing understanding of the links between financial markets and the real economy. In particular, more comprehensive and innovative studies could be conducted in areas such as the rise of digital financial services, machine-learning-based forecasting models, and analyses of sectoral dynamics in response to global economic shocks.

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Destek ve Teşekkür: Çalışmada hiçbir kurum veya kuruluştan destek alınmamıştır.

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