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THE ECONOMIC
RESEARCH AND
FINANCIAL MARKETS
CONGRESS

WITH INTERNATIONAL PARTICIPATION

April 16-18, 2026 KAYSERİ

THE GLOBAL ECONOMY

in the age of polycrisis

ARTIFICIAL INTELLIGENCE • ECOLOGY • FINANCIAL RESILIENCE

PROCEEDING BOOK

Editors

Ömer Burak YEL & Emine ABANOZ



NEW

İSTANBUL
NİŞANTAŞI
UNIVERSITY



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**THE GLOBAL ECONOMY IN THE AGE OF POLYCRISIS:
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Ömer Burak YEL
Emine ABANOZ

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MONEYBALL 3.0: THE ASYMMETRIC IMPACT OF INVESTOR ATTENTION AND VOLATILITY PERSISTENCE IN THE BORSA ISTANBUL SPORS INDEX

Caner ÖZDURAK¹, Merve ALAGÖZ²

Abstract

The purpose of the research is to determine the effects of intellectual capital components on the profitability and investment capital of companies operating in the BIST 30 index. Intellectual capital components are defined as all intangible assets that are called the transformed state of knowledge and add value to the production of companies. Since intellectual capital inputs and outputs are not directly included in the financial statements, they are ignored by investors and managers. However, many studies indicate that intellectual capital components are much more than their tangible book value. The calculation of the inputs of intellectual capital components and the knowledge of their impact in advance will even affect the investment decisions to be made in the stocks of companies. The research was conducted with a balanced panel data obtained from companies operating in BIST 30 whose stocks were listed on the stock exchange between 2012-2023. The main mass of the research is the financial data of 30 companies included in the BIST 30 index. However, there are some companies that are included in the scope of the research, although they are included in the scope of BIST 30. These are financial sector companies AKBANK, GARAN, YKBANK and ISATR, since their financial statements are different from other companies, and some variables cannot be formed, KRDMA, KRDMB, KRDMC are single companies but have more than one financial statement, KONTR started its operations in 2017 and ASTOR in 2019, and the high number of missing years will cause the evaluation to be incorrect, so they were excluded from the scope of the research. There are three dependent variables in the research. These are return on assets (ROA), return on equity (ROE) and return on invested capital (ROIC). The effectiveness of the firm's physical capital, the effectiveness of the firm's human capital and the firm's structural capital, which are intellectual capital components, were considered as independent variables. In addition, some liquidity ratios, turnover rates and financial leverage ratios were used as control variables. 9 models were developed within the scope of the research. In the analysis of the data, descriptive statistics, correlation analysis, unit root analysis, regression model determination tests, regression results of the models according to the determined regression model, deviation tests from the assumptions of the models and estimation with the appropriate robust estimator for the models in line with the deviation tests were made. According to the results of the research, while the effectiveness of the firm's physical capital has a negative and significant effect on ROE (-0.08813, $P < 0.001$), it is found that human capital has a significant and positive effect on ROA (0.0060137, $p < 0.05$), ROE (0.0112158, $p < 0.001$) and ROIC (0.3446818, $p < 0.001$) variables, respectively. The significant and positive effects of structural capital on ROA (0.0260445, $p < 0.001$) and ROE (0.0530684, $p < 0.001$) were reported specifically for the research.

Keywords: Return on Assets (ROA), Return on Equity (ROE), Return on Invested Capital (ROIC), Intellectual Capital, Business Finance

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A THEORETICAL ANALYSIS OF THE REACTION SPEED THRESHOLD IN ALGORITHMIC PRICE COMPETITION: DETERRING HIT-AND-RUN STRATEGIES

İbrahim CEVİZLİ³

Abstract

The automation of pricing processes through algorithms on digital platforms has transformed price competition by making not only the price level but also the timing and speed of price adjustments a strategic dimension. This development raises the question of whether short-term temporary price cuts—commonly referred to in the literature as hit-and-run strategies—remain rational in an algorithmic competitive environment. While the existing literature largely emphasizes the potential of algorithmic pricing to weaken competition, it has paid relatively little attention to the conditions under which such strategies can be deterred by sufficiently rapid responses from rival algorithms.

Within this framework, this study examines algorithmic price competition from a reaction-speed perspective and analyzes the conditions under which the rival firm's response time to a price change renders hit-and-run strategies irrational. To this end, a theoretical model based on a two-firm homogeneous product market is developed, in which algorithmic pricing behavior is analyzed within a discrete-time dynamic structure. The model represents an environment in which the rival firm perceives and responds to price changes with a certain delay. Accordingly, the net gain from hit-and-run strategies is calculated using a simulation algorithm developed in the Python programming language that iteratively solves discrete-time price dynamics. Based on this measure, the critical reaction-time threshold at which hit-and-run strategies are deterred is identified. Simulation results indicate that when the rival firm responds to a price change within a finite time, the firm implementing a temporary price cut cannot obtain any additional profit. This result remains robust across different values of price reduction magnitude and consumer price sensitivity. Consequently, hit-and-run strategies are systematically deterred. These findings suggest that algorithmic pricing systems do not merely have the potential to weaken competition but may also function as a disciplinary mechanism that prevents short-term price manipulation under certain conditions. By focusing on the speed dimension of algorithmic competition, this study provides an original contribution to the microeconomic literature and offers important implications for competition policy.

Keywords: Algorithmic pricing, reaction speed, hit-and-run strategies, digital platforms, price competition

CORPORATE SURVIVAL STRATEGIES IN A POLYCRISIS ENVIRONMENT THE FOUR FUNDAMENTAL PILLARS OF FINANCIAL RESILIENCE

Mete AKYOL⁴

Abstract

This study aims to examine the concept of financial resilience in the context of increasing uncertainty and multi-dimensional crises, and to analyze it within the framework of four fundamental pillars. In today's polycrisis environment—where economic, financial, geopolitical, and operational risks occur simultaneously—businesses must develop not only profitability-oriented but also resilience-oriented financial structures. Within the scope of the study, financial resilience is analyzed under four main components: liquidity management, capital structure and leverage, operational efficiency, and sustainability of profitability. The research employs a combination of literature review and financial ratio analysis to evaluate the impact of these four pillars on business performance.

The findings indicate that firms with strong financial resilience structures manage their cash flows more effectively during crisis periods, maintain their debt servicing capacity, enhance operational flexibility, and sustain long-term profitability. Moreover, financial resilience is found to be closely related not only to balance sheet strength but also to management quality, strategic decision-making processes, and risk management capabilities. This study aims to contribute to the academic literature by providing a systematic framework for financial resilience and to offer a practical analytical model for practitioners navigating crisis environments.

Keywords: Financial resilience, Liquidity, Capital structure, Operational efficiency, Sustainable profitability, Polycrisis

4 Dr., BM Capital A.Ş.

THE IMPACT OF ENTERPRISE RISK MANAGEMENT COMPONENTS ON RISK MANAGEMENT PERFORMANCE: AN EMPIRICAL STUDY ON PUBLICLY LISTED COMPANIES

İlyas TURĞAY⁵

Abstract

This study aims to examine the relationships among the components of the COSO Enterprise Risk Management Framework 2017 and to explain the impact of enterprise risk management components on risk management performance through a structural equation modeling approach. The study investigates both direct and indirect effects among the variables of governance and culture, strategy and objective-setting, performance, review and revision, and information, communication, and reporting. In this context, a total of 16 research hypotheses—6 direct and 12 indirect—were tested. The research sample consists of 208 survey responses obtained from publicly listed companies operating on Borsa Istanbul. The data were analyzed using SmartPLS 4. The findings indicate that the reliability and validity criteria, as well as overall model fit, were satisfactorily met. In addition, no multicollinearity issues were detected in the model.

According to the structural model results, governance and culture, strategy and objective-setting, and information, communication, and reporting have positive and significant effects on performance. Furthermore, governance and culture significantly influence strategy and objective-setting; performance has a significant effect on review and revision; and review and revision significantly affect information, communication, and reporting. The analysis of indirect effects reveals that all mediating relationships are statistically significant. Overall, the findings demonstrate that enterprise risk management components operate within an integrated and dynamic system. In particular, governance and culture emerge as a key determinant across the system. The results highlight the importance of aligning risk management processes with strategy and performance in organizational settings.

Keywords: Istanbul stock exchange, Publicly listed companies, Enterprise risk management, Risk management, Risk management performance.

CYBER RESILIENCE INDEX IN BANKING: A MULTI-CRITERIA ANALYSIS OF THE TURKISH BANKING SECTOR

Murat ATAN⁶, Yasemin YURTOĞLU⁷

Abstract

The aim of this study is to develop an integrated and multidimensional index to measure the cyber resilience performance of the Turkish banking system and to apply this index for the 2010–2025 period. With the widespread adoption of digital banking services and the rapid advancement of financial technologies, cyber risks have become one of the main determinants of financial stability. Within this framework, the study considers cyber resilience as a systemic performance area that requires the joint evaluation of technological infrastructure, operational risk structure, and financial soundness components.

The study utilizes time series data for the 2010–2025 period derived from publicly available sectoral statistics and annual reports of the Turkish banking system. The analytical framework is based on multi-criteria decision-making theory. Criterion weights were determined using the MEREC, FUCOM, and BWM methods, while alternative performance scores were calculated using the MARCOS, EDAS, and MULTIMOORA methods. The obtained results were transformed into an integrated cyber resilience performance index, and the consistency of the model results was tested through sensitivity analyses.

The findings indicate that the cyber resilience performance of the Turkish banking system increased steadily during the examined period. Information technology expenditures, digital transaction intensity, and risk management capacity emerged as the strongest determinants of index performance. It was found that periods of higher digitalization were associated with increased cyber incident intensity; however, investments in risk management played a balancing role against this exposure. The high level of consistency across different weighting and ranking methods supports the analytical reliability of the model.

The results show that, together with the digitalization process, the cyber resilience capacity of the Turkish banking system has strengthened, and operational risk management capacity has become one of the key components of systemic stability. The study fills an important gap in the literature by proposing an integrated hybrid multi-criteria decision-making based index that measures banking-system-specific cyber resilience from a time series perspective to strengthen financial system security, it is recommended to ensure the continuity of technology investments, institutionalize risk management capacity, develop sectoral cyber resilience standards, and enhance interbank information-sharing mechanisms.

Keywords: Cyber Resilience, Banking System, Multi-Criteria Decision Making, Digital Banking, Financial Stability

6 Prof. Dr., Ankara Hacı Bayram Veli University.

7 Asst. Prof. Dr., Ufuk University..

INCOME DIVERSIFICATION AND PROFITABILITY IN TURKISH PARTICIPATION BANKING: NEXT-GENERATION PANEL DATA EVIDENCE (2016-2025)

Savaş Mücteba HARPUTLU⁸, Halil İbrahim YAVUZ⁹, Turgay YAVUZARSLAN¹⁰

Abstract

This study aims to investigate the effects of income diversification strategies on the financial performance (ROA and ROE) of banks by employing next-generation panel data techniques, utilizing quarterly data from five participation banks operating in Türkiye for the period 2016:Q1-2025:Q3. Accounting for cross-sectional dependence (Pesaran CD) and varying levels of stationarity (IPS) in the series, the research confirms the long-run cointegration relationship among the variables via the Kao Test, while short- and long-run dynamics are estimated using a Panel ARDL Error Correction Model (ECM) with cluster-robust standard errors. Potential endogeneity problems are examined through the Dumitrescu-Hurlin Panel Causality Test, which proves the absence of reverse causality running from profitability to diversification. Empirical findings reveal that income diversification exerts a statistically significant and strongly negative impact on the profitability of participation banks. The structural break analysis, divided into sub-periods, reveals that while diversification had no destructive effect on profitability during the period of relative macroeconomic stability between 2016 and 2020, the negative impact of the diversification shock on balance sheets deepened dramatically during the high inflation and crisis period of 2021-2025. The persistence of the decline in profitability even when operating expenses are controlled proves that the deterioration caused by diversification stems not merely from an increase in operational costs, but from a strategic loss of focus resulting from participation banks diverging from their core business lines. This finding firmly supports the literature suggesting that banks should focus on traditional financing activities rather than embarking on new income-generating ventures during periods of high uncertainty.

Keywords: Participation Banking, Income Diversification, Financial Performance, Panel ARDL, Macroeconomic Shocks.

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COMPARISON OF FINANCIAL STABILITY IN E7 COUNTRIES USING MULTI-CRITERIA DECISION-MAKING METHODS

Yahya SÖNMEZ¹¹, Arzu ÖZMERDİVANLI¹², İkbâl KARATAŞLI¹³

Abstract

The aim of this study is to comparatively evaluate financial stability in the E7 countries using multi-criteria decision-making (MCDM) methods. Measuring financial stability requires the joint consideration of multiple variables such as the soundness of the banking system, financial depth, profitability, and risk indicators. Accordingly, the performance of the E7 countries, as well as their financial stability, was analyzed using selected macro and micro financial indicators representing financial stability. In comparing the financial stability of the E7 countries, the MAIRCA and MABAC methods were employed. The data used in the analysis were compiled for a specific period and a systematic evaluation process was conducted through a multi-criteria decision-making approach. The findings reveal that financial stability levels differ among the E7 countries and that the countries diverge in terms of banking sector performance and financial risk indicators. Moreover, according to both methods and across the years examined, China ranked first in financial stability, while India ranked last in both methods between 2017 and 2019. The results also indicate a very strong relationship and similarity between the methods, suggesting that the two approaches can generally be used as alternatives to each other. The findings provide important implications for policy-makers and researchers regarding the measurement of financial stability and the conduct of cross-country comparative analyses. Furthermore, the study is expected to contribute to the literature by demonstrating the applicability of multi-criteria decision-making methods in financial stability analysis.

Keywords: E7, Financial Stability, Multi-Criteria Decision-Making Methods

11 Asst. Prof. Dr., Kastamonu University.

12 Assoc. Prof. Dr., Karamanoğlu Mehmetbey University.

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BANK PROFITABILITY, FINANCIAL STABILITY, AND ECONOMIC STABILITY NEXUS: THE CASE OF EU COUNTRIES AND TÜRKİYE

Arzu ÖZMERDİVANLI¹⁴, İkbâl KARATAŞLI¹⁵, Yahya SÖNMEZ¹⁶

Abstract

This study aims to examine the relationship between bank profitability, financial stability, and economic stability. In this context, the Emir Mahmutoğlu–Köse panel causality method was applied using data from 23 EU member countries and Türkiye for the period 2010–2021. Return on assets and return on equity were used as indicators of bank profitability. Financial stability was represented by the Z-score, capital-to-asset ratio, and export/import ratio, while economic growth and inflation were considered as indicators of economic stability. The study period and data selection were determined based on the relevant literature as well as the availability and continuity of the data. The causality analysis provides results at both the panel and country levels. The panel-level findings indicate a bidirectional causality relationship between ROA and the Z-score, capital-to-asset ratio, and export/import ratio. In terms of ROE, bidirectional relationships were identified with the Z-score and capital structure, while unidirectional causality relationships from some variables to ROE were also detected. Country-level results show significant differences. In countries with more developed financial systems, mutual causality relationships are more evident, whereas in some countries profitability indicators appear to be more influenced by external factors. For Türkiye, no significant causality relationship was found between ROA and the other variables, while ROE was found to be unidirectionally affected by the Z-score and the export/import ratio. Overall, the findings suggest that the relationship between bank profitability, financial stability, and economic stability varies across countries.

14 Asst. Prof. Dr., Kastamonu University.

15 Asst. Prof. Dr., Karamanoğlu Mehmetbey University.

16 Asst. Prof. Dr., Kastamonu University.

COGNITIVE LOAD, DIGITAL FATIGUE, AND THE TENSION BETWEEN HUMANIZED TECHNOLOGIES IN THE CONTEXT OF TECHNOLOGY AND INNOVATION MANAGEMENT

Rana ÖZYURT KAPTANOĞLU¹⁷, Elif ÜLER¹⁸

Abstract

The intensive use of digital technologies in the healthcare and service sectors today, while providing efficiency and speed in organizational processes, also brings new cognitive and emotional burdens for employees. Digital systems, decision support mechanisms, and intelligent interfaces are changing and transforming the way employees work. As a result of this transformation, the relationship employees have established with technology has brought about cognitive load and digital fatigue. Therefore, especially AI-powered, user-interactive, humanized technologies have gone beyond being mere technical tools and have created an area of organizational and managerial discussion. The aim of this qualitative research is to deeply examine, from a technology and innovation management perspective, the tension between cognitive load and digital fatigue experienced by employees during their interactions with digital systems, and their perceptions of humanized technology. The study will attempt to reveal how the effects of digital systems on employees' decision-making processes, workload perceptions, and attitudes towards technology are interpreted. The research will be conducted with healthcare and service sector employees working in different institutions using a semi-structured interview technique. The data obtained will be analyzed using thematic analysis; the reflections of the relationship between cognitive load, digital fatigue, and humanized technologies in the context of organizational processes will be evaluated. The research is expected to provide theoretical and practical contributions to the literature on technology and innovation management, organizational behavior, and health informatics.

Keywords: Cognitive Load, Digital Fatigue, Humanized Technologies, Employee Experience

17 Asst. Prof. Dr., İstanbul Topkapı University

18 Asst. Prof. Dr., Yozgat Bozok University

LEADERSHIP UNABLE TO COPE WITH UNCERTAINTY: A QUALITATIVE STUDY ON THE ROLE OF NIMOPHOBIA IN DIGITAL DECISION-MAKING PROCESSES

Elif ÜLER¹⁹, Rana Özyurt KAPTANOĞLU²⁰

Abstract

Today, organizations operate in a highly uncertain work environment due to digitalization, rapid technological change, and increasing competition. This situation plays a decisive role in how leaders cope with uncertainty, their organizational decision-making processes, and their behavior towards their followers. In particular, nimophobia (the inability to cope with uncertainty), expressed as intense anxiety, a need for control, and a search for clarity in the face of uncertainty, can directly affect a leader's behavior and their use of technology in decision-making processes. Digital decision support systems, data analytics tools, and reporting mechanisms, brought about by advancing technology, are among the important elements that reduce uncertainty for leaders. However, excessive and control-oriented use of these technologies can lead to delays in decision-making processes, micromanagement tendencies, and risk-averse behavior. This situation causes technology to transform from a tool for dealing with uncertainty into a control mechanism aimed at suppressing uncertainty. The aim of this qualitative research is to deeply examine how leaders, when faced with uncertainty (nimophobia), shape their use of digital technologies and organizational decision-making processes. The study will be conducted with middle and upper-level managers selected using a convenience sampling method with semi-structured questions prepared based on the literature. The data obtained will be analyzed using thematic analysis, and the implications of nimophobia in the context of leadership, technology use, and decision-making processes will be revealed. The research is expected to provide theoretical and practical contributions to the literature on organizational behavior and management information systems.

Keywords: Nimophobia, Uncertainty, Leadership, Digital Decision-Making Processes

19 Asst. Prof. Dr., Yozgat Bozok University

20 Asst. Prof. Dr., İstanbul Topkapı University

CLUB CONVERGENCE OF UNEMPLOYMENT RATES AND THE DRIVING FORCES BEHIND CLUB FORMATION IN A SAMPLE OF LEVEL II REGIONS IN TÜRKİYE

Arif İĞDELİ²¹

Abstract

This study has two goals. The first is to analyse the convergence of unemployment rates in a sample of Türkiye's 26 NUTS II regions for the period 2004–2024. To this end, the Phillips-Sul (2007, 2009) and Tomal (2024) club convergence tests were used to analyse the convergence of unemployment rates. Unlike traditional convergence tests, club convergence tests examine whether unemployment rates converge to multiple equilibrium. The log-t test identifies constant convergence clubs, whereas the Tomal (2024) method models dynamic shifts in club memberships over time. According to the results of the log t-test, there is no absolute convergence in unemployment rates for the 26 NUTS II regions, and unemployment rates converge to three distinct equilibrium points. The club merging test results, however, indicate that three clubs have merged into a single club, and the TR61, TR82, and TRB2 regions have diverged from the panel. According to the results of the Tomal (2024) test, no clusters formed during the first two years of the analysis period, and all regions in the sample were dispersed. During the remainder of the analysis period, cluster formation exhibited a dynamic structure, with the number of clusters varying between one and four. Second, the goal is to analyse the driving forces behind club formation using a dynamic ordered panel logit model. The dynamic ordered panel logit results indicate that the spatial lag and time lag of club membership play a significant role in determining club formation in addition to the economic and demographic factors.

Keywords: Unemployment Rate, Club Convergence, Ordered Panel Logit, NUTS II

21 Assoc. Prof. Dr., Aksaray University.

DIGITAL TRANSFORMATION AND ENTREPRENEURSHIP ORIENTATION: A BIBLIOMETRIC REVIEW

Ayşe YAVUZ²²

Abstract

This study aims to identify research trends regarding digital transformation and entrepreneurship by conducting a bibliometric analysis of the existing literature obtained from the Web of Science database between 2019 and 2026. Furthermore, it may help facilitate future research opportunities. The study analyzed 164 studies published between 2019 and 2026 and indexed in the Web of Science database. The study utilized the keywords “digital transformation,” “digitalization,” and “entrepreneurial orientation.” To conduct the bibliometric analysis of the data, the Biblioshiny package of the Bibliometrix tool within the R software was used. The research findings revealed that the number of studies increased significantly between 2021 and 2025. China, Italy, Germany, the United Kingdom, and Spain were identified as the countries making the greatest contributions. The most cited article is Ciampi F, 2021, *J Bus. Res.*, with 418 citations. In the keyword analysis, “Entrepreneurial Orientation” is the most frequently used keyword. This study not only provides a general overview of the current literature but also offers researchers and practitioners a comprehensive perspective on the trajectory of entrepreneurship within the context of digital transformation. Additionally, it contributes to identifying potential gaps and collaboration opportunities for future research.

Keywords: Digital Transformation, Entrepreneurial Orientation, Digitalization, Bibliometric Analysis

22 Asst. Prof. Dr., Selçuk University.

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A RESEARCH ON THE RELATIONSHIP BETWEEN ARTIFICIAL INTELLIGENCE ANXIETY, CAREER COMMITMENT AND PERCEPTION OF JOB INSECURITY

Ayşe YAVUZ²³

Abstract

Artificial intelligence has become a powerful force rapidly transforming industries and societies today. This transformation leads particularly university students to experience anxiety and uncertainty about their future careers. The automation of work processes by artificial intelligence and its potential to threaten certain professions may negatively affect students' decisionmaking processes about their careers. AI anxiety creates a sense of threat in individuals, triggering feelings of job insecurity, which in turn undermines their confidence in their career plans and causes uncertainty. This study aims to examine the relationships between AI anxiety, career commitment, and perception of job insecurity among university students. It will also reveal students' levels of artificial intelligence anxiety according to demographic variables. A quantitative research method has been adopted in this study. In the data collection process, scales with proven validity and reliability will be used along with socio-demographic information. The data obtained will be analyzed using SPSS software. The results of the analysis will reveal the relationships between the research variables. Furthermore, the research variables will be compared with the demographic variables. In light of the findings obtained from the research, the establishment of individual-artificial intelligence collaboration in both education and the business world will be discussed.

Keywords: Artificial intelligence anxiety, Career stability, Job insecurity

THE TIME-VARYING DYNAMICS OF FOREIGN EXCHANGE MARKET INTEGRATION: FINDINGS FROM EMERGING COUNTRIES

Emre KILIÇ²⁴

Abstract

This study investigates the degree and evolution of exchange rate market integration across emerging economies over the period 1993M02–2025M12. To measure integration, the dynamic factor model approach proposed by Berger and Pozzi (2013), which accounts for time-varying structures, is employed, and the degree of integration is measured by the proportion of total variance explained by the common factor. The findings indicate that the level of integration among foreign exchange markets is not static; rather, it changes over time depending on global financial conditions. Accordingly, while the level of integration is relatively low during stable periods, it increases significantly during crisis periods, and the tendency for cross-country co-movement strengthens. These results demonstrate the decisive role of global shocks on exchange rate dynamics. In particular, following the 2008 Global Financial Crisis, integration levels have remained within a higher range compared to pre-crisis levels, and the most pronounced increase was observed during the 2008 Global Financial Crisis. Country-specific results indicate that integration processes exhibit volatility stemming from crises and rising geopolitical tensions; however, in some countries, country-specific dynamics may play a more dominant role compared to global shocks. Overall, the findings suggest that foreign exchange markets in developing countries exhibit a dynamic integration process, one that intensifies during crises but diverges again during normal periods, rather than a fully integrated structure. These results offer important implications for international portfolio diversification, monetary policy transmission mechanisms, and financial stability.

Keywords: Financial Integration, Foreign Exchange Market, Dynamic Factor Model, Emerging Countries

THE RELATIONSHIP BETWEEN SOCIAL TRANSFER EXPENDITURES AND INCOME DISTRIBUTION: A PANEL DATA ANALYSIS OF OECD COUNTRIES

Ersin YAVUZ²⁵

Abstract

The aim of this paper is to examine the effect of social transfer expenditures on income distribution across 25 OECD countries using panel data analysis. The empirical model, in which income distribution is represented by the Gini index, covers the period from 1990 to 2022. Pre-tests applied to the dataset within the scope of the analysis reveal that the model contains cross-sectional dependence and has a heterogeneous structure. For this reason, second-generation panel unit root, cointegration, and estimator methods are applied in the analysis section, taking into account the characteristics of the data structure. According to the results of the panel cointegration test, a long-term relationship is found between social transfer expenditures and the Gini index. In other words, social transfer policies are one of the key determinants of income distribution. Panel estimator findings, which provide information on the direction of the effect, offer evidence that a 1% change in social transfer expenditures negatively affects the Gini index by 0.11%. This finding demonstrates that social transfer expenditures are an effective instrument in combating income inequality in OECD countries. Furthermore, cross-sectional analysis results for Germany, Luxembourg, Sweden, Greece, Finland, Mexico, Belgium, France, Canada, and Türkiye are consistent with the panel findings. In contrast, it is observed that social transfer expenditures increase income inequality in the Czechia, Spain, Ireland, and Chile. Empirical evidence reveals that social transfer expenditures generally have a dominant effect on improving income distribution in OECD countries. However, the presence of a negative or statistically insignificant relationship in some countries points to the need to re-evaluate the distribution mechanisms and target groups of social transfer policies.

Keywords: Income distribution, Gini, panel data analysis, social transfer expenditures.

ENVIRONMENTAL PHILLIPS CURVE AND ASYMMETRIC RESPONSES: FINDINGS FROM TÜRKİYE

Eren ERGEN²⁶

Abstract

Fiscal policy primarily focuses on economic growth, development, and full employment. However, due to the unsustainable levels of environmental damage caused by economic entities, neglected environmental factors have been included in the equation as important variables in fiscal policy objectives from a future perspective. The Environmental Phillips Curve (EPC) is one of the challenging equations that fiscal policy must solve. Indeed, a choice must be made between unemployment and environmental quality. The motivation for this study is to question whether the EPC is valid in Türkiye. In this study, carbon emissions, which are frequently used in the literature to measure environmental quality, are used. Unlike the literature, in addition to traditional tests, the study analyzes using Fourier-based tests and tests that consider asymmetric relationships. The findings show that the EPC is not valid in traditional tests. According to asymmetric tests, there is a weak cointegration relationship between unemployment and environmental quality in Türkiye. However, the results of the newly developed Fourier-based FNARDL model reveal a strong cointegration relationship with concrete evidence. Asymmetric tests indicate that while employment and environmental policies are valid in Türkiye in the short term, they are not valid in the long term. The findings suggest that simultaneous success in employment and environmental policies cannot be achieved in the short term. To solve this problem, it is necessary to promote environmentally friendly production structures, such as those using renewable energy sources.

Keywords: Environmental Phillips Curve Hypothesis, Carbon Emissions, Unemployment, Environmental Quality

BALANCE OF PAYMENTS: AN EMPIRICAL INVESTIGATION OF THE SUSTAINABILITY OF THE NET ERROR AND OMISSION ACCOUNT IN EMERGING MARKET ECONOMIES

Asım KAR²⁷

Abstract

The balance of payments must be in equilibrium according to the principle of double-entry bookkeeping. However, imbalances arising from practical difficulties are offset by the net error and omission account, which serves a regulatory function. However, the fact that this account periodically reaches high levels in emerging market economies has renewed discussions about the sustainability of net errors and omissions. The objective of this study is to examine the sustainability of the net error and omission account in emerging market economies by conducting a comparative analysis under no-break, sharp breaks, and Fourier (smooth) breaks, while accounting for the common factor structure during the period from 1980 to 2024. The findings of this study indicate that, within the common factor framework, shocks to the net errors and omissions account in emerging market economies do not exhibit mean reversion-thus implying a lack of sustainability-both in the absence of structural breaks and under sharp breaks condition. However, when structural breaks are modeled using the Fourier (smooth) approach within the common factor framework, the results indicate that the net error and omission account is sustainable in emerging market economies. These findings imply that, under a common factor structure in emerging market economies, the net error and omission account follows a stationary process under smooth breaks, and this account fluctuates around a specific equilibrium rather than reflecting purely transitory movements. In conclusion, the sustainability of the net error and omission account under smooth structural changes across emerging market economies suggests that autonomous (imbalance-inducing) and counterbalancing transactions are in long-run equilibrium in these economies. Hence, policymakers in emerging market economies have limited need for additional regulations regarding the reliability and monitoring of balance of payments data.

Keywords: Balance of Payments, Net Error and Omission Account, Sustainability, Panel Unit Root, Emerging Market Economies.

THE EFFECT OF ECONOMIC GROWTH AND FOREIGN DIRECT INVESTMENT ON RENEWABLE ENERGY CONSUMPTION: EVIDENCE FROM TÜRKİYE

Nedim MERCAN²⁸

Abstract

The rapid development of economies worldwide has led to an increase in production. Depending on the type of energy source used, this rise in production can exert either positive or negative pressure on the environment. In recent years, growing environmental awareness has positioned investments in renewable energy sources as a significant global priority. Accordingly, economies aim to achieve an energy transition and undertake necessary efforts to shift from environmentally harmful fossil fuels to more environmentally friendly renewable energy consumption. They also ensure that their investments align with and support this objective. In this context, the present study aims to examine the effects of economic growth and foreign direct investment on renewable energy consumption. The study focuses on Türkiye for the period 1982-2024 and employs the ARDL cointegration method in the analysis. The findings reveal a long-run cointegration relationship among the variables. Furthermore, the results indicate that economic growth has a statistically significant and positive effect on renewable energy consumption, whereas foreign direct investment has a statistically significant and negative effect. These findings suggest that economies prioritize environmental protection alongside economic growth and attach considerable importance to renewable energy sources.

Keywords: Economic Growth, Foreign Direct Investment, Renewable Energy, ARDL Cointegration

THE RELATIONSHIP BETWEEN THE FINANCIAL STRESS INDEX AND GOLD AND SILVER PRICES: EVIDENCE FROM EMERGING COUNTRIES

Yusuf DEMİR²⁹, Dilek Çınar ÖZ³⁰

Abstract

Financial stability can be defined as the financial system's ability to withstand shocks and prevent the collapse of financial imbalances. The financial stress index is a composite indicator designed to measure the level of tension and fragility emerging in financial markets. By combining various financial market indicators, this index provides an overall assessment of the financial system's stability. An increase in the index value indicates rising uncertainty in financial markets, heightened risk perception, and potential difficulties in the flow of funds among financial institutions. Conversely, low values indicate the presence of a relatively more stable and confidence-driven environment within the financial system. For this reason, the financial stress index is widely used to detect early signals of financial crises, monitor market conditions, and contribute to the assessment of financial stability in economic policy analyses. Additionally, the financial stress index has an indirect impact on investor confidence and capital flows. During periods of increased stress in the financial system, heightened risk perception can negatively impact investor decisions and international capital flows. The primary objective of this study is to examine the relationship between the financial stress index and gold and silver prices in developing countries during the 2000–2025 period. The econometric method employed in this study facilitates a better theoretical understanding of market dynamics under financial stress and expands the applicability of econometric methods in financial stability research. Through its empirical findings, this study provides a detailed analysis of the relationship between gold and silver prices and financial stress, thereby helping to shed light on how investor confidence is shaped during crises.

Keywords: Financial Stress, Financial Stability

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WATER HARVESTING IN TÜRKİYE: EXAMPLES FROM AROUND THE WORLD

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Abstract

Water is an indispensable and vital element for living beings. Only about 3% of the world's freshwater resources are usable. It is known that the amount of water in nature does not change in a cycle. Therefore, existing water resources are insufficient to meet the demand. The water scarcity experienced worldwide has led people to water harvesting methods. Water harvesting is defined as collecting natural rainfall that flows from roofs or land surfaces in underground or above-ground storage areas. This stored water is preserved for use during drought periods, and water harvesting practices also contribute to preventing floods and erosion. Throughout history, people have adopted methods of storing and utilizing snow and rainwater to meet their drinking and domestic water needs. Water-rich and developed countries use rainwater to increase groundwater reserves as part of sustainable water management. In contrast, in water-scarce countries, practices that encourage the conservation of tap water in both domestic and industrial areas are gaining prominence. Factors such as increasing global population, rapid urbanization, and climate change are causing the depletion of existing water resources. These global problems necessitate the efficient and careful management of water resources. The main objective of this study is to demonstrate how rainwater harvesting methods, collected and stored from land and roof surfaces, create an alternative water source and highlight its importance for agricultural irrigation, groundwater replenishment, and domestic use during drought periods. To this end, existing examples from around the world and in Türkiye have been compared and made concrete.

Keywords: Water harvesting, water harvesting methods, sustainable water management.

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TAPI NATURAL GAS PIPELINE PROJECT: AN ANALYSIS OF AFGHANISTAN'S GEOPOLITICAL IMPORTANCE AND REGIONAL ENERGY COOPERATION

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Abstract

The Turkmenistan-Afghanistan-Pakistan-India (TAPI) Natural Gas Pipeline Project is a strategic initiative aimed at delivering Central Asia's natural gas resources to South Asian markets. This study examines Afghanistan's geopolitical importance and evaluates the project's impact on regional energy cooperation and economic development using qualitative methods, including literature review and SWOT analysis. With a length of 1,814 km and an annual capacity of 33 billion cubic meters, the TAPI pipeline has the potential to enhance regional energy security. Afghanistan plays a key role not only as a transit country but also as an actor in regional integration. The project is expected to generate revenue, improve infrastructure, and increase employment. It also offers an opportunity to strengthen Afghanistan's position in the international system. However, the project faces serious challenges such as security risks, political instability, and financial constraints. SWOT findings indicate that while Afghanistan's strategic location offers opportunities, security and institutional weaknesses pose threats. In conclusion, TAPI is a strategic initiative supporting regional integration and economic development.

Keywords: TAPI Pipeline, Afghanistan, Energy Security, Geopolitics, Regional Cooperation

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INVESTIGATION OF THE DYNAMICS OF WATER WITHDRAWALS IN TÜRKİYE: A FOURIER AUGMENTED ARDL ANALYSIS

Alper ASLAN³⁵, Buket SAVRANLAR³⁶, Melike Atay POLAT³⁷, Alican UMUT³⁸

Abstract

Water scarcity is one of the main reasons negatively affecting the health and developments of societies today. The solution to the problem lies in correctly identifying its causes. Water scarcity can generally be defined as the demand for clean water exceeding its supply. This imbalance between supply and demand stems from many factors. Freshwater withdrawals are considered an important indicator representing demand and researching freshwater withdrawals dynamics is of great importance in understanding the water scarcity problem faced by humanity and researching solutions. The aim of this study is to investigate water withdrawals dynamics in Türkiye using Fourier augmented ARDL approach with data from 1992 to 2023. For this purpose, freshwater withdrawals are the dependent variable of the study, while economic growth, government effectiveness, population, renewable energy, and capital formation are determined as independent variables. The analysis results showed the existence of a cointegration relationship between the variables in the long run. According to the coefficient estimation results, an increase in economic growth in the long run increases water withdrawals by approximately 0.65 percent. Population growth also has a positive effect on water withdrawals. Government effectiveness has a reducing effect on water withdrawals. In the short run, while the reducing effect of government effectiveness on water withdrawals is lower, the population variable has the same increasing effect as in the long run. The results highlight the importance of economic, institutional, and demographic dynamics when addressing the problem of water scarcity.

Keywords: Water withdrawals, growth, population, Türkiye, ARDL.

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FINANCIAL INDICATORS AND BANK CREDITS AS DETERMINANTS OF ECONOMIC GROWTH: COMPARATIVE EVIDENCE FROM TÜRKİYE AND CHINA

Sümeyya ALTUNTAŞ³⁹

Abstract

This study investigates the effects of bank credits, exchange rate changes, and inflation changes on economic growth for Türkiye and China over the period 2005–2021 using a panel data analysis approach. The fixed effects model (FEM) was employed, and country-specific differences were analyzed through the inclusion of interaction terms. Economic growth (Y) was used as the dependent variable, while bank credits (BC), exchange rate changes (EX), and inflation changes (INF) were considered independent variables. Data were obtained from reliable international sources such as the World Bank and IMF, and were standardized on an annual basis after necessary adjustments. The findings reveal that bank credits positively influence economic growth, with a stronger effect observed in China compared to Türkiye. Exchange rate changes support growth in both countries, while inflation changes exhibit a growth-limiting effect particularly in Türkiye. The stronger impact of bank credits in China is attributed to investment-oriented credit usage, whereas in Türkiye, the effect remains more limited due to consumption-oriented credit utilization and macroeconomic instability. Policy recommendations suggest that Türkiye should direct bank credits toward productive sectors, maintain strict anti-inflationary measures, and sustain a competitive exchange rate environment. For future research, it is recommended to extend the study with longer time periods, conduct sectoral analyses, and include additional macroeconomic variables such as investment ratios and external trade balances.

Keywords: Financial Markets, Banking, Economic Growth.

DIGITALIZATION, GOVERNMENT POLICY, AND ECONOMIC GROWTH: EMPIRICAL EVIDENCE FROM OECD COUNTRIES

Zeynep MORÇİÇEK⁴⁰, Elif ASOY⁴¹, Bengü TOSUN⁴²

Abstract

There are numerous studies demonstrating the positive impact of digitalization on economic growth. On the other hand, the role of the policymaker within this process is another significant factor taken into consideration. Therefore, this study examines not only the direct impact of digitalization on growth but also evaluates whether state policies exert an accelerating effect. In the empirical section of the study, based on endogenous growth models, a panel data analysis is conducted using data from OECD member countries. One of the primary objectives here is to contribute to the recent debates surrounding the World Bank. The Bank's emphasis on state policies for economic development in its recent report marks a historic shift. By taking into account the policies utilized in digitalization, the current study provides an opportunity to draw inferences regarding whether the approach—which, since Bretton Woods, has assigned the state a merely 'guardian' role limited to ensuring the functioning of free markets and the protection of competition and private property—acted rationally in the past or does so today.

Keywords: Economic Growth, Digitalization, Technology, Government Policy

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DRIVERS OF WOMEN EMPLOYMENT IN TÜRKİYE WITH NOTES ON SECTORAL DISTRIBUTION: EDUCATION AND FERTILITY EFFECTS, 1990–2023

İlkay Noyan YALMAN⁴³, Turna Buse ULU⁴⁴

Abstract

Throughout historical processes, patriarchal structures that have dominated many societies have largely confined women's social and economic roles to domestic activities. Although globalization and economic transformation processes have increased women's participation in the paid labor market, a significant proportion of female employment is still concentrated in low-wage, insecure, and informal sectors. This situation indicates the persistence of structural gender-based inequalities in labor markets. However, women constitute approximately half of the global labor force potential, and the efficient utilization of this potential is of critical importance for economic growth, income distribution equity, and sustainable development. Women employment is not merely an economic indicator; rather, it is a multi-dimensional phenomenon that strengthens individuals' financial independence, ensures the effective utilization of human capital, and enhances social welfare. In this context, women's participation in the labor market serves as an important instrument for developing their skills, achieving their professional goals, and enabling more active participation in decision-making processes. Therefore, increasing female employment is regarded as a strategic priority both for individual empowerment and for overall social development. The aim of this study is to examine the sectoral distribution of women's employment and the factors affecting it. A regression analysis was conducted on some factors that may affect women's employment in Türkiye. Annual data from 1990–2023 were used in the analysis. The dependent variable was the labor force participation rate (female, ages 15+), while the independent variables were the mean years of schooling (female) and the total fertility rate. Simple regression analysis was applied to examine the impact of these variables on women's employment. This analysis helps identify and implement necessary measures to increase the quantity and quality of women's employment, a crucial factor, especially for developing countries. In conclusion, this study highlights the importance of strengthening education, developing policies that facilitate work-life balance, and ensuring sectoral diversity in increasing women's employment. Accordingly, it is recommended to develop policies that encourage women to participate more in high value-added sectors.

Keywords: Women Labor Force, Employment Determinants, Education Level, Fertility Rate

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THE EVOLUTION OF MACROECONOMIC PERFORMANCE IN TÜRKİYE: EVIDENCE FROM CRITIC-BASED ARAS AND WEDBA METHODS

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Abstract

This study analyzes the macroeconomic performance of the Turkish economy for the 1991–2024 period using multi-criteria decision-making (MCDM) methods. In this context, the ARAS and WEDBA methods are used for performance ranking. In measuring macroeconomic performance, gross domestic product, government revenue, and the current account balance are included in the model as maximization criteria, while inflation, unemployment, income distribution (Gini index), and public debt are included as minimization criteria. The resulting rankings reveal that macroeconomic performance in Türkiye is closely linked to periods of economic and political turmoil. Indeed, shock periods such as the 1990s, dominated by coalition governments, the 2001 crisis, the 2008 global financial crisis, and the COVID-19 pandemic stand out as periods during which macroeconomic performance weakened significantly. In contrast, the 2011–2016 period presents a more stable macroeconomic outlook characterized by high growth rates and relatively low inflation, ranking among the top positions in the performance rankings. These findings indicate that macroeconomic performance is closely linked not only to numerical indicators but also to economic stability and the policy environment. Furthermore, the fact that the results obtained using the ARAS and WEDBA methods show a high degree of consistency confirms that the rankings are consistent and robust regardless of the method used. Overall, the study highlights the multidimensional nature of macroeconomic performance in Türkiye and provides a comprehensive evaluation framework for policymakers.

Keywords: Macroeconomic Performance, Türkiye, Multi-Criteria Decision Making, CRITIC, ARAS, WEDBA

HEALTHCARE LOGISTICS AND SUPPLY CHAIN MANAGEMENT: A SYSTEMATIC LITERATURE REVIEW

Merve TATAR⁴⁶, Orhan ÇOBAN⁴⁷

Abstract

In the literature, healthcare logistics is considered not only as the management of material and drug flow, but also as a strategic area that has an impact on the financial sustainability of healthcare systems. Early studies examined healthcare logistics within the framework of operational efficiency and cost control; emphasizing that inventory management, stock optimization, and improvement of distribution processes could reduce healthcare costs. Rising global healthcare expenditures have made the economic efficiency of logistics processes even more critical. Over time, the literature has revealed that the effects of healthcare logistics extend beyond the institutional level, leading to macroeconomic consequences. Supply chain disruptions can cause resource waste, price fluctuations, and pressure on the public budget. Therefore, healthcare logistics is directly related to public finance, cost-effectiveness analyses, and resource allocation policies. Especially in public healthcare systems, logistics inefficiencies can increase the operational dimension of total healthcare expenditures. With the evolution of healthcare logistics into healthcare supply chain management, the economic dimension has become more prominent. Integrated approaches aim to achieve system-wide efficiency through cost reduction, price transparency, and monitoring of supplier performance. The use of digital technologies increases inventory turnover speed, thereby reducing capital tie-up costs. Pandemics and crisis periods have shown that logistical disruptions can create supply shocks and budget deficits. In this context, healthcare logistics plays a critical role in terms of financial sustainability and economic stability.

Keywords: Healthcare Sector, Health Logistics, Supply Chain

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ECONOMETRIC ANALYSIS OF THE RELATIONSHIP BETWEEN AIR PASSENGER TRANSPORTATION AND MACROECONOMIC INDICATORS IN TÜRKİYE

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Abstract

Air transportation has evolved from a simple mode of transport into a strategic sector that significantly influences countries' macroeconomic performance through channels such as economic growth, trade, tourism, and employment in the era of globalization. Due to its time-sensitive nature, air passenger transportation is particularly responsive to macroeconomic conditions, including income levels, economic growth, and energy costs. Therefore, analyzing the relationship between air passenger transportation and macroeconomic indicators at the country level is essential for policy design. This study aims to examine the relationship between the number of passengers transported by air and selected macroeconomic indicators in Türkiye using econometric methods. Annual data covering the period from 1975 to 2023 are employed. The number of air passengers is used as the dependent variable, while per capita national income, gross domestic product, and the jet fuel price index are included as independent variables. The methodology consists of correlation analysis, the Augmented Dickey–Fuller unit root test, the Johansen cointegration test, the Granger causality test, and multiple regression analysis. The empirical findings reveal strong and positive correlations among the variables. All series are stationary at their first differences; however, no long-run cointegration relationship is detected. Granger causality results indicate unidirectional causality from per capita national income and economic growth to air passenger transportation. Moreover, regression results show that per capita national income and jet fuel prices have statistically significant effects on air passenger demand. Overall, the findings highlight the sensitivity of air passenger transportation to macroeconomic dynamics and provide policy implications for Türkiye.

Keywords: Air Passenger Transportation, Economic Growth, Per Capita Income, Jet Fuel Price Index, Türkiye, Econometric Analysis

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FINANCIAL PERFORMANCE OF COMPANIES IN THE BIST TRANSPORTATION AND STORAGE SECTOR: AN EXAMINATION WITH LODECI AND WEDBA APPROACHES

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Abstract

The purpose of this study is to analyze the financial performance of the companies BEYAZ, CLEBI, GSDDE, GRSEL, HRKET, HOROZ, PASEU, PGSUS, RYSAS, TLMAN, TURER, and THYAO, which operate in the transportation and warehousing sector on the Borsa Istanbul (BIST). The study utilizes a total of 10 criteria selected from the groups of liquidity ratios, leverage ratios, operational efficiency ratios, and profitability ratios to evaluate the companies' performance. The Logarithmic Decomposition of Criteria Importance (LODECI) method is applied to determine the importance weights of the criteria. The Weighted Euclidean Distance Based Approach (WEDBA) is used to calculate and rank the firm's performance scores. Additionally, the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS), one of the multi-criteria decision-making methods, is employed to conduct a comparative analysis of the obtained performance rankings. According to the findings, the LODECI method indicates that the most important criterion is Net Profit Margin (B6), while the criterion with the lowest importance is Leverage Ratio (C2). Based on the results obtained using the WEDBA method, the top three firms with the highest performance are, in order, GRSEL, TLMAN, and PASEU, while the bottom three firms with the lowest performance are HRKET, PGSUS, and THYAO. The rankings generally show similarity when compared using the TOPSIS method.

Keywords: Transportation and Storage, Financial Performance, LODECI, WEDBA, TOPSIS

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FACTORS DETERMINING TÜRKİYE'S TRANSPORTATION-RELATED CO₂ EMISSIONS BETWEEN 2002 AND 2023: AN ENVIRONMENTAL ANALYSIS

Hasan RÜSTEMOĞLU⁵²

Abstract

In Türkiye, transportation is one of the most rapidly developing sectors of the economy. Energy use within this sector is increasing more rapidly than in any other sector of the economy, and as a result, CO₂ emissions from transportation have also increased substantially. In Türkiye, transportation is the second-largest emitter of CO₂ emissions, followed by activities related to the production of electricity and heat. Therefore, investigating the determinants of transportation-related CO₂ emissions has become essential in Türkiye. In this study, we analyzed the dynamics of CO₂ emissions within the transportation sector for the period 2002–2023 using the LMDI approach. Six factors were considered: income effect, population, energy intensity, pollution coefficient, structure effect, and the vehicle ownership–energy use ratio. The empirical findings revealed that income effect, population, structure effect, and vehicle ownership – energy use ratio were the factors that increased Türkiye's transport-related CO₂ emissions. On the other hand, energy intensity and the pollution coefficient substantially curbed emissions. In Türkiye, the share of the transportation sector in total CO₂ emissions and total energy use has increased remarkably. Thus, measures are required to reduce emissions and achieve environmental sustainability goals. This paper also presents some policy implications for the transport sector's sustainability.

Keywords: Transportation; CO₂ emissions; decomposition analysis; LMDI; Türkiye

PRODUCTIVITY DYNAMICS IN DEVELOPING COUNTRIES AND THE MACROECONOMIC DETERMINANTS OF TOTAL FACTOR PRODUCTIVITY: A MALMQUIST INDEX APPROACH

Bariş AKSOY⁵³

Abstract

The aim of this study is to analyze the determinants of total factor productivity (TFV) using a sample of 16 selected developing countries and to compare their efficiency, technical efficiency, and total factor productivity indices over the period 2020–2024. A two-stage, hybrid methodology is employed in the study. In the first stage, variables with a statistically significant impact on GDP were identified from commonly used independent variables in the literature using panel least squares regression analysis. The results indicate that the variables “labor” and “capital stock” have positive and significant effects on GDP; therefore, these variables were used as inputs in the productivity analysis. Accordingly, a 1% increase in labor leads to a 0.40% increase in GDP, while a 1% increase in capital stock results in a 0.69% increase in GDP. In the second stage, a Malmquist total factor productivity index analysis covering the period 2020–2024 was conducted. According to the Malmquist mean indices, efficiency improvements were observed during the 2021–2022 and 2022–2023 periods. Technical efficiency increased most significantly in the 2020–2021 period, followed by the 2023–2024 period. An increase in total factor productivity was observed only during the 2023–2024 period. Based on the Malmquist total factor productivity ranking for the 2020–2024 period, Colombia, China, Malaysia, Russia, and Thailand are identified as countries with increased efficiency, whereas Argentina, Mexico, Romania, Serbia, and Türkiye exhibit slight declines in efficiency. In terms of changes in technical efficiency, Bulgaria, Romania, and Serbia improved their technical efficiency, while Türkiye’s technical efficiency remained constant. In contrast, nine countries, including China, India, and Russia, experienced slight declines in technical efficiency. Countries that achieved improvements in total factor productivity include Bulgaria, Romania, and Colombia. Conversely, decreases in total factor productivity were observed in Argentina, India, South Africa, Türkiye, and Mexico. The total factor productivity levels of eight countries, including Brazil, China, and Russia, remained unchanged over the period.

Keywords: Developing Countries, Productivity Dynamics, Total Factor Productivity, Malmquist Index, Gross Domestic Product

COMPARATIVE ANALYSIS OF MACHINE LEARNING ALGORITHMS IN PREDICTING THE SUSTAINABILITY INDEX: THE CASE OF XUSRD

Hatice BAŞKAYA⁵⁴, Abdullah ÖZDEMİR⁵⁵

Abstract

Corporate sustainability — encompassing environmental, social, and governance dimensions (ESG) — has emerged as a defining variable in contemporary finance, shaping how companies are evaluated for their long-term value creation potential. Against this backdrop, the Borsa Istanbul Sustainability Index (XUSRD) represents a carefully constructed thematic index, bringing together companies whose ESG performance aligns with internationally recognized standards. For institutional investors and portfolio managers, XUSRD functions as a critical benchmark for responsible investment, and as capital allocation continues to tilt toward sustainability-driven assets globally, making sense of this index's price dynamics and volatility patterns has grown into a pressing analytical challenge. This study takes up that challenge by developing a machine learning-based modeling framework calibrated to the non-linear, high-dimensional nature of financial markets. The dataset spans March 16, 2020 through February 27, 2026 — a window anchored to the earliest available MSCI data — and by design captures some of the most turbulent market episodes of recent memory: the COVID-19 shock, the resurgence of global inflation, and successive central bank tightening cycles. Seventy-five endogenous and exogenous variables were drawn into the analysis, pulling from technical indicators, macroeconomic releases, and international market signals, with the S&P 500 standing in for global equity integration and the MSCI World serving as the cross-border benchmark of choice among fund managers and institutional allocators. Eleven machine learning algorithms were subjected to rigorous empirical comparison across three broad families: linear parametric models (Lasso, Ridge, ElasticNet), flexible single-learner architectures (SVR, Decision Trees), and ensemble methods (Random Forest, Extra Trees, GBDT, AdaBoost, XGBoost). Beyond raw predictive accuracy, the study applied systematic feature selection and hierarchical importance ranking to isolate which variables carry the greatest informational weight for XUSRD movements — a contribution that goes beyond forecasting and into the interpretive territory of what actually drives a sustainability index. Across every error metric considered (MSE, RMSE, MAE), XGBoost consistently outperformed the field, demonstrating a clear capacity to capture the nonlinear dependencies and variable interactions that linear models structurally cannot. The broader implication is straightforward: when applied to sustainable finance instruments, ensemble learning methods offer a decision-support advantage that parametric approaches are ill-equipped to match.

Keywords: Borsa Istanbul Sustainability Index (XUSRD), XGBoost, Machine Learning, Financial Forecasting Models, ESG Investments, Feature Importance.

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THE IMPACT OF THE NEW ESG-BASED SUSTAINABILITY UNCERTAINTY INDICES ON THE S&P 500 ESG INDEX'S RETURN AND VOLATILITY DYNAMICS

Hatice BAŞKAYA⁵⁶, Hazal ÖZDEMİR⁵⁷

Abstract

In today's financial landscape, sustainability-focused investment approaches are transforming the traditional portfolio management paradigm by placing environmental, social and governance (ESG) criteria at the forefront. In this context, the S&P 500 ESG Index, with its focus on companies with high ESG performance, is one of the key indicators of sustainable investment strategies. The increasing trend of institutional investors towards ESG-compliant assets makes it necessary to examine the performance, risk and return dynamics of the aforementioned index in a more comprehensive and empirical framework. The Sustainability Uncertainty Index is an innovative indicator that measures policy and market uncertainty in the areas of the environment, society and governance. The aim of this study is to empirically analyse the impact of the ESGUI on the returns and volatility of the S&P 500 ESG Index. To this end, 161 months of data were used to estimate single- and multi-variate GARCH models. The findings show that the ESG uncertainty index has a positive and statistically significant effect on ESG index returns. Additionally, volatility analyses reveal that the market exhibits an asymmetric structure and that negative shocks have a stronger and more lasting impact on volatility. Multivariate GARCH findings also show that there is a dynamic relationship between sustainability uncertainty and the ESG index that changes over time. Overall, the results obtained show that ESG-based assets are not only ethical investment tools, but can also play an important role in risk management during periods of uncertainty.

Keywords: S&P 500 ESG Index, New ESG-Based Sustainability Uncertainty Index, GARCH Models, Volatility Analysis

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ANALYSIS OF FACTORS AFFECTING HOUSING PRICES THROUGH THE HEDONIC APPROACH: THE CASE OF KAYSERİ

Esra YURTLU⁵⁸, Ali Gökhan YÜCEL⁵⁹, Kerem Hulusi GÖKALP⁶⁰

Abstract

This study examines the determinants of housing prices in Kayseri within the framework of structural and spatial components. The analysis is based on a cross-sectional dataset consisting of 1,466 housing listings collected from the sahibinden.com platform, covering 73 neighborhoods in the districts of Melikgazi, Kocasinan, and Talas. The findings obtained from a hedonic pricing model indicate that housing prices are shaped by three main groups of factors: property size and interior characteristics (net floor area, number of rooms, number of bathrooms), structural quality (age, heating system, and amenities), and spatial factors (district and neighborhood). The results show that a 1% increase in net floor area raises housing prices by approximately 0.44%, indicating that the impact of size exhibits diminishing marginal effects as property size increases. The number of rooms also has a strong and positive effect on prices. While both the total number of floors in a building and the floor level of the unit increase prices, their negative interaction term suggests that the “upper-floor premium” weakens in high-rise buildings. In terms of amenities, the presence of additional bathrooms, balconies, elevators, and indoor parking increases housing prices, whereas the absence of these features leads to value losses. Regarding heating systems, only low-quality options (such as stoves) have a statistically significant negative impact on prices, while no significant price differences are observed among other heating types. The housing age variable indicates a strong depreciation effect. Compared to newly built properties (0 years), no statistically significant price difference is observed in the first two years; however, depreciation becomes evident starting from the third year. Price reductions reach up to approximately 50% for properties aged 31 years and above. While price differences across districts are relatively limited, they are more pronounced at the neighborhood level, indicating that spatial heterogeneity plays an important role in the housing market. Overall, the findings suggest that housing prices in Kayseri are determined not only by physical characteristics but also by the interaction of structural and locational factors.

Keywords: Housing prices, Hedonic pricing model, Housing market, Kayseri

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THE ROLE OF AI ON ENVIRONMENTAL PERFORMANCE: EVIDENCE FROM QUANTILE REGRESSION FOR G7 COUNTRIES

Buket SAVRANLAR⁶¹, Melike Atay POLAT⁶²

Abstract

Due to the increasing pressure of climate change on the environment, the question of whether Artificial Intelligence (AI) can contribute to the development of a cleaner and healthier environment has recently become a subject of debate. AI can improve environmental performance by facilitating the transition from fossil fuels to renewable energy sources, the adoption of green technologies, and the necessary infrastructure such as smart grids. Although significant progress has been made regarding the role of artificial intelligence in improving environmental performance, there is still no consensus on the positive and negative impacts of AI on environmental quality performance. Therefore, this study aims to examine the effects of AI on environmental performance using a panel dataset covering G7 countries between 2000 and 2024. This study contributes to the existing literature by addressing the paradoxical relationship between AI and environmental performance for G7 countries, particularly in the context of greenhouse gas emissions, and by comprehensively and empirically investigating the socio-economic role of artificial intelligence by including economic indicators such as GDP and natural resource rents, as well as social indicators such as urbanization and population. The findings confirmed a cointegration relationship between AI, GDP, natural resource rents, urbanization, population density, and greenhouse gas emissions in the long run. According to the quantile regression results, AI has an increasing effect on greenhouse gas emissions at all quantiles, but this effect decreases as the quantile level increases. From the middle quantile level onwards, GDP reduces greenhouse gas emissions. Finally, while urbanization and resource rents increase greenhouse gas emissions, population density has a mitigating effect. Therefore, artificial intelligence worsens environmental performance by increasing greenhouse gas emissions. This study emphasizes that transitioning to renewable energy and adopting green technologies are necessary to improve the impact of artificial intelligence on environmental performance in G7 countries.

Keywords: Artificial intelligence, Environmental quality, Quantile regression, G7.

61 Assoc. Prof. Dr., İstanbul Nişantaşı University.

62 Prof. Dr., Mardin Artuklu University.

THE RELATIONSHIP BETWEEN GLOBAL PROSPERITY AND COMPLEXITY OUTLOOK: A PANEL DATA ANALYSIS USING 2007–2023 DATA

Ekrem TOPARLAK⁶³

Abstract

Global Prosperity is a multidimensional phenomenon influenced by numerous economic, social, and institutional factors, and it may also be related to the economic complexity profile, which reflects the nature of a country's production structure. In this study, which analyzes this relationship, a panel data analysis was conducted using annual data from 127 countries covering the 2007–2023 period. The Legatum Prosperity Index (LPI) was used as the dependent variable, while the Complexity Outlook Index (COI), which reflects countries' future production diversification potential, served as the main independent variable. The model also included labor force rate, growth, inflation, and health expenditures as control variables. Upon identifying issues of autocorrelation and heteroskedasticity, the Driscoll-Kraay fixed-effects panel data model was employed. The findings indicate a statistically significant yet negative relationship between economic complexity and the level of prosperity. This result is interpreted as suggesting that countries with high levels of prosperity have limited potential to shift toward new production sectors. Additionally, positive and statistically significant effects of labor force rates and health expenditures on welfare were identified. Robustness analyses also yield results consistent with the main findings. The findings suggest that the level of welfare is influenced not only by the economic structure but also by human capital and social expenditures.

Keywords: Economic Complexity, Global Prosperity Index, Macroeconomics

GREEN COOPERATIVISM IN RURAL DEVELOPMENT: A REVIEW OF TÜRKİYE AND EUROPEAN UNION COUNTRIES A STUDY ON THE SUBJECT

Mustafa ÖZYÜCEL⁶⁴, Nesli YÜCEL⁶⁵

Abstract

Cooperatives are a fundamental element in rural development policies. Through cooperatives, countries accelerate their rural development processes. Cooperatives ensure a more homogeneous distribution of the population within the country, as well as more efficient resource allocation. As time progresses and resource scarcity emerges globally, countries are seeking alternative solutions. In this process, several projects have been implemented, particularly in the energy and food sectors. These projects are implemented by both the public and private sectors. In Türkiye, environmentally friendly projects are being implemented. The “Zero Waste” project, for example, significantly contributes to the economy by separating waste. In the European Union, countries implement environmentally friendly practices in energy and agriculture through cooperatives. As a result of these practices, EU countries generate income both regionally and nationally. The resulting resource efficiency allows countries to look to the future with greater optimism. This study will examine cooperative activities within the scope of rural development. The focus is on these cooperatives being environmentally friendly. The added value created by environmentally friendly cooperatives will be examined within the scope of this study.

Keywords: Development, Rural Development, Cooperativism, Green Cooperativism

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THE IMPACT OF DIGITAL TRADE AND CRYPTO ASSETS ON COMMERCIAL CRIMINAL LAW: A REVIEW OF THE CRIMINAL LIABILITY OF COMPANY EXECUTIVES IN THE CONTEXT OF INTERNATIONAL LAW

Raif BIKMAZ⁶⁶

Abstract

The process of digitalization has fundamentally transformed commercial activities and introduced a new paradigm in the financial system, particularly with the emergence of crypto-assets. These developments have expanded the scope of commercial criminal law and raised questions regarding the adequacy of existing legal frameworks. Crimes arising in digital commerce, such as crypto-related fraud, money laundering, and data manipulation, have created new areas of risk that cannot be fully addressed by traditional criminal law instruments. This study examines the impact of digital commerce and crypto-assets on commercial criminal law, with a particular focus on the criminal liability of company executives from both doctrinal and practical perspectives. In addition, international legal frameworks, the European Union's regulatory approach to crypto-assets, and comparative law perspectives are analyzed. The legal nature of crypto-assets and their role within the context of economic crimes are evaluated in light of the case law of the Turkish Court of Cassation Yargıtay and European Court of Human Rights (ECHR). The study concludes that the current system of commercial criminal law is insufficient in addressing the challenges posed by digitalization and highlights the need for specific regulations concerning crypto-assets and digital commerce. It further emphasizes the necessity of clearly defining the criminal liability of company executives, improving standards for digital evidence, and strengthening international cooperation mechanisms.

Keywords: Digital commerce, crypto-assets, commercial criminal law, company executives, criminal liability

66 Chief Prosecutor, Türkiye.

DETERMINANTS OF FINANCIAL DEVELOPMENT IN BRICS+ COUNTRIES

Ayşegül TOY⁶⁷, Tuğba EYCEYURT BATIR⁶⁸, Merve TUNCAY⁶⁹

Abstract

The aim of this study is to detect the existence of speculative bubbles in traditional and crypto assets and to examine whether there are differences in bubble dynamics between these assets. In this context, using monthly data from the period 2016–2026, traditional assets such as BIST100, oil, gold, Euro/TL, and Dollar/TL; and cryptocurrency assets such as Bitcoin, XRP, and Ethereum were included in the analysis. In the study, the SADF and GSADF tests were used to identify speculative bubbles. The findings indicate that statistically significant bubble dynamics exist in BIST100, gold, Euro/TL, Dollar/TL, Bitcoin, and Ethereum. For oil, limited and short-term bubble findings were obtained in the SADF test, while a permanent and recurring bubble structure was not detected in the GSADF test. In the case of crypto assets, it is understood that bubbles are more frequent, repetitive, and speculative in nature; particularly, Bitcoin and Ethereum exhibit strong bubble dynamics. In conclusion, the study reveals that the formation of bubbles varies according to the type of asset, with macroeconomic and policy-based structures in traditional assets, liquidity, investor interest, and market expectations-based structures in crypto assets.

Keywords: Speculative bubbles, SADF, GSADF, Traditional Financial Assets, Crypto Assets

67 Asst. Prof. Dr., Sivas Cumhuriyet University.

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INCOME DIVERSIFICATION AND PROFITABILITY IN TURKISH PARTICIPATION BANKING: NEXT-GENERATION PANEL DATA EVIDENCE (2016-2025)

Savaş Mücteba HARPUTLU⁷⁰, Halil İbrahim YAVUZ⁷¹, Turgay YAVUZARSLAN⁷²

Abstract

This study aims to investigate the effects of income diversification strategies on the financial performance (ROA and ROE) of banks by employing next-generation panel data techniques, utilizing quarterly data from five participation banks operating in Türkiye for the period 2016:Q1-2025:Q3. Accounting for cross-sectional dependence (Pesaran CD) and varying levels of stationarity (IPS) in the series, the research confirms the long-run cointegration relationship among the variables via the Kao Test, while short- and long-run dynamics are estimated using a Panel ARDL Error Correction Model (ECM) with cluster-robust standard errors. Potential endogeneity problems are examined through the Dumitrescu-Hurlin Panel Causality Test, which proves the absence of reverse causality running from profitability to diversification. Empirical findings reveal that income diversification exerts a statistically significant and strongly negative impact on the profitability of participation banks. The structural break analysis, divided into sub-periods, reveals that while diversification had no destructive effect on profitability during the period of relative macroeconomic stability between 2016 and 2020, the negative impact of the diversification shock on balance sheets deepened dramatically during the high inflation and crisis period of 2021-2025. The persistence of the decline in profitability even when operating expenses are controlled proves that the deterioration caused by diversification stems not merely from an increase in operational costs, but from a strategic loss of focus resulting from participation banks diverging from their core business lines. This finding firmly supports the literature suggesting that banks should focus on traditional financing activities rather than embarking on new income-generating ventures during periods of high uncertainty.

Keywords: Participation Banking, Income Diversification, Financial Performance, Panel ARDL, Macroeconomic Shocks.

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ON THE STRUCTURAL ESTIMATION OF THE SACRIFICE RATIO FOR TÜRKİYE

Sinan ERDOĞAN⁷³

Abstract

Whether disinflation incurs costs has long been a challenging research topic. One efficient measure of the cost of disinflation is the sacrifice ratio. The primary aim of this paper is to estimate the sacrifice ratio for Türkiye, which experienced the highest inflation rates, from 2003Q2 to 2022Q2, using the Structural Vector Autoregression method. Researchers have obtained estimates of the sacrifice ratio using several models, and the magnitude of the sacrifice ratio varies across models; however, these estimates indicate low sacrifice ratios.

Keywords: Inflation, Disinflation, Sacrifice Ratio, Türkiye, SVAR.

INFLATION AND INCOME INEQUALITY: A REGIONALLEVEL BAYESIAN ANALYSIS

Serdar GÖCEN⁷⁴

Abstract

Although the relationship between inflation and income inequality has been widely examined in both theoretical and empirical research, the direction and magnitude of this relationship remain inconclusive. This underscores the need for studies that employ alternative empirical strategies and diverse datasets. The present study investigates the link between inflation and income inequality across 26 regions in Türkiye using annual data for the period 2014–2021. Estimates obtained from Bayesian multilevel models indicate that the inflation coefficient is effectively zero for both inequality indicators, suggesting no systematic association. Threshold specifications that distinguish between low and highinflation regimes also yield statistically insignificant coefficients, providing no evidence of regimedependent effects. Prior sensitivity analyses confirm that the results are robust to alternative prior distributions, indicating that the findings are driven by the data rather than prior assumptions. Furthermore, randomslope models estimate the regional variance of the inflation effect to be close to zero, implying the absence of meaningful spatial heterogeneity in the inflation–inequality relationship. Taken together, the empirical evidence consistently shows that inflation does not exert a significant or stable influence on regional income inequality over the sample period.

Keywords: Inflation, Income Inequality, Bayesian Modeling

GLOBAL ECONOMIC POLICY UNCERTAINTY AND INFLATION DYNAMICS IN TÜRKİYE: A DOUBLE MACHINE LEARNING AND CAUSAL FOREST APPROACH

Süleyman GÜRBÜZ⁷⁵

Abstract

This study examines the causal effect of the Global Economic Policy Uncertainty Index (GEPUI) on consumer price inflation in Türkiye over the period January 2005 to October 2025, employing monthly data and the Causal Forest Double Machine Learning (CausalForestDML) framework. The interest rate, unemployment rate, and the logarithmic transformation of the exchange rate are incorporated as covariates. The first-stage nuisance models yield high out-of-sample fit, with an R^2 of 0.9980 for the inflation equation and 0.7469 for the GEPUI equation, confirming the adequacy of the methodological framework and the requisite degree of exogeneity in the treatment variable. The estimated Conditional Average Treatment Effects (CATE) reveal that the causal impact of GEPUI on inflation is heterogeneous and time-varying, exhibiting meaningful fluctuations across the sample period. The pronounced widening of confidence bands in the post-2022 period reflects heightened estimation uncertainty attributable to structural macroeconomic transformations in Türkiye. The Average Treatment Effect (ATE) is estimated at 0.0702, suggesting a positive directional influence; however, the 95% confidence interval $[-0.1726; 0.3131]$ encompasses zero, precluding a statistically significant conclusion under the current sample size. SHAP decomposition identifies the importance ordering of covariates as interest rate > unemployment > log exchange rate, indicating that monetary policy conditions constitute the primary channel through which global uncertainty transmits to domestic inflation. These findings underscore the importance of accounting for prevailing financial conditions and real economic circumstances when evaluating the inflationary implications of external uncertainty shocks.

Keywords: Global Economic Policy Uncertainty, Inflation, Unemployment, Machine Learning

75 Asst. Prof. Dr., Yozgat Bozok University.

THE OVERLOOKED ASPECT OF INFLATION: THE RULE OF LAW AND CORRUPTION

Bilge ÇİPE⁷⁶, Sabri Burak ARZOVA⁷⁷

Abstract

The purpose of this study is to investigate the relationship between macroeconomic variables and the rule of law and control of corruption. The relationship between inflation, economic growth, unemployment, foreign direct investment, portfolio investment, the rule of law index and control of corruption was investigated in 15 countries from 54 upper-middle-income countries for which data was available. A Panel VAR model, in which all variables are assumed to be endogenous and parameter estimates are robust, was used to analyse data from 2002 to 2023. The initial results of the study indicate a significant relationship between inflation and other variables among the macroeconomic indicators. Accordingly, it was observed that net inflows of foreign direct investment, economic growth, unemployment, portfolio investments, and the corruption control index increased the inflation rate. It was found that the rule of law and net outflows of foreign investment reduced inflation. Inflation and economic growth were found to interact significantly with other variables, excluding portfolio investments. The inflation rate, rule of law index, and foreign direct investment were found to reduce economic growth, while unemployment and corruption control were found to increase economic growth. When analysed from another perspective, economic growth, unemployment, direct foreign investment (net inflows) and increases in portfolio investments were found to reduce the rule of law index, while direct foreign investment (net outflows) was found to increase the rule of law index. Similarly, the relationship between the control of corruption and other variables was found to be significant. Granger causality test results showed that foreign direct investment (inflow-outflow), portfolio investment, unemployment, the rule of law index, and the control of corruption were the causes of inflation and economic growth. The importance of this research stems from the fact that it is the first study conducted at the upper-middle income country level using these variables. Furthermore, the use of current data in the research has yielded quite striking results. The literature review conducted is considered to be a suitable reference source for future studies in terms of the countries and variables examined.

Keywords: Inflation, Rule of Law, Corruption, Economic Growth, Panel VAR

76 Asst. Prof. Dr.

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THE CAUSAL EFFECT OF ECONOMIC FREEDOM ON INCOME INEQUALITY IN OECD COUNTRIES

Çağın KARUL⁷⁸, Umar MOHAMMED⁷⁹, Erdal BERK⁸⁰

Abstract

This study investigates the causal effect of economic freedom on income inequality in 29 OECD countries for the 2000–2023 period. Four distinct models are constructed using the economic freedom indices from the Fraser Institute (EFW) and the Heritage Foundation (HFEF), along with the market and disposable income inequality GINI coefficients obtained from the Standardized World Income Inequality Database (SWIID). In the analysis, cross-sectional dependence tests and a PANICCA-based panel unit root test are initially applied to determine the maximum order of integration. As the primary analytical method, the panel causality test based on the PANICCA approach developed by Nazlioglu and Karul (2024) is utilized. Panel-based findings indicate a significant causal relationship running from economic freedom to income inequality across all the models considered. However, country-specific results reveal a heterogeneous structure. While the causal effect of the EFW index on disposable income inequality and market income inequality is found to be significant in 8 countries, the effect of the HFEF index on disposable income inequality is detected in 10 countries, and its effect on market income inequality is identified in 9 countries, including Türkiye. These findings demonstrate that although economic freedom is a general determinant of income distribution, policy impacts vary significantly depending on individual country dynamics.

Keywords: Economic Freedom, Income Inequality, Panel Causality, Cross-section Dependency, OECD

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80 Lecturer, Hatay Mustafa Kemal University.

MACROECONOMIC DYNAMICS OF CRIME IN TÜRKİYE: IS THE COST OF INCOME INEQUALITY CRIME

Bayram AYDIN⁸¹

Abstract

This study analyzes macroeconomic and socio-economic determinants of crime levels in Türkiye using annual data from 1991-2020 within an econometric framework. The dependent variable is the number of convicts imprisoned for theft; the independent variables are the misery index, gini index, exchange rate, and urbanization rate. The primary reason for the preference for theft as a crime is its tendency to respond more quickly and directly to changes in economic conditions and income distribution compared to other types of crime, and its relatively high probability of being committed for economic reasons. Accordingly, the main objective of this study is to reveal the long-term relationship between these macroeconomic and socio-economic indicators and the crime of theft, and to comparatively evaluate the impact levels of the variables. The long-term relationship between the variables was tested using the Johansen cointegration method. FMOLS, DOLS, and CCR methods were applied to estimate the cointegration parameters. The results obtained from three different estimation methods were consistent with each other, and the coefficients of all independent variables were found to be statistically significant and positive. The findings show that increases in the misery index, gini index, exchange rate, and urbanization rate increase the number of convicts entering correctional institutions for theft. The highest coefficient among the variables belonged to the gini index, indicating that the effect of income inequality on theft crimes is stronger compared to other variables. This result reveals that economic inequality plays a decisive role in criminal behavior. In this context, implementing only security-focused policies in the fight against crime is not sufficient; it is also of great importance to implement policies aimed at improving income distribution and strengthening economic stability.

Keywords: Crime, Income Inequality, Misery Index, Exchange Rate, Urbanization

81 Asst. Prof. Dr., Yozgat Bozok University.

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U.S. PRESIDENT TRUMP'S TARIFF ANNOUNCEMENTS AND DOLLAR INDEX REACTIONS: AN EVENT STUDY APPROACH

Tuğberk ÇİTİLCİ⁸²

Abstract

The event study method, founded by Dolley in 1933, is effectively used to analyze the price impacts of expected and unexpected events in financial markets. An event study examines whether a significant event, designated as the event date, affects the price of the underlying asset, using specific time periods as a reference. The estimation window, which encompasses the pre- and post-event periods and the event window, with short- and long-term window assumptions, is a fundamental cornerstone of the method. It examines whether the event, related to abnormal return and cumulative abnormal return calculations and the hypotheses generated, has an impact on the asset price. In this context, the event study method was used to examine whether the global tariffs announced by US President Donald Trump on April 2, 2025, would impact the dollar index, which consists of six currencies. The event window was selected as 20 days and with different periods, while the forecast window was defined as 100 days. Based on the findings, it was concluded that the announced tariffs had an impact on the dollar index and were effective in the 1 and 10 day event window periods for cumulative abnormal returns. Even though negative cumulative abnormal returns were achieved in the 3, 5, 7, 15 and 20 day event window periods, the Ho hypothesis (The event has no abnormal effect on the financial asset) was accepted because the p values were greater than the 5% significance level.

Keywords: Event Study, Abnormal Return, Cumulative Abnormal Return, Dollar Index, Tariffs

DETERMINANTS OF INCOME INEQUALITY IN TÜRKİYE: AN ANALYSIS OF MARKET AND REDISTRIBUTION DYNAMICS

Nermin AKARÇAY⁸³

Abstract

This study aims to analyze the relationship between income inequality and macroeconomic dynamics in Türkiye within a comprehensive framework, based on the premise that inequality plays a decisive role in shaping economic and social structures. In this context, annual data for the period 1991–2024 are employed, and income inequality is examined across three distinct dimensions: market income inequality, disposable income inequality, and the redistribution effect. This multidimensional approach seeks to reveal not only the final outcomes of inequality but also the interaction between market processes and public interventions. Within the scope of the analysis, the ARDL bounds testing approach is utilized to investigate long-run relationships among the variables. According to the estimated long-run coefficients, trade openness increases market-based income inequality. In the model of disposable income inequality, both inflation and trade are found to exacerbate inequality, whereas public expenditures have a statistically significant reducing effect. In the redistribution model, the positive effect of unemployment indicates that rising unemployment increases the need for redistribution. Overall, the findings suggest that income inequality in Türkiye has recently been predominantly shaped by market dynamics, while public policies play a mitigating but not fully offsetting role. In this respect, the results indicate that focusing solely on redistribution policies is insufficient to combat inequality; deeper structural factors such as labor market conditions and inflation dynamics must also be taken into account.

Keywords: Income Distribution, Gini Coefficient, Redistribution

THE INVISIBLE VALUE OF THE CARE ECONOMY: GDP SCENARIO ANALYSIS FOR TÜRKİYE BASED ON THE PIGOU PARADOX

Ebru Z. BOYACIOĞLU⁸⁴, Remle BATTAL⁸⁵

Abstract

National Income Accounts restrict economic value to goods and services with market prices, thereby excluding care work and household activities—essential components of social welfare—from the production boundary. Drawing upon the “Pigou Paradox,” which highlights deficiencies in measuring non-market activities within welfare economics, this study aims to establish the macroeconomic visibility of unpaid care work in Türkiye and analyze its potential impact on national income through scenario-based projection analysis. The research adopts a mixed-methods approach that integrates qualitative conceptual evaluation with secondary data-based quantitative analysis. The empirical foundation of the analysis consists of TurkStat Time Use Survey microdata, labor force statistics, and demographic projections. In the initial stage, time allocated to care activities was descriptively analyzed, followed by the estimation of its monetary value using the replacement cost approach. In the third stage, representing the study’s original methodological contribution, a dynamic simulation model was developed based on three distinct wage assumptions: conservative, moderate, and advanced. This model provides a long-term macroeconomic projection of the care economy by integrating the restrictive impact of 0–3 age childcare on female labor supply and the increasing demand driven by an ageing population through demographic adjustment coefficients. Findings demonstrate that incorporating unpaid care work into national accounts could increase Türkiye’s GDP by approximately 15% to 35%. Scenario projections confirm that the magnitude of the care economy will expand over time due to demographic shifts and that the presence of young children structurally constrains female employment. Consequently, the study concludes that measuring care work is not merely a statistical refinement but a structural necessity that directly shapes economic growth and development strategies.

Keywords: Invisible labor, care economy, Pigou Paradox, scenario analysis, Türkiye

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RETHINKING POLYCRISIS THROUGH İDRIS KÜÇÜKÖMER: CAPITALIST TRANSITION, DEPENDENCY, AND PERIPHERAL FRAGILITY

Nuri Fudayl KICIROĞLU⁸⁶

Abstract

Contemporary discussions of the global economy are increasingly organized around the language of polycrisis: financial instability, governance failure, geopolitical dependency, and institutional vulnerability. Yet such phenomena should not be understood merely as conjunctural disruptions. This paper argues that they are better grasped as historical problematics internal to capitalist development itself. To make this case, it revisits İdris Küçükömer's analyses of capitalist development, Ottoman-Turkish social structure, and class relations, and places them in dialogue with current debates on polycrisis. In doing so, the paper seeks to establish a critical bridge between contemporary global political economy and the history of political and economic thought. The paper proceeds by situating Küçükömer within broader debates on the transition to capitalism, especially the classical Dobb–Sweezy controversy. It argues that Küçükömer's account is closer to Sweezy's emphasis on trade expansion, market-oriented production, and external integration than to Dobb's focus on the internal transformation of production relations and class struggle. In Küçükömer's framework, capitalist development emerges less from endogenous social transformation than from specific forms of articulation with the world economy. This orientation is significant for contemporary polycrisis debates because it allows crises to be read not as episodic shocks or temporary deviations, but as the historically sedimented outcomes of dependency in peripheral capitalism.

At the same time, the paper argues that Küçükömer's conception of development is marked by a teleological view of history. Development appears as the overcoming of the structural conditions of underdevelopment, a formulation that risks subordinating political conflict and historical contingency to an economistic logic of stages. Even so, this framework remains analytically productive. It illuminates how capitalist transformation generates not only growth, but also unequal integration, institutional dependency, and enduring political and environmental fragility. This logic becomes especially visible in Küçükömer's reading of the Ottoman-Turkish trajectory. The Ottoman Empire's failure to generate a mercantilist takeoff, its inability to produce the class dynamics associated with endogenous capitalist transformation, and its subsequent incorporation into the world economy as an open market yielded dependency rather than development. Reconsidering Küçükömer from the vantage point of polycrisis, the paper argues for historicizing resilience, fragility, and development as categories internal to the uneven and dependency-producing formation of global capitalism.

Keywords: İdris Küçükömer, polycrisis, transition to capitalism, peripheral capitalism, dependency, uneven development.

FINANCIAL BUBBLES IN AI INVESTMENT FIRMS: EVIDENCE FROM THE GSADF TEST

Mehmet Onur USTAOĞLU⁸⁷, Ali ERDOĞAN⁸⁸, Erdem ÖNCÜ⁸⁹

Abstract

Artificial intelligence (AI) is at the heart of scientific and technological advancement today and has the potential to transform many sectors. Investments in AI will accelerate the development of AI technologies, increasing companies' efficiency and competitiveness. Investments in the sector will reduce costs through automation, leading to the emergence of new business models. Investments in AI will also contribute to economic growth by creating innovative solutions in critical sectors such as healthcare, education, and transportation. This study aims to examine the presence of price bubbles in companies investing in AI. The research analyzes the stock prices of Alphabet, Microsoft, NVIDIA, and Palantir between January 1, 2023, and January 1, 2024. The GSADF method was used to evaluate whether stock prices exhibited speculative behavior. According to the findings, long-term and strong bubble formations were observed in Palantir shares. In NVIDIA, bubble signals were detected during certain periods, particularly around the fifth month. In contrast, no significant evidence of bubble formation was found in Microsoft and Alphabet shares. The price movements in Microsoft and Alphabet shares were observed to be more stable. The results of this study show that not every company experiences a positive price bubble, despite the fact that investments in artificial intelligence are recognized as significant and have the potential to generate value.

Keywords: Artificial Intelligence, Price Bubbles, GSADE.

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88 Prof. Dr., Trakya University.

89 Assoc. Prof. Dr., Trakya University.

CAN ARTIFICIAL INTELLIGENCE MODELS PREDICT FINANCIAL MARKET DYNAMICS? A THEIL INDEX ANALYSIS ON GOLD, SILVER, AND COPPER

D. Göktuğ GÜÇYENER⁹⁰, Ebru Z. BOYACIOĞLU⁹¹

Abstract

The increasing reliance on AI-based decision support systems in financial markets necessitates a scientific evaluation of their predictive reliability. This study conducts a comparative analysis of AI models' competence in forecasting financial dynamics, focusing on gold, silver, and copper. These assets represent diverse market behaviors, acting as both safe havens and industrial metals. The research utilizes price forecasts for the 2016–2026 period obtained from Gemini, ChatGPT, and Claude. Performance is measured using the Theil Index, which evaluates deviations between predicted and actual values independently of scale. This methodology allows for a robust assessment by comparing model performance against the random walk hypothesis. Findings indicate that AI forecasting performance varies significantly based on asset type and market volatility. Accuracy is higher for gold due to its safe-haven status, whereas copper exhibits increased deviations caused by global supply-demand shocks. Furthermore, AI performance in silver prices declines markedly during periods of high speculation. The study concludes that AI-supported forecasts perform better during market stability but remain limited under high-volatility conditions. These results provide an empirical contribution to the literature on AI-based investment analysis, emphasizing that AI tools should be utilized with caution in financial decision-making.

Keywords: Theil Index, Artificial Intelligence, Forecasting, Financial Markets, Volatility

90 Researcher.

91 Assoc. Prof. Dr., Trakya University.

INTERCULTURAL COMMUNICATION: A STUDY ON MEDICAL HEALTH TOURISM

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Abstract

Within the scope of health tourism, people from different national cultures come together as healthcare providers and recipients, participating in a process of intercultural communication. Medical health tourism, which combines two important areas like health and tourism, is recognized for its positive contributions to the economy and development of the country receiving the service, as well as its international publicity. Therefore, the importance given to this field is reflected in our country's Development Plans and the Ministry of Health's Strategic Plans. In particular, the Eleventh and Twelfth Development Plans of the Republic of Türkiye, and the Ministry of Health's 2025 Activity Report and 2024-2028 Strategic Plan, consider the qualitative and quantitative improvement of health tourism service capacity as a factor that will increase Türkiye's international attractiveness. This study also examines the intercultural communication competence of healthcare professionals serving international patients as a crucial quality. The main objective of this research article, which employs a mixed-methods research approach, is to measure the level of intercultural awareness and intercultural communication competence of healthcare professionals working in the field of medical health tourism, to learn the opinions and thoughts of international patients who have come to our country for treatment regarding the healthcare services provided, and to explore their experiences related to cultural differences when receiving healthcare services in a different culture.. The research was conducted at BHT Clinic TEMA Hospital. The quantitative part of the study measured the intercultural awareness and communication skills of healthcare professionals, and the average level was found to be "high." The qualitative findings revealed that international patients were satisfied with the services they received during their treatment, did not experience any problems related to cultural differences, and did not experience any problems with the healthcare professionals who served them due to cultural differences.

Keywords: Medical Health Tourism, Intercultural Communication, Intercultural awareness Competence, International Patients, Healthcare Professionals.

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THE DIGITAL TRANSFORMATION CHALLENGE OF TRADITIONAL SECTORS: A PANEL DATA ANALYSIS ON THE DYNAMICS OF SHOE EXPORTS

M. Kemal ÜNSAÇAR⁹⁴, Mehmet KAPLAN⁹⁵

Abstract

This study analyzes the determinants of Türkiye's footwear export performance for the post Covid-19 epidemic period of 2021–2024. A balanced panel dataset was constructed to examine how the Digitalization Index, Trade Openness, and Unemployment Rate affect sectoral export volumes across different geographical regions. In this context, R software and its related packages were used for data analysis and visualization. The data were gathered from the World Bank and TÜİK database. The data set were organized and categorized by country, continent, and year in order to analyzed regional heterogeneity and temporal dynamics. Empirical results shows that Trade Openness is the most influential determinant of export growth, underscoring the sector's sensitivity to the global integration levels of partner economies. The positive and statistically significant coefficient of the Digitalization Index indicates that technologically mature markets tend to generate higher export volumes, likely due to more efficient distribution channels, stronger e-commerce ecosystems, and improved market access. Conversely, the negative relationship between Unemployment Rate and export performance suggests that labor market stability in destination countries is essential for sustaining consumer demand in the footwear sector. The findings imply that Turkish exporters should pursue a longevity strategic approach: strengthening digital alignment in advanced markets while closely monitoring macroeconomic and labor market conditions in emerging economies. Furthermore, it is recommended that e-export-based strategies critically important to be developed for markets in the Americas and Oceania, which are geographically distant but have high Digitalization Index. By systematically modeling the interaction between technological development and macroeconomic stability, this study offers a replicable and scalable empirical foundation for future sector-specific export analyses.

Keywords: Footwear Exports, Digital Transformation, Panel Data Analysis, Trade Openness, Regional Competitiveness.

94 Dr., Independent Researcher.

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**PURSUING A DOCTORATE IN MANAGEMENT AND
ORGANIZATION IN TÜRKİYE:
SITUATIONAL AND NICHE INDICATORS**

Berna Turak KAPLAN⁹⁶

Abstract

Management and Organization, which stands both at the very center and at the peak of business activities, is a scientific discipline that has been included in university curricula at the associate, undergraduate, graduate, and doctoral levels for many years. In order for this discipline to expand its subfields—that is, to take a form aligned with the era it exists in—contributions are required. These contributions are revealed through academic studies; research is conducted on them, and their validity and reliability are sought to be ensured. One of these academic studies is doctoral dissertations. In this study, doctoral dissertations written within the scope of the Management and Organization discipline at Turkish universities were examined. The aim of the research is to enable both future doctoral students and academics to access previously studied as well as more niche concepts within a broad framework.

Keywords: Management, Organization, Thesis, Doctorate.

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REEVALUATION OF THE HIERARCHY OF NEEDS

Berna Turak KAPLAN⁹⁷

Abstract

In academia, the concept of “need” reminds the vast majority of Maslow’s Hierarchy of Needs. The theory is based on the idea that the hierarchy consists of five basic levels and that individuals can be motivated toward a higher-level need once they have partially satisfied the need at the lowest level. In this study, a theoretical contribution is made by arguing that, prior to the needs described in the theory, individuals must first be born fully developed and healthy, and subsequently grow in a healthy manner, for these needs to emerge. Accordingly, it is proposed that the hierarchy should consist of seven levels: the need to be born fully developed and healthy, the need for healthy growth, the need for safety, the need for belongingness and love, the need for esteem, and the need for self-actualization.

Keywords: Maslow, Need, Infant, Fetus.

THE EFFECT OF GREENWASHING PERCEPTION ON PURCHASE INTENTION: THE SERIAL MEDIATING ROLE OF CONSUMER SKEPTICISM AND GREEN TRUST

Merve MERT⁹⁸

Abstract

This study examines the effect of greenwashing perception on purchase intention within the framework of a serial mediation model including consumer skepticism and green trust. Although prior research has demonstrated the negative effects of greenwashing on consumer behavior, the underlying psychological mechanisms of this relationship have not been sufficiently clarified. Accordingly, this study aims to analyze how greenwashing perception increases consumer skepticism, weakens green trust, and ultimately influences purchase intention. Data were collected through a survey, and the sample consists of 503 individuals living in Istanbul. The proposed model was tested using the PROCESS macro (Model 6). The findings indicate that greenwashing perception has a significant and negative effect on purchase intention. In addition, consumer skepticism and green trust were found to play a serial mediating role in this relationship. Specifically, greenwashing perception first increases consumers' skepticism toward environmental claims, and this heightened skepticism leads to a decrease in green trust. The decline in trust, in turn, directly reduces purchase intention. This study contributes to the greenwashing literature by jointly examining consumer skepticism and green trust. The findings emphasize the importance of transparency and consistency in firms' environmental claims, suggesting that increased skepticism and diminished trust can weaken the effectiveness of green marketing efforts.

Keywords: Greenwashing, consumer skepticism, green trust, purchase intention

THE RELATIONSHIP BETWEEN GOOGLE TRENDS AND STOCK MARKETS

Alperen Talat ÖZAVAR⁹⁹, Zekai ŞENOL¹⁰⁰

Abstract

In today's living conditions, everything that people are curious about or need, from life in general to business, sports to politics, education to economics, cars to space, can be researched through search engines. In this regard, search engines and the trends they reveal can provide important insights into people, health, education, and markets. This study investigates the relationship between Google Trends and the Istanbul Stock Market. Fourier ARDL boundary tests and Fourier Toda–Yamamoto causality tests were applied using monthly data for the period from December 2019 to December 2025. The results of the study are as follows: There is a long-term relationship between Google Trends and the BIST100 index. Long-term coefficients are positive. Accordingly, the increase in Google Trends searches has a positive effect on the BIST 100 index. Similarly, short-term coefficients are also positive. The Fourier Toda-Yamamoto causality test revealed a unidirectional relationship from Google Trends to the BIST100 index. The results indicate that Google Trends can be used to predict the BIST100 index. These findings are significant for investors, portfolio managers, and financial analysts.

Keywords: Stock Markets, Borsa Istanbul, Google Trends, Fourier ARDL Boundary Test

99 Researcher.

100 Assoc. Prof. Dr., Sivas Cumhuriyet University.

THE IMPACT OF ESG UNCERTAINTY ON G7 STOCK MARKET RETURNS: A PANEL DATA ANALYSIS UNDER CROSS-SECTIONAL DEPENDENCE (2003–2025)

Çağdaş GÜNDÜZ¹⁰¹

Abstract

This study examines the impact of ESG (Environmental, Social, and Governance) uncertainty on G7 stock market index returns using monthly panel data over the period 2003:01–2025:12. The ESG Uncertainty Index (ESGUI) is employed as the primary explanatory variable, while interest rates, crude oil prices, and exchange rates are incorporated as control variables. The Pesaran (2007) CIPS test reveals a mixed integration order (interest rate I(1), remaining variables I(0)), and accordingly, the interest rate is entered in first-difference form. Diagnostic tests confirm the presence of heteroskedasticity (Modified Wald, $\chi^2=102.20$, $p<0.01$) and cross-sectional dependence (Pesaran CD, $p<0.01$), whereas the Baltagi-Wu LBI (2.11) and Durbin-Watson (2.10) statistics indicate no substantial autocorrelation. In light of these findings, a fixed effects estimator with Driscoll-Kraay robust standard errors, which is consistent in the presence of both heteroskedasticity and cross-sectional dependence, is adopted. The empirical results indicate that ESG uncertainty exerts a positive and statistically significant effect on G7 stock market returns. Panel causality analysis further reveals no Granger causality between ESGUI and stock returns, suggesting that ESG uncertainty operates not as a market-leading signal but as a risk factor priced contemporaneously with market movements. Sub-period analyses demonstrate that this effect turns negative during the 2010–2015 Paris Agreement period, implying that the influence of ESG uncertainty on stock markets is time-varying and contingent on the prevailing policy environment.

Keywords: ESG Uncertainty, Stock Market Returns, G7, Driscoll-Kraay, Panel Causality

DIVERSIFICATION POTENTIAL IN CRYPTOCURRENCY MARKETS: EVIDENCE FROM THE WAVELET QUANTILE CORRELATION APPROACH

Meltem KILIÇ¹⁰²

Abstract

Traditionally regarded as a single asset class, the cryptocurrency market has evolved in recent years into a more complex and multi-layered structure through subsegments with distinct economic functions such as Decentralized Finance (DeFi), Non-Fungible Tokens (NFTs), Metaverse, Memecoins, Web3, Gaming, Stablecoins, and Privacy coins. This transformation raises the question of whether the price dynamics of these segments diverge from one another and whether they offer meaningful diversification opportunities for investors. In this study, the dependency structure between Bitcoin and Ethereum, which represent the foundation of the cryptocurrency market, and crypto assets representing different market segments is analyzed. Within the analytical framework, the Wavelet Quantile Correlation (WQC) method is employed to reveal how dependency relationships vary across different quantiles of the distribution and across different time scales. The empirical findings indicate that a generally positive co-movement prevails among the examined assets and that this relationship persists in both short-term and long-term dynamics. However, the level of dependency differs across quantiles and weakens particularly in the tail regions of the distribution. This finding suggests that, rather than full integration, there exists a partial divergence among cryptocurrency segments, allowing for a certain degree of diversification opportunities under specific market conditions. Furthermore, the results reveal that the stablecoin market exhibits a lower dependency structure compared to other crypto assets, thereby providing the highest diversification potential.

Keywords: Crypto Assets, Portfolio Diversification, Dependency, Wavelet Quantile Correlation

TESTING MARKET EFFICIENCY IN BORSA ISTANBUL THROUGH COVARIATE UNIT ROOT TESTS

Onur OĞUZ¹⁰³

Abstract

Covariate tests for unit roots have been rarely studied on stock market data, and their potential in markets with high volatility remains largely untested. The main objective of this study is to test the efficient market hypothesis using a covariate test in Borsa İstanbul, which is open to external shocks and has high volatility. In the post-2020 period, Borsa İstanbul has been affected by many internal and external shocks, such as the currency crisis, changes in monetary policy, the pandemic, and subsequently global liquidity expansion, as well as commodity price shocks caused by wars. In this context, global risk (VIX), country risk premium (CDS), oil, and foreign exchange returns have been considered variables of the macroeconomic factors that could influence Borsa İstanbul. Thus, this study addresses the question of which channels different economic variables influence the price dynamics of the benchmark index, the BIST-100, on Borsa İstanbul by examining economically significant subperiods. Shocks originating from local or global sources during the analysis period may necessitate the modeling of multiple structural breaks within the series. However, the main purpose of this study is not the modeling of breaks but the evaluation of the usefulness of covariate unit root tests in such turbulent environments. The covariate test results developed by Jansson (2004) were compared with tests that consider traditional and structural breaks, discussing which deterministic components Borsa İstanbul's market efficiency is more sensitive to.

THREE DECADES OF THE TRADE–ENVIRONMENT NEXUS: A BIBLIOMETRIC MAPPING OF TRADE LIBERALIZATION, ENVIRONMENTAL SUSTAINABILITY, AND CLIMATE POLICY (1995–2025)

Kübra Topçuoğlu ONAT¹⁰⁴, Emre Kadir ÖZEKENCİ¹⁰⁵

Abstract

The relationship between trade and the environment has become increasingly significant as economies seek to grow through trade liberalization while addressing environmental and climate challenges. This study employs a visual mapping approach to analyze publications on the Trade–Environment Nexus from 1995 to 2025. The research utilizes the search term “Trade Liberalization, Environmental Sustainability, and Climate Policy” within the Scopus database. This inquiry resulted in 1,300 publications containing the specified phrase across various disciplines. These publications were then visualized and analyzed using VOSviewer. The findings revealed that the peak annual publication count occurred in 2025, with 234 documents published. In terms of subject area distribution, Environmental Science accounted for the largest share, comprising 29% (761 publications). Country-specific analysis indicated that China exhibited the highest productivity, with 384 publications. Among the keywords analyzed, industry 5.0 was identified as the most frequently cited concept, appearing 1,208 times. In the citation density analysis, Demir’s (2019) study had the highest citation count, totaling 534. Additionally, in the co-authorship network, Wang Fei-Yue emerged as the most influential author, having authored 8 documents and forming 59 connections. The journal analysis highlighted that Environmental Science and Pollution Research was the leading publication in this field, featuring 165 publications. The results of this study can be visually represented to emphasize key insights that will be valuable for policymakers, scholars, and businesses engaged in related areas.

Keywords: Trade liberalization, Sustainability, Scopus, Bibliometrics

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105 Asst. Prof. Dr., Çağ University.

GREENER HORIZONS: HARNESSING FOREIGN DIRECT INVESTMENT, ECONOMIC GROWTH AND RENEWABLE ENERGY TO MITIGATE CARBON EMISSIONS

Sabri KURTOĞLU¹⁰⁶, Mehmet Hanifi ATEŞ¹⁰⁷, Canan DAĞIDIR¹⁰⁸

Abstract

This study aims to examine the effects of renewable energy consumption (REC), foreign direct investment (FDI), and economic growth (GDP) on CO₂ emissions in the context of the 20 countries with the highest carbon emissions over the period 2000–2024. In the analysis, the Panel ARDL–PMG estimator, and the Dumitrescu–Hurlin panel causality test is applied. In the long run, renewable energy consumption reduces CO₂ emissions, whereas economic growth and foreign direct investment increase emissions. In the short run, economic growth also increases environmental pressure, while renewable energy shows a mitigating effect.

Keywords: Carbon Emissions, Renewable Energy, Foreign Direct Investment, Panel Data Analysis.

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107 Specialist, CBRT

108 Assoc. Prof. Dr., Marmara University

THE CARBON DILEMMA OF GLOBAL TRADE: AN ECONOMIC PERSPECTIVE ON DECARBONISING MARITIME TRANSPORT

Orkun AKTAÇ¹⁰⁹, Ahmet ATAKIŞI¹¹⁰, D. Göktuğ GÜÇYENER¹¹¹

Abstract

Maritime transport constitutes the backbone of global trade, accounting for more than 80% of international merchandise flows. At the same time, the sector represents a growing source of greenhouse gas emissions, responsible for approximately 3% of global carbon dioxide output. From an economic perspective, this situation reflects a classic case of negative externalities on a global scale, where the environmental costs of shipping activities are not fully internalised by market actors. This study examines the decarbonisation of maritime transport through an economic and institutional lens, focusing on the regulatory approaches adopted by the International Maritime Organization (IMO) and the European Union. Rather than providing a purely technical assessment, the paper discusses how different policy instruments shape incentives, costs, and strategic behaviour within the shipping industry. The analysis highlights the trade-offs between efficiency, competitiveness, and environmental effectiveness, and argues that successful decarbonisation ultimately depends on coherent policy design and international coordination. The paper contributes to the literature by framing maritime decarbonisation as an economic coordination problem and by systematically comparing global and regional regulatory instruments from an incentive-based perspective.

Keywords: Maritime Transport, Carbon Emissions, Environmental Economics, Regulation, Global Trade

109 Res. Asst. Dr., Trakya University.

110 Prof. Dr., Trakya University.

111 Researcher.

CARBON EMISSIONS AND BANK PERFORMANCE: A PANEL DATA ANALYSIS ON TÜRKİYE

Esen CİMİLLİ¹¹²

Abstract

It is increasingly recognized in the literature that carbon emissions, one of the main drivers of climate change, may have significant effects not only on the real sector but also on the functioning, risk structure, and performance of the financial system. In this context, it can be stated that climate and environmental issues have become an integral part of today's economy and finance. In particular, the physical and transition risks arising from the climate crisis are opening up a new area of research regarding bank balance sheets, credit quality, and profitability indicators. This study examines, using panel data analysis, whether the impact of carbon emission-related environmental pressure on financial performance varies depending on bank size among banks operating in Türkiye. The analysis utilizes a balanced panel data set containing balance sheet information for 16 banks operating between 2004 and 2024. The dependent variables in the models are return on assets (ROA) and the non-performing loan (NPL) ratio. Additionally, the liquidity ratio, capital adequacy ratio, equity-to-assets ratio, loan-to-deposit ratio, growth, inflation change, and exchange rate depreciation were included in the models as control variables. The core explanatory structure consists of changes in carbon emissions, lagged bank size, and the interaction term between these two variables. The findings reveal that the impact of annual changes in carbon emissions on banking indicators is not homogeneous across both models, and that carbon pressure negatively affects profitability and the non-performing loan ratio more strongly in large banks.

Keywords: Carbon Emissions, Bank Performance, Panel Data Analysis, Türkiye

THE IMPACT OF BOARD CHARACTERISTICS ON ENVIRONMENTAL PERFORMANCE AND CARBON DISCLOSURE: EVIDENCE FROM BORSA ISTANBUL FIRMS

İdil Özlem KOÇ¹¹³, Mehmet Hanifi ATEŞ¹¹⁴

Abstract

Rising regulatory pressures and increasing stakeholder expectations driven by climate change have broadened the evaluation of firms beyond financial performance to include environmental sustainability practices and carbon-related disclosures. Within this evolving framework, corporate governance structures have emerged as a key determinant of firms' environmental performance and the transparency of climate-related reporting. This study empirically investigates the impact of board characteristics on environmental performance and carbon disclosure using a panel dataset of firms listed on Borsa Istanbul over the period 2018–2024. The sample consists of companies with available Refinitiv/Eikon environmental scores and CDP Climate Change disclosures. The analysis incorporates key governance variables, including board size, independence, gender diversity, and meeting frequency, and evaluates their effects within a panel data econometric framework. The empirical findings indicate that board gender diversity has a positive and statistically significant effect on environmental performance, whereas board independence is negatively associated with environmental outcomes. In contrast, board size and meeting frequency do not exhibit statistically significant effects. While broader governance quality appears to support environmental performance, the evidence regarding carbon disclosure remains relatively limited. These results suggest that diversity within the board plays a critical role in enhancing environmental sustainability outcomes, whereas independence alone may not be sufficient to drive similar improvements.

Keywords: Corporate Governance, Board Independence, Board Diversity, Carbon Disclosure Project, Carbon Emission Disclosures.

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114 Specialist, CBRT.

IS CROWDFUNDING A SOLUTION TO MAKE IT EASIER FOR FEMALE ENTREPRENEURS TO ACCESS FUNDING?

Çiydem ÇATAK¹¹⁵, Tunahan YURDUSEV¹¹⁶

Abstract

Although entrepreneurship in Türkiye has undergone significant development in recent years, the difficulties female entrepreneurs face in accessing financing have not yet been fully resolved. According to Turkish Statistical Institute, the share of female entrepreneurs among companies established in January 2026 increased, reaching 19.9% for joint-stock companies and 20.7% for limited liability companies. Another statistic from the Turkish Banking Association shows that between October and December 2025, loans totaling approximately 112 billion TL were granted to 75,510 female entrepreneurs. 61% of the loans granted were medium- and long-term, while 39% were short-term. These results indicate that women's access to financing in Türkiye is gradually improving, though significant gender-based inequalities remain. For female entrepreneurs who have difficulty obtaining financing through traditional channels, new sources of funding can be a valuable resource. In this case, crowdfunding—which is establishing itself as an alternative financing method—could be particularly beneficial. Crowdfunding platforms could reduce women's dependence on traditional financial institutions by enabling them to present their ideas directly to the public. One of the key advantages of crowdfunding is its accessibility, which allows female entrepreneurs to reach a wide public online, present their projects, and receive performance-based support, as crowdfunding platforms also place a greater emphasis on ideas and stories. Another advantage of crowdfunding is that it provides market validation for creative ideas. If people are willing to fund the ideas of project initiators, this is a sign that there is real demand for the product or service they are developing or offering. This feedback could help female entrepreneurs refine their ideas before fully bringing them to market. Furthermore, some crowdfunding models allow women to keep full ownership of their businesses and make their own decisions. In short, crowdfunding helps women by providing them with easier access to capital, reducing financing barriers, and increasing the visibility of their ideas and businesses. However, crowdfunding is not without its challenges. The biggest drawback is the intense competition. Another drawback of crowdfunding is that running successful campaigns requires a lot of time and hard work, which places an additional burden on women who already have many daily responsibilities to manage. To succeed on a crowdfunding platform, a solid understanding of finance and accounting, digital marketing, and effective communication is essential. In addition, it is necessary to build a well-established online network, which requires considerable effort. However, there are also drawbacks, such as platform fees and the potential risk that publicly available project ideas might be stolen. To put it simply, while crowdfunding does give women better access to funding, challenges such as competition, the time required, fees, and public pressure can make it difficult to carry out a project. The aim of this study is to answer the following questions: “Does crowdfunding make it easier for female entrepreneurs in Türkiye to access financing?” and “Is crowdfunding truly an alternative for female entrepreneurs?” This study aims to contribute to the academic literature by examining whether investmentbased crowdfunding—such as equity, real estate, and revenue-sharing crowd-

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116 Researcher.

funding—as well as noninvestment-based crowdfunding—such as donation-based and reward-based crowdfunding—can serve as a potential resource for addressing gender-based financial inequalities. It explores the potential of crowdfunding as a funding source for female entrepreneurs in Türkiye, taking into account the need to strengthen women’s financial literacy for this mechanism to function effectively. This study provides an overview of the existing literature on crowdfunding and gender issues on the base of information asymmetry and glass ceiling effect. In addition, the study examines the leading crowdfunding platforms in Türkiye, identifies gender-specific differences and challenges related to these platforms, and develops a roadmap for women’s participation in crowdfunding platforms in Türkiye. Crowdfunding is also compared to bank loans, angel investments, and venture capital in terms of accessibility, ease of application, collateral requirements, speed, costs, and gender-specific differences.

Keywords: Crowdfunding, female entrepreneurship, access to finance.

NORMS OR CONDITIONS? SOCIOECONOMIC AND SPATIAL DETERMINANTS OF DESIRED CHILD NUMBER IN TÜRKİYE

Zafer BEYİZ¹¹⁷

Abstract

This study investigates factors that influence the ideal number of children that individuals aged 18–49 in Türkiye consider appropriate for a family, focusing on future-oriented preferences rather than actual fertility decisions, and examines these through socioeconomic, demographic, and normative-cultural factors while accounting for spatial dependence. The study distinguishes itself from the extant literature by representing the nation as a whole, utilising the Türkiye General Social Survey (TGSS) sample, comprising 2,615 individuals at the NUTS-2 level. Two models were estimated. In the first (N=1,632), the ideal number of children was analysed using a multilevel ordinal model at the NUTS-2 level, incorporating random intercepts and socioeconomic and demographic determinants, and logistic regression. In the second model (N=1,591), the level of religiosity expressed by individuals was treated as a normative variable to estimate its additional explanatory contribution to the ideal number of children. The initial model's estimates indicate that age, gender, marital status, education, and income structure influence the ideal number of children, and that attitudes aligned with traditional family and gender roles are associated with a higher number of children. The second model's findings indicate the persistence of this pattern, and it was determined that an individual's subjective level of religiosity is associated with a heightened intention to procreate. Moreover, even when individual characteristics are held constant, regional effects at the NUTS-2 level exhibit spatial dependence and clustering patterns. Consequently, the findings suggest that fertility intentions may not be adequately explained by individual preferences alone and should also be assessed in light of local normative and cultural factors.

Keywords: Desired number of children, Türkiye, multilevel analysis, spatial dependence, fertility economics

THE LIPSTICK EFFECT IN A POLYCRISIS ERA: FROM PHYSICAL TO DIGITAL MICRO-PLEASURE CONSUMPTION

Ebru Z. BOYACIOĞLU¹¹⁸, İrem SERTKAYA¹¹⁹

Abstract

The polycrisis environment characterized by rising uncertainty, geopolitical tensions, inflationary pressures, and financial tightening has led to significant transformations in consumer behavior. Within this context, the “Lipstick Effect” refers to consumers’ tendency to postpone high-cost expenditures during economic downturns and instead shift toward low-cost, psychologically rewarding “accessible luxuries.” While the traditional literature has largely examined this phenomenon through tangible goods such as cosmetics and small accessories, recent technological developments suggest that micro-pleasure consumption is increasingly shifting toward digital services. This study aims to examine whether consumer behavior under polycrisis conditions has evolved from physical micro-luxury consumption toward digital micro-pleasures in the case of Türkiye. The research adopts a qualitative approach based on descriptive analysis and secondary data evaluation. Card payment statistics, sectoral expenditure shares, and transaction volumes for the 2022–2026 period were comparatively analyzed using data obtained from the Interbank Card Center (BKM) and the Central Bank of the Republic of Türkiye (CBRT). The findings indicate a decline in the share of high-cost expenditures such as durable goods and electronics, while low-cost micro-pleasure categories, including health/beauty and dining out, show notable increases. However, transaction growth in traditional physical micro-luxuries remains limited, whereas digital subscriptions and online micro-transactions exhibit a substantial rise. Additionally, the decrease in installment payment rates suggests that consumers avoid long-term borrowing and increasingly prefer low-cost digital consumption paid in cash. Overall, the study demonstrates that the Lipstick Effect has undergone a structural transformation toward digital micro-pleasure consumption under polycrisis conditions, contributing to the behavioral economics literature by linking psychological adaptation mechanisms with the digitalization of consumption.

Keywords: Lipstick Effect, Micro Pleasures, Digital Consumption, Behavioral Economics, Polycrisis

118 Assoc. Prof. Dr., Trakya University.

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THE IMPACT OF OCCUPATIONAL HEALTH AND SAFETY ON ECONOMIC PERFORMANCE: A COST-BENEFIT ANALYSIS OF PREVENTIVE APPROACHES

Umut ELBİR¹²⁰, Nihan ELBİR¹²¹

Abstract

Occupational Health and Safety (OHS) is not only a discipline aimed at protecting employees but also a critical management tool for ensuring the economic sustainability of organizations. This study aims to analyze the direct and indirect economic impacts of OHS practices and evaluate preventive approaches from a cost-benefit perspective. In this research, the costs imposed by occupational accidents and work-related diseases on enterprises are examined under two main categories: direct costs (medical expenses, compensation, and production losses) and indirect costs (reputation damage, workforce turnover, and decreased productivity). Empirical evidence in the literature indicates that effective OHS management systems significantly improve productivity and reduce costs in the long term. According to data from the International Labour Organization, the global economic burden of occupational accidents and diseases corresponds to approximately 4% of the world's gross domestic product (GDP). This highlights that OHS should be considered not merely as a legal obligation but as a strategic economic investment. Furthermore, the return on investment (ROI) of preventive OHS measures is discussed, with findings suggesting that every unit of investment in OHS yields an economic return of approximately 2 to 6 times. In this context, OHS should be regarded not as a cost factor but as a source of competitive advantage. In conclusion, fostering a strong safety culture and implementing proactive OHS policies enhance both employee well-being and organizational economic performance. Therefore, encouraging OHS investments is of paramount importance for policymakers and business leaders.

Keywords: Economic Sustainability, Occupational Accidents, Preventive Approaches, Cost-Benefit Analysis, Productivity, Return on Investment (ROI), Safety Culture, Organizational Performance

120 Lecturer, Dr., Bilgi University.

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FAN LOYALTY BEYOND PERFORMANCE: A THEORETICAL APPROACH TO MANAGING SUPPORTER COMMITMENT IN MODERN FOOTBALL CLUBS

Cemal ÖZMAN¹²²

Abstract

This study emphasizes that football fandom is not merely a form of consumer loyalty, but also a mode of institutional belonging and identity formation. It investigates the psychological and managerial factors behind supporters' continued loyalty to their clubs, even during periods of sporting failure. Through concepts such as cognitive dissonance theory, social identity theory, organizational commitment, and emotional capital, the study theoretically explains how such loyalty can be managed from a sport management perspective. By reviewing the existing literature, it argues that fan loyalty should be seen not as a success-oriented phenomenon, but as an organizational relationship. The communication styles of clubs, their governance approaches, and the institutional messages they convey to fans during crises play a decisive role in the sustainability of loyalty. In this context, the study asserts that football clubs should view fan behavior during crises not merely as a "reaction" but as a manageable organizational resource. The theoretical implications suggest that clubs should redesign their loyalty strategies not solely based on athletic performance, but on long-term trust, identity, and a sense of belonging.

Keywords: Fan Loyalty, Emotional Capital, Corporate Communication

THE RELATIONSHIP BETWEEN RENEWABLE ENERGY CONSUMPTION, INDUSTRIAL VALUE ADDED, TRADE AND ECONOMIC GROWTH IN TÜRKİYE

Emine Aybike AKKUTAY¹²³

Abstract

Economic growth and energy usage are strongly correlated in both directions. Fossil fuel consumption rises with economic activity. Increased use of fossil fuels is also leading to resource scarcity and global environmental pollution. Therefore, renewable energy sources are gaining importance every day; they are also becoming increasingly valuable due to environmental factors and sustainable growth. This study used an autoregressive distributed lag (ARDL) technique with annual data from 1990 to 2021 to examine the impact of trade, industrial value addition, and economic growth on Türkiye's use of renewable energy. According to the findings, in the long term, the effect of economic growth on renewable energy consumption is positive but not significant; while the effects of industrial value added and trade are positive and negative, respectively, and both are significant. Therefore, while industrial sector development encourages renewable energy consumption, the increase in trade is associated with fossil fuel-based production. This shows that achieving sustainable economic growth in Türkiye requires giving more importance to renewable energy policies.

Keywords: Renewable energy consumption, Autoregressive Distributed Lag (ARDL) bounds test, economic growth.

AN EXAMINATION OF THE RELATIONSHIP BETWEEN GREEN GROWTH AND ARTIFICIAL INTELLIGENCE IN EUROPEAN UNION COUNTRIES: FINDINGS OBTAINED FROM THE MMQR METHOD

Sevilay KONYA¹²⁴

Abstract

This study examines the relationship between green growth and artificial intelligence in 24 European Union countries during the period 2003-2023. Environmental taxes, renewable energy consumption, gross fixed capital formation, and health expenditures were included as control variables in the study. In this study, which employed panel data analysis as an empirical analysis method, coefficient estimation was performed using the Method of Moments Quantile Regression (MMQR) method with quantiles ranging from 0.10 to 0.90. The findings showed that the artificial intelligence variable included in the model positively influenced the green growth variable. The variable of renewable energy consumption was found to have a positive and significant effect on green growth. The variable of gross capital formation was found to have an insignificant effect on green growth. However, the effect of the health expenditure variable on green growth was determined to be positive and significant in all quantiles except 0.10 quantiles. The impact of environmental taxes on green growth was found to be negative across the examined period and sample size. While this study is expected to contribute to the limited literature, it offers important insights for policymakers. Policymakers should develop policies that prioritize renewable energy consumption to achieve the goal of AI-driven green growth.

Keywords: Green Growth, Artificial Intelligence, European Union, MMQR

124 Assoc. Prof. Dr., Selçuk University.

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FROM INNOVATION TO SECURITY: CAUSAL INTERACTIONS BETWEEN GREEN TECHNOLOGY, R&D, AND ENERGY SECURITY IN G-8 COUNTRIES

Mahmut Sami DURAN¹²⁵, Şeyma BOZKAYA¹²⁶

Abstract

Energy security is of critical importance for economic stability, growth, numerous socio-economic factors, and social welfare. As global economies develop and grow, the importance of energy security continues to increase day by day. Just as in the past, it is vital today for countries around the world to have uninterrupted, cost-effective, and sustainable access to energy resources. In this context, this study investigates the causal relationship and the direction of this relationship between energy security and green technology, economic growth, green energy production, and R&D expenditures in the G8 countries, which hold a strong position in the global economy. The analysis period of the study covers the years 1996–2022. To investigate the causality among the variables, the causality test developed by Juodis, Karavias, and Sarafidis (2021) and updated by Xiao et al. (2023) was used. This test not only examines the causal relationship between the variables but also investigates the causal relationship between all variables as a whole and energy security. The findings reveal that, at the panel level, green technology, green energy production, R&D expenditures, and economic growth are Granger causes of energy security. The results at the individual level indicate a causal relationship from economic growth and green energy supply to energy security. Additionally, a bidirectional causal relationship was identified between green energy supply and energy security. A unidirectional causal relationship was found from green energy supply to economic growth and R&D expenditures. The findings reveal a multidirectional causality among the variables. In this context, it is noteworthy that the variables of green energy supply and green technology play a significant role in energy security. Accordingly, policy recommendations aimed at enhancing energy security have been proposed.

Keywords: Energy Security, Green Technology, Economic Growth, R&D, Causality Analysis

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FINANCIAL CONNECTEDNESS IN THE ENERGY TRANSITION: INTERSECTORAL SPILLOVERS AND CAPITAL REALLOCATION

Nur Esra BEKEREÇİ¹²⁷

Abstract

The energy transition has emerged in recent years as one of the most significant structural transformations affecting the global economy and financial markets. Increases in renewable energy investments and rapid advancements in energy technologies have also influenced financial systems and resource allocation mechanisms. This shift necessitates an examination of the effects of multidimensional shocks arising from the energy transition on the financial system, as well as changes in capital flows across sectors. In this context, daily data from January 4, 2016, to March 13, 2026, were used to assess the financial implications of the energy transition through natural gas prices, electricity markets, lithium, and rare earth metals. The clean energy sector represents the emerging energy system, whereas the oil and fossil fuel sector embodies the traditional system. Additionally, the industrial and financial sectors were included in the analysis to capture the transmission of this transformation through real economic and financial channels. The effects of energy transition shocks on sectors were analyzed using the R^2 connectedness approach. The findings indicate that total connectedness among variables is high, amounting to approximately 53%. Notably, the level of total connectedness increased significantly during the periods of 2020, 2022, and 2025. The results also reveal that XLE, representing the energy sector, and XLI, representing the industrial sector, act as the strongest shock transmitters within the system. In contrast, crude oil (Oil), the electricity market (JXI), and natural gas (Gas) are identified as net shock receivers. Finally, the connectedness relationships are found to occur largely through contemporaneous effects. Overall, these results demonstrate that the energy transition strengthens intersectoral interactions in financial markets and dynamically reshapes capital flows.

Keywords: Energy transition, shock spillovers, risk transmission, R^2 connectedness

EXAMINING FISCAL SUSTAINABILITY: EVIDENCE FROM UNIT ROOT TESTS

Bilal GÖDE¹²⁸

Abstract

The sustainability of public finance is of paramount importance for maintaining macro-economic stability and managing public debt dynamics. Within this framework, the primary net lending/borrowing balance (primary balance)—defined as the difference between public revenues and expenditures excluding interest payments—emerges as a fundamental indicator of fiscal discipline. The primary balance reveals the extent to which a state achieves efficient and disciplined public financial management under current fiscal policies, independent of the debt burden inherited from the past. The primary objective of this study is to examine the sustainability of the primary balance-to-GDP ratio across 21 transition economies between 1998 and 2025 using standard and advanced functional unit root tests. To this end, fiscal sustainability is analyzed via ADF, RALS-ADF, KSS, Fourier-ADF, and Fourier-KSS unit root tests. These methodological approaches allow for the inclusion of structural breaks and nonlinearity in the analysis of fiscal sustainability for the selected economies. The findings indicate that while fiscal sustainability appears valid when structural breaks are ignored, it is found to be invalid when nonlinearity and Fourier (smooth) breaks are taken into account. Consequently, it is evident that structural breaks and nonlinearities play a critical role in the fiscal sustainability of these transition economies. In summary, the share of the primary balance within GDP serves as a fundamental reference point for monitoring fiscal sustainability and assessing the effectiveness of fiscal rules. The analysis of this indicator facilitates the decomposition of structural budget deficits and cyclical effects, thereby enabling policymakers to define the boundaries of fiscal space more accurately.

Keywords: Primary Balance, Fiscal Sustainability, Nonlinearity, Structural Breaks, Fiscal Discipline.

TAX AUDITING IN THE DIGITALIZATION PROCESS AND THE PROTECTION OF TAXPAYER RIGHTS

Yasemin TAŞKIN¹²⁹

Abstract

Digitalization is bringing about a fundamental change in tax administrations; tax audits are evolving through the use of electronic filing systems, electronic document and ledger applications, AI-powered risk analyses, and big data processing. In the 2025 Activity Report of the Tax Inspection Board of the Ministry of Treasury and Finance of the Republic of Türkiye, it is stated that the audit rate of the total number of taxpayers reached 6.72%, and the increase in this rate is explained by the transition to a gradual tax audit system through the adoption of new audit methods. Thanks to new tax audit methods, the speed and effectiveness of audits are increasing, and tax authorities are now able to include a larger number of taxpayers in their audit scope. However, while digital tax audit processes enhance speed and efficiency, they also give rise to new legal and ethical issues in terms of the protection of taxpayer rights. The aim of this study is to identify the impact of the transformation initiated by digitalization in tax audits on taxpayer rights and to propose solutions to the emerging problems. Within this scope, the study examines the legal dimension of digital tax auditing, its differences from traditional tax auditing, and its consequences for taxpayers, based on case law, legislation, and doctrinal sources. Additionally, the protection of taxpayer rights in digital tax audit processes is evaluated in the context of principle of legal certainty, the right of defense, the protection of personal data, the principle of proportionality, and the public interest.

Keywords: Digitalization, tax, tax auditing, taxpayer rights.

EMPIRICAL ANALYSIS OF GREEN GROWTH FROM A PUBLIC FINANCE PERSPECTIVE IN TÜRKİYE

Pakize KARABULUT¹³⁰, Sevinç YARAŞIR TÜLÜMCE¹³¹

Abstract

One of the reasons for government intervention in economies is to achieve economic growth and ensure sustainable development. Governments use tools such as taxes and public expenditures to achieve economic growth, which is among the objectives of fiscal policy. However, achieving economic growth with an increasing population also brings about some costs, such as ecological damage and environmental degradation. In this case, the concept of green growth emerges as an alternative policy for sustainable growth and development. Green growth refers to sustainable economic growth that is free from environmental costs and protects natural resources. In this study, where green economic growth is calculated for Türkiye, the empirical analysis of the relationship between green economic growth and public expenditures and taxes in the period 1990-2020 is examined using the VAR method. The VAR results show that the response of green economic growth to public expenditures is negative in the early years, while the variance decomposition findings reveal the importance of public expenditures. Granger causality analysis proves that government spending and trade openness are the cause of green growth, and that government spending is also the cause of taxes. Government spending policies are more important than tax policies for green growth.

Keywords: Green Economic Growth, Government Spending, Tax Revenues, Renewable Energy

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AN EVALUATION OF ENVIRONMENTAL TAX POLICIES IMPLEMENTED IN TÜRKİYE FROM A BEHAVIORAL PUBLIC FINANCE PERSPECTIVE

Volkan YURDADOĞ¹³², Berna KILIÇ¹³³

Abstract

Since the 1980s, factors such as urbanization, industrialization, and changing production and consumption patterns have led to an increase in environmental problems in Türkiye, as in the rest of the world. Fiscal policy instruments play an important role in addressing these challenges. In theory, environmental taxes, generally referred to as Pigouvian taxes, are expected to reduce environmental pollution through the price mechanism. In Türkiye, environmental tax practices include the Environmental Cleaning Tax, Motor Vehicle Tax, Special Consumption Tax, Value Added Tax, and the Recycling Contribution Fee. However, the literature does not provide a clear consensus on the extent to which these taxes are effective in combating environmental pollution. One of the main reasons for this can be explained within the framework of political preferences and behavioral public finance approaches. In this context, the widespread use of indirect taxes embedded in prices reflects a policy choice. Moreover, individuals tend to perceive these taxes not as instruments aimed at reducing environmental pollution, but rather as a financial burden, believing that their primary purpose is to generate revenue. Accordingly, this study aims to evaluate environmental taxes implemented in Türkiye from a behavioral public finance perspective. The study employs a literature review method and provides a qualitative assessment by examining behavioral policy instruments in different countries. The findings suggest that policies targeting individuals' perceptions and behaviors may have greater potential to promote environmentally sustainable actions. In conclusion, achieving more effective outcomes requires not only proper tax design but also the integration of behavioral public finance tools into existing tax policies. In this respect, the study aims to contribute to the literature by integrating behavioral approaches with environmental policies and by providing a new perspective for policymakers.

Keywords: Environmental Tax, Behavioral Public Finance, Sustainability

132 Prof. Dr., Çukurova University.

133 Res. Asst., Gaziantep University.

ENVIRONMENTAL SUSTAINABILITY FROM A LOAD FACTOR CAPACITY PERSPECTIVE: THE ROLE OF ICT, INSTITUTIONAL QUALITY, AND DIGITAL FINANCE IN AFRICA

Tuğba Betül ÖZAV¹³⁴, Osman TABAK¹³⁵

Abstract

As the economic and social costs of climate change become increasingly pronounced, ensuring environmental sustainability has emerged as a structural policy priority for developing economies. African economies, which are simultaneously confronted with rapid population growth, industrialization pressures, and institutional capacity constraints while undergoing digital transformation, constitute a particularly compelling analytical context in this regard. Although the literature on environmental sustainability has increasingly addressed the role of digitalization and institutional frameworks, empirical evidence on these relationships remains notably scarce for African economies. This study aims to analyze the effects of information and communication technologies, institutional quality, and digital finance on environmental sustainability through the lens of load factor capacity, employing a panel dataset covering the period 2000–2021. The System GMM estimator will be utilized to account for the dynamic nature of the relationships among variables and to address potential endogeneity concerns. The findings are expected to contribute to the limited empirical literature that jointly examines the effects of digitalization and financial access on environmental sustainability alongside institutional quality, while providing an evidence-based reference for the formulation of policy recommendations tailored to African economies.

Keywords: Environmental Sustainability, Load Factor Capacity, Information and Communication Technologies, Digital Finance, Institutional Quality, System GMM

134 Lect., Gümüşhane University

135 Asst. Prof. Dr., Doğu Akdeniz University.

DOES THE CIRCULAR ECONOMY MITIGATE HEALTH EXPENDITURES? EVIDENCE FROM THE EU-15 CONTROLLING FOR INCOME, EDUCATION AND URBANIZATION

Canan ŞENTÜRK¹³⁶, Aynur TORAMAN¹³⁷, Elif TATLI BOZKURT¹³⁸,
Ebru ŞAL¹³⁹, Onur SUNGUR¹⁴⁰

Abstract

In recent years, the prevailing linear economic system, based on an expansionary model driven by intensive natural resource consumption, has increasingly generated adverse impacts on ecosystems and the global climate. In response to the urgent need to decouple economic growth from environmental degradation and to develop innovative and sustainable solutions, the Circular Economy (CE) has emerged as a significant framework for both preventing and addressing existing environmental challenges. This approach emphasizes the elimination of waste and pollution, the use of renewable energy sources, the extension of product life cycles through closed-loop systems, and the regeneration of natural capital. The healthcare sector, however, represents a substantial source of environmental pressure due to its resource-intensive structure, characterized by high levels of single-use medical products, hazardous and chemical waste generation, and significant energy consumption. The integration of circular economy strategies into healthcare systems holds considerable potential for structural transformation, contributing not only to environmental sustainability but also to improved cost efficiency in healthcare expenditure. In this context, the study aims to examine the impact of the circular economy on health expenditures in EU-15 over the period 2010–2022. Income, education, and urbanization levels are selected as control variables. The empirical analysis employs a dynamic panel data approach using the Difference Generalized Method of Moments (Difference GMM) estimator developed by Arellano and Bond (1991) to address potential endogeneity and unobserved heterogeneity. The findings indicate that healthcare expenditures in the EU-15 countries exhibit strong persistence, being significantly influenced by their past values. Moreover, circular economy practices are found to have a statistically significant negative effect on healthcare expenditures. Per capita income also demonstrates a reducing effect on healthcare expenditures. Overall, the results suggest the existence of a direct linkage between sustainable environmental policies and reductions in healthcare system expenditures.

Keywords: Circular Economy, Health Expenditure, Dynamic Panel Data Analysis.

136 Assoc. Prof. Dr., Süleyman Demirel University.

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THE IMPACT OF HEALTH EXPENDITURES ON ENVIRONMENTAL DEGRADATION IN TÜRKİYE WITHIN THE FRAMEWORK OF THE LOAD CAPACITY CURVE HYPOTHESIS

Canan ŞENTÜRK¹⁴¹, Aynur TORAMAN¹⁴², Onur SUNGUR¹⁴³,
Şerife ÇALIŞKAN SÖYLEMEZ¹⁴⁴, Dilek ALAY¹⁴⁵

Abstract

Sustainable development aims to meet the needs of the present without compromising the ability of future generations to meet their own needs. In this regard, prioritizing environmental quality and/or limiting degradation emerges as an indispensable element of this process. Furthermore, in achieving a balance between the fundamental components of sustainable development—economic growth, social/societal welfare, and environmental protection—health expenditures play an important role as public spending that increases social welfare. In this context, the study aims to examine the impact of health expenditures on environmental degradation in Türkiye within the framework of the Load Capacity Curve Hypothesis. Using data from 1998 to 2023, the Johansen Cointegration Test and Vector Error Correction Model are applied. The findings of the study suggest that economic growth does not support the Load Capacity Curve Hypothesis (inverse U) in relation to environmental degradation. On the other hand, health expenditures are found to have a supportive effect on environmental quality in the long term.

Keywords: Carbon Intensity, Health Expenditures, Türkiye, Load Capacity Curve Hypothesis

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142 Assoc. Prof. Dr., Süleyman Demirel University.

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WASTE IN THE CIRCULAR ECONOMY: EVIDENCE FROM THE EUROPEAN UNION AND TÜRKİYE

İrem YALKI¹⁴⁶

Abstract

The transition from a linear to a circular economy has become a key priority in the context of sustainable development, where waste plays a central role. In a circular economy, waste is not only an environmental issue but also a resource that can be reintroduced into production processes. According to OECD (2023), waste-related activities account for 20% of circular economy practices, highlighting its role in resource efficiency. In this context, waste constitutes a critical component of sustainable development and defines the focus of this study. The European Union is selected due to its advanced circular economy policy framework, while Türkiye is included for comparative purposes. Waste generation alone is not sufficient to assess overall outcomes. Therefore, this study considers multiple indicators including waste generation, waste treatment, disposal (landfill and other methods), and recycling indicators, using values expressed both per capita in kilograms and in thousand tonnes. Recycling rates are also included as a crucial indicator reflecting policy effectiveness. The analysis covers the period from 2000 to 2023 and uses a descriptive approach. Based on 2023 data, the analysis shows that Germany has the highest level of total waste generation in thousand tonnes, while Austria has the highest level in per capita terms. In recycling, these two countries also have the two highest rates, at 68.7% and 62.8%, respectively. The findings indicate that countries with higher recycling capacities achieve more favorable outcomes, while those with higher landfill dependency lag behind. Türkiye remains below EU levels, indicating structural differences in waste management and policy implementation. By integrating these indicators, the study provides policy recommendations.

Keywords: Sustainable development, environmental economics, circular economy, resource efficiency, waste

TRANSFORMING GHOST FISHING NETS INTO A GREEN ECONOMY

Mükerrem Fatma İLKIŞIK¹⁴⁷

Abstract

Fishing nets, whose raw material is plastic, are physical devices or combinations thereof used to collect freshwater or marine products from the sea or seabed for fishing, production, or control purposes. Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL), concerning the prevention of pollution from litter, includes ghost fishing nets. All plastics refer to plastics in any form, synthetic ropes, synthetic fishing nets, plastic garbage bags, and litter including incineration ashes from the burning of plastics. Ghost nets are materials such as gill nets, trawl nets, purse nets, and cage nets that have been abandoned or lost in the seas. These abandoned nets do not decompose in nature and continue to passively catch fish, leading to a decrease in fish populations and the accumulation of heavy metals such as lead on the seabed. By covering marine habitats, ghost fishing nets reduce light and oxygen permeability, threatening habitats such as seagrasses and coral reefs, while also causing microplastic pollution. The damage caused by ghost fishing nets to nature can be reduced by using them as recycled material in the production of sustainable green concrete. This research aims to obtain data on mix design and concrete behavior when ghost nets, whose main component is nylon, are used in concrete as a volumetric additive or instead of concrete aggregate. As cement additives, fly ash, blast furnace slag, natural or calcined pozzolans, limestone, etc., which are particularly effective in reducing the clinker/cement ratio, were considered. Mineral admixtures, used in the production of durable and environmentally friendly concrete, as well as ghost nets that pollute the sea and harm marine life, can be used in green concrete production. Green cement has 49% lower carbon dioxide emissions compared to normal Portland cement. The lightweight and compressive nature of new generation decarbonizable concrete pavements and blocks facilitates construction by reducing costs in sustainable engineering. Its flexible structure yields positive results in strengthening structures against earthquakes. By using ghost nets in the concrete industry, damage to the marine ecosystem can be prevented, and environmental pollution such as carbon dioxide emissions and plastic waste disposal problems can be reduced.

Keywords: plastic, ghost nets, fishing line, green concrete, Marpol

ASYMMETRIC EFFECTS OF FINANCIAL VOLATILITY AND SYSTEMIC STRESS ON GREEN FINANCE RETURNS

Aydın GÜRBÜZ¹⁴⁸

Abstract

The rapid growth of sustainable finance markets in recent years has made understanding the behavior of these assets in relation to financial risk indicators crucial. This study aims to examine the dependency structure between market volatility and financial stress indicators and green finance returns. In this context, the VIX index, representing global market fear, the MOVE index, reflecting interest rate market volatility, and the Financial Stress Index, showing the general stress level in the financial system, were used. To represent the green finance market, the clean energy, clean technology, solar energy, wind energy, and green bond indices were utilized. The study period consists of daily observations between January 2, 2015, and February 26, 2026. The cross-quantilogram method was used to analyze the tail dependencies between the variables. Furthermore, the iterative cross-quantilogram approach was employed to examine the change in the dependency structure over time. The findings show that the relationship between financial volatility and stress indicators and green finance returns varies depending on the quantile regimes. The cross-quantilogram results revealed that asymmetric dependencies emerge, particularly under extreme market conditions. Iterative cross-quantilogram findings reveal that these relationships fluctuate significantly over time and become stronger, particularly during periods of global uncertainty such as the COVID-19 pandemic. Overall, the findings indicate that green finance assets are not entirely decoupled from financial shocks, but can play a functional role in portfolio diversification under specific market conditions.

Keywords: Green Finance, Financial Volatility, Portfolio Diversification, Cross-quantilogram

THE MODERATING ROLE OF FINANCIAL TECHNOLOGIES IN THE IMPACT OF GREEN FINANCE AND GREEN GROWTH ON FINANCIAL DEVELOPMENT

Büşra GÖRGEL¹⁴⁹, Emre Esat TOPALOĞLU¹⁵⁰

Abstract

The study examined the moderating role of financial technology in the relationships among green finance, green growth, and financial development in China and India between 2000 and 2021. The relationship was analyzed using the QQR method. The scope of the study has been shaped by the rapid growth potential of developing countries such as China and India, the development and continued rapid growth of the fintech market, government support for green vehicles and applications, and high energy demand. It is important to assess the impact of financial technology tools for sustainable investments on the relationship between green finance, green growth, and financial development. For this reason, financial technology has been identified as a moderate variable. Trade openness, which serves as an indicator of the volume of foreign trade; energy consumption, which represents the energy resources expended when environmental sustainability is taken into account; a country's economic growth; inflation a key indicator of macroeconomic stability and institutional quality an indicator of the effectiveness of a country's public institutions, governance, and legal mechanisms have been included in the model as control variables due to financial development interrelationship. The literature contains studies examining the relationships between green finance, green growth, financial technology, and financial development, both individually and collectively. However, research examining the moderating effect of financial technology on the relationship between green finance, green growth, and financial development has been limited. Consequently, this study is original in this respect and fills a gap in the literature. The results of the study suggest that interactions among green finance, green investment, and financial technology promote financial development. Based on the findings, rapidly developing countries need to support sustainable investments and environmentally friendly projects. They should also redirect investments toward sectors that align with environmental sustainability goals. Consequently, they should integrate green finance, green growth, and financial technology into their policy implementations.

Keywords: Green Finance, Green Growth, Financial Technology, Financial Development

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150 Prof. Dr., Şırnak University

HISTORICAL TRANSITION IN DEVELOPMENT BANKS WITHIN THE FRAMEWORK OF ECONOMIC HISTORY: THE CASE OF TÜRKİYE

Onur ÖZDEMİR¹⁵¹, Fatih KAYHAN¹⁵²

Abstract

Within the framework of economic history, the purpose of this study is to review historical transition of Turkish Development Banks -as key financial element of economic development- and furthermore to analyze the differences in business after digitalization era that increasingly prevailed after 2020. Recent figures of the public/private development banks are provided, pre-after (2020) analysis of the business model & funding tendency (of development banks) is employed. Findings: When ‘post-2020’ period is compared with the previous era, it becomes evident that the new period has introduced distinctive features to the history of development banking. Marked by themes such as sustainable development, green/environmental finance/economy, and digitalization, this new era has reshaped the landscape. The paper concludes that, the historical transition of development banks in Türkiye is closely tied not only to global trends but also directly to the country’s economic and industrial policies. Following 2020, with the rise of the Sustainable Development Goals, the era of green finance and digitalization has transformed the way business is conducted across all types of banking. In parallel with this new era, development banks have not only continued to support the industrial sector but have also extended financial backing to emerging areas such as the environment, climate change, and energy efficiency. There has been a shift in business trends, and new roles have emerged alongside the traditional role of financing industry.

Keywords: Development banking, Historical transition, Project finance

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152 Assoc. Prof. Dr., İstanbul Medeniyet University.

THE NEXUS BETWEEN INSTITUTIONAL QUALITY AND FINANCIAL DEVELOPMENT: EVIDENCE FROM A PANEL OF DEVELOPING COUNTRIES

Cansu ÜNVER ERBAŞ¹⁵³, Süreyya Yılmaz ÖZEKENCİ¹⁵⁴

Abstract

This study investigates the impact of institutional quality on financial development across a panel of 100 developing countries over the period 1996–2024. Financial development is proxied by the composite index obtained from the International Monetary Fund, while institutional quality is captured through key governance indicators, namely political stability, the rule of law, and control of corruption. By employing one of the most comprehensive country samples and extended time horizons available in the literature, this study provides updated and robust empirical evidence on the institutional determinants of financial development. Preliminary diagnostic tests reveal the presence of cross-sectional dependence, unit roots, and cointegration, indicating the influence of common global shocks and strong interdependencies among countries. To address these econometric challenges, the analysis adopts a sequential estimation strategy. Following conventional baseline estimators, the empirical framework is extended to second-generation heterogeneous panel techniques, including Mean Group (MG), Augmented Mean Group (AMG), and Common Correlated Effects Mean Group (CCEMG), which explicitly account for cross-country heterogeneity and unobserved common factors. The empirical findings consistently demonstrate that improvements in institutional quality are associated with higher levels of financial development. These results underscore the pivotal role of institutional structures in shaping long-run financial outcomes and provide important policy implications for strengthening governance frameworks in developing economies.

Keywords: Economic performance, political stability, rule of law, control of corruption, panel

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THE INTERACTION BETWEEN FINTECH AND THE BANKING SECTOR: A DYNAMIC CORRELATION ANALYSIS USING THE DCC-GARCH MODEL

Sümeyra GAZEL¹⁵⁵, Sinan Can GÜNGÖR¹⁵⁶

Abstract

This study investigates the dynamic relationships between the banking and fintech sectors using a Dynamic Conditional Correlation (DCC-GARCH) framework. Specifically, we analyze the time-varying correlations between the KBW Bank Index and the KBW Nasdaq Financial Technology Index over the period 2016–2026. To ensure the robustness of the findings, both standard GARCH and exponential GARCH specifications are employed. The empirical results indicate that the correlation between the banking and fintech sectors is relatively high, positive, and stable over time, suggesting a strong and persistent integration between these two segments. The estimated DCC parameters confirm a high degree of persistence, indicating that correlations evolve gradually and are not highly sensitive to short-term shocks. The consistency of results across different volatility specifications further supports the robustness of the findings. The relationship between the S&P 500 Banks Index and the NASDAQ Composite Index is also examined in the study. In contrast to the fintech–banking relationship, the correlation between the S&P 500 Banks Index and NASDAQ Composite Index is found to be more volatile and less stable, exhibiting wider fluctuations over time. This suggests that the relationship between banking and the broader technology market is more sensitive to market conditions and external shocks. Overall, the findings highlight the presence of a strong and stable linkage between fintech and banking sectors, while emphasizing the relatively more unstable nature of the relationship between banking and the general technology market.

Keywords: Fintech, DCC-GARCH, Banking Index, Dynamic Correlation.

155 Assoc. Prof. Dr., Yozgat Bozok University.

156 Res. Asst., Yozgat Bozok University.

ASYMMETRIC PATTERNS IN ESG PERFORMANCE: THE ROLE OF ECONOMIC AND INSTITUTIONAL FACTORS

Zaim Reha YAŞAR¹⁵⁷

Abstract

ESG performance has increasingly emerged as a multidimensional indicator reflecting countries' sustainable development capacity and the quality of their institutional and economic structures. Understanding the macroeconomic and institutional drivers of the environmental, social, and governance dimensions therefore represents a key research agenda for explaining the dynamics of sustainable growth. To address this issue, long run relationships are examined for OECD countries over the 2000-2023 period using the panel ARDL structure. Empirical findings reveal that, in the long run, ESG performance is primarily shaped by income levels, and this relationship follows a symmetric pattern. Financial development appears as the second major determinant of ESG, although its impact is asymmetric. Financial expansion enhances ESG performance, whereas financial contraction exerts downward pressure. Trade is negatively associated with ESG in the long run, indicating that higher trade intensity tends to coincide with lower ESG performance. Evidence from the institutional index constructed through the PCA approach also points to pronounced asymmetric effects. While improvements in institutional quality exert a positive but limited marginal influence on ESG, institutional deteriorations lead to a substantially stronger decline in ESG performance. This pattern suggests the presence of an institutional fragility asymmetry, implying that ESG outcomes are considerably more sensitive to institutional deterioration than to institutional improvement.

Keywords: ESG Performance, Institutional Quality, Panel NARDL

THE EFFECT OF FINANCIAL DEVELOPMENT ON IMPORT: THE CASE OF TÜRKİYE

Zaim Reha YAŞAR¹⁵⁸, Çağlayan ASLAN¹⁵⁹, Erdem BULUT¹⁶⁰

Abstract

Financial development is an influential indicator in many areas of the economy, particularly economic growth. Foreign trade is another area where the effects of financial development are analyzed. This paper seeks the effect of financial development on import demand in Türkiye with annual data covering the period 1995-2024. In this paper, are made using the ARDL Bounds Test and the economic model is constructed based on the traditional import demand model. According to the traditional import model, gross domestic product (GDP) is used to represent the domestic income variable, and the consumer prices based real effective exchange rate is used to represent the competitiveness. For the financial development variable, which constitutes the main subject of the study, the ratio of individual loans to gross domestic product is employed. The results indicate that financial development does not have a statistically significant effect on import demand. It was observed that domestic income has a considerable impact on import demand. It was concluded that increases in the real exchange rate, which is the other control variable of the import demand model and signifies the appreciation of the local currency, positively affect imports. In conclusion, it can be inferred that the effect of financial developments on imports is overshadowed by the exchange rate and domestic income variables. It can be argued that one of the underlying reasons for this result is the use of credit resources in areas such as housing demand in Türkiye, especially in recent years.

Keywords: Financial Development, Loans, Imports

158 Assoc. Prof. Dr., Kırıkkale University.

159 Assoc. Prof. Dr., Ostim Technical University.

160 Assoc. Prof. Dr., Ostim Technical University.

FINANCIAL RESILIENCE AND EXTERNAL BALANCE: THE IMPACT OF EXCHANGE RATE DEVIATIONS ON CURRENT ACCOUNT BALANCES IN EMERGING MARKETS

Mehmet Gökhan ÖZDEMİR¹⁶¹, Onur BİLGİN¹⁶²

Abstract

This study examines the effects of real exchange rate misalignments on the current account balance across 20 emerging market economies exposed to global shocks and poly-crisis dynamics. The analysis relies on a panel dataset covering 1973-2021 and combines CEPII EQCHANGE data with World Bank indicators. The empirical framework employs Two-Way Fixed Effects estimation, a Panel ARDL error-correction model, panel Granger causality tests, and a threshold specification. The findings show that a 10% overvaluation of the domestic currency worsens the current account by about 0.24 percentage points in the following year. The results also indicate that the impact of exchange rate misalignments is non-linear, with marginal damage rising sharply once the misalignment exceeds the $\pm 15\%$ threshold. In addition, the adverse effect becomes stronger during poly-crisis periods such as the global financial crisis and the pandemic. The evidence further suggests that stronger foreign exchange reserves partly buffer this deterioration and enhance financial resilience. Panel Granger causality results imply that the dominant direction runs from exchange rate misalignment to current account deterioration. The study contributes to the literature by combining a misalignment-based external balance perspective with a financial resilience lens for emerging markets, while highlighting the policy relevance of exchange rate monitoring, reserve management, and early warning mechanisms.

Keywords: Real exchange rate misalignment, current account balance, financial resilience, emerging markets, poly-crisis

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162 Asst. Prof. Dr., Kırıkkale University.

FINANCIAL INCLUSION IN TÜRKİYE: INEQUALITIES IN THE SHADOW OF DIGITAL GROWTH (2011–2024)

Onur BİLGİN¹⁶³, Mehmet Gökhan ÖZDEMİR¹⁶⁴

Abstract

This study investigates the dimensions, pace, and demographic distribution of financial inclusion progress in Türkiye between 2011 and 2024, as well as the trajectory of gender-, income-, age-, and education-based access inequalities over this period. A two-stage analytical approach is employed. In the first stage, descriptive statistics and visual trend analyses are used to document the evolution of account ownership and digital payment usage across five waves of the World Bank Global Findex Database (2011, 2014, 2017, 2021, and 2024) for Türkiye. In the second stage, the composite Financial Inclusion Index (FII) developed by Sarma (2008), based on an Euclidean distance methodology, is applied to integrate the penetration, usage, and depth dimensions into a single indicator and to assess Türkiye's standing within the Europe and Central Asia (ECA) region through comparative analysis. The findings show that Türkiye increased account ownership from 57.6% to 81.6% and achieved regional leadership in digital payment usage (FII = 0.592; second in ECA). Nevertheless, the gender gap has not narrowed over the period and has widened in digital payments. Income insufficiency remains the primary barrier for the poorest 40%, while dependence on a family member's account is prominent among the 15–24 age group and women. These findings demonstrate the inadequacy of uniform inclusion policies and underscore the necessity of targeted, group-specific intervention designs.

Keywords: Financial inclusion, Türkiye, Global Findex, digital financial services, financial inclusion index.

163 Asst. Prof. Dr., Kırıkkale University.

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THE TRANSMISSION OF FINANCIAL SHOCKS TO THE REAL ECONOMY: AN SVAR ANALYSIS OF TÜRKİYE

Nimet VARLIK¹⁶⁵

Abstract

The aim of the study is to examine the interaction between the financial sector and the real sector in Türkiye. In this regard, the effects of shocks arising in financial markets on real economic activities are analyzed within the framework of the Structural Vector Autoregression (SVAR) model. The dataset used in the model comprises key indicators representing both the financial and real dynamics of the Turkish economy. In this framework, the exchange rate (a currency basket consisting of the US dollar and the euro), gold prices, the BIST overnight repo rate, the BIST stock index, the consumer price index (CPI) and the industrial production index have been included in the model. The analysis period covers the 2005:01–2026:01 period, during which significant structural breaks occurred in the Turkish economy. Findings from the SVAR analysis indicate that financial variables played a significant role in the real sector during the relevant period. In particular, exchange rate and interest rate shocks were found to have significant and persistent effects on inflation and industrial production. The results indicate the existence of a pass-through effect from exchange rate shocks to inflation. Additionally, the findings indicate that stock market and gold prices influence real sector dynamics due to financial uncertainties. The findings of the study demonstrate that financial conditions in Türkiye are a key determinant of real economic fluctuations and that a strong transmission mechanism exists from financial markets to the real sector.

Keywords: Exchange rate, financial markets, real sector, SVAR Analysis

BALANCE BETWEEN MILITARY SPENDING, HUMANITARIAN AID, AND ENVIRONMENTAL RESPONSIBILITY IN G7 COUNTRIES

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Abstract

This study aims to examine the balance between military expenditures, humanitarian aid, and environmental indicators in G7 countries, which hold a dominant position in the global economy. It focuses on how public resources are allocated among security, global responsibility, and environmental sustainability. In this context, the study seeks to compare the spending priorities of major economies.

A descriptive approach based on tables and graphs is employed. Military expenditures, humanitarian aid levels, CO₂ emissions, and green technology indicators of G7 countries are analyzed comparatively. Key indicators include the share of military spending in GDP, the ratio of humanitarian aid to economic size, carbon emission levels, and green patent production. The findings reveal that public resources in G7 countries are largely allocated to military spending, while humanitarian aid remains relatively limited. In particular, the United States stands out with a significantly higher ratio of military expenditures compared to humanitarian aid. In contrast, countries such as Germany and the United Kingdom demonstrate relatively stronger humanitarian aid performance. Regarding environmental indicators, although G7 countries exhibit high carbon emissions, there are notable differences in green technology production across countries.

Overall, this study shows that there is no balance between the share of military spending in national income and the shares received by humanitarian aid and environmental responsibility.

Keywords: Military Expenditures, Humanitarian Aid, Carbon Emissions, Green Technology, G7 Countries

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THE DISRUPTIVE EFFECT OF GLOBAL SHOCKS ON SUSTAINABLE INVESTMENTS: AN ANALYSIS OF SUSA AND IVV FUNDS

Sedat ÖZKAN¹⁶⁸

Abstract

The reshaping of investment decisions around the axis of sustainability is inciting a fundamental transformation in the traditional structure of financial markets. Especially during periods of global shocks, comparing the performance of sustainable investments against conventional market instruments holds critical importance for the financial resilience literature. This study aims to analyze the resilience capacity of sustainable funds (SUSA) against financial, environmental, and geopolitical crises in comparison to traditional market indices (IVV). Within the scope of the research, a quantitative approach is adopted using an extensive daily dataset covering the 2005–2024 period. In the econometric modeling process; the 2008 Global Financial Crisis, the Paris Climate Agreement, the COVID-19 Pandemic, and the 2022 Russia-Ukraine War are identified as primary breaking points and incorporated into the model via dummy variables. During the analysis, the stationarity properties of the series were first examined using ADF tests, followed by a comparison of the risk characteristics of the variables through kurtosis and tail risk sensitivities. In addition to the direct return-based effects of global shocks, the study utilizes ARCH models to decipher the structural reflections on market volatility. The findings indicate that the shocks examined did not create a direct and permanent negative price effect on fund returns. However, it is observed that global uncertainties, particularly those related to health crises, caused structural distortions in the volatility framework of sustainable funds. The results demonstrate that while sustainable investments appear resilient in terms of nominal prices, they experience a significant “disruption” effect regarding risk and uncertainty perception.

Keywords: Sustainable Investments, ESG, Global Shocks, Volatility Structure, Financial Resilience.

DIGITALIZATION AND ACCESS TO SOCIAL ASSISTANCE: E-GOVERNMENT SERVICES AND INEQUALITY IN TÜRKİYE

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Abstract

Digitalization has transformed the provision of public services and brought the concept of the “digital welfare state” to the forefront of economic and social policy debates. In Türkiye, the delivery of social services and social assistance through digital platforms—particularly the e-Devlet Kapısı—has the potential to reduce access costs, accelerate bureaucratic procedures, and improve the targeting efficiency of public resources. However, structural disparities in digital access raise concerns that digitalization may generate new mechanisms of inequality through the digital divide. This study aims to examine the effects of access to digital social services on socio-economic inequalities in Türkiye and to provide a situational assessment of digital social assistance practices. The research employs a secondary data-based descriptive statistical analysis. The dataset consists of the Household Information Technologies Usage Survey published by Türkiye İstatistik Kurumu, social assistance data from the Aile ve Sosyal Hizmetler Bakanlığı, and statistics from the Cumhurbaşkanlığı Dijital Dönüşüm Ofisi. These indicators are comparatively evaluated across socio-demographic variables such as age, education, gender, and place of residence to identify inequality patterns. Based on these comparisons, a situational analysis of digital access disparities and their implications for social assistance delivery is conducted. The findings indicate that digital platforms facilitate access to services, reduce transaction costs, and enhance efficiency in the allocation of public resources. However, vulnerable groups with limited digital literacy and restricted access to technology face the risk of digital exclusion, potentially generating new inequality domains. The results suggest that digital welfare state applications should be supported by inclusive digital access policies to effectively reduce inequalities. This study contributes to the literature by evaluating the economic implications of digitalization in social policy from an inequality perspective.

Keywords: Digitalization, Welfare State, Social Services, e-Government, Socio-Economic Inequality

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INFLATION EXPECTATIONS UNCERTAINTY AND MONETARY POLICY EFFECTIVENESS: DYNAMIC PANEL EVIDENCE FROM OECD COUNTRIES (2001–2023)

Ömer Burak YEL¹⁷¹, Parla ONUK¹⁷²

Abstract

This study investigates whether inflation expectations uncertainty (IEU) weakens monetary policy effectiveness in reducing inflation, using dynamic panel data for 25 OECD countries over 2001–2023. The core hypothesis is that higher uncertainty about inflation expectations diminishes the disinflationary impact of policy rate changes through the monetary transmission mechanism. The empirical model includes lagged inflation, the policy interest rate, an IEU index constructed as the absolute difference between expected and realized inflation, an interaction term (interest \times IEU) to directly test the hypothesis, and control variables comprising the output gap, expected inflation, exchange rate change, and the debt-to-GDP ratio. System GMM (Blundell & Bond, 1998) is employed to address endogeneity and Nickell bias inherent in dynamic panel models. Results reveal strong inflation persistence ($\rho = 0.49$, $p < 0.001$), confirming widespread backward-looking price-setting behavior. The output gap coefficient ($\beta = 0.38$, $p < 0.001$) confirms that the Phillips Curve remains operative, with demand pressures continuing to drive inflation. The policy rate exerts a significant negative effect on inflation ($\beta = -0.124$, $p < 0.01$), and the expectations channel is active ($\beta = 0.203$, $p < 0.01$). The IEU \times interest interaction term is estimated in the expected negative direction ($\beta = -0.062$) but does not reach statistical significance in the current sample of 14 countries. The Goldilocks result of System GMM ($\rho = 0.49$, between OLS at 0.59 and fixed effects at 0.37) confirms that endogeneity is successfully resolved. These findings suggest that central banks should prioritize credible forward guidance to anchor expectations, as inflation persistence and demand pressures remain the dominant drivers of inflation across OECD economies.

Keywords: Inflation Expectations Uncertainty, Monetary Policy Effectiveness, System GMM, OECD, Phillips Curve

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MARKET CONCENTRATION IN THE TURKISH AUTOMOTIVE SECTOR: HHI AND CONCENTRATION RATIO ANALYSIS BASED ON ISO 500 DATA (2009–2024)

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Abstract

This study measures the level of market concentration in Türkiye’s motor vehicles sector over the 2009–2024 period using data drawn from the ISO 500 largest industrial enterprises list. The Herfindahl-Hirschman Index (HHI) together with the CR4 and CR5 concentration ratios are employed as indicators of market structure. Over the sixteen-year span, HHI values ranged from 883.47 to 1,068.28, never crossing the 2,500 threshold associated with high concentration, confirming that the sector retained a competitive market structure throughout. CR4 fluctuated between 49.59% and 60.92%, while CR5 moved within a band of 57.16% to 65.99%. A temporary surge in both HHI (1,038.57) and CR5 (65.26%) was recorded in 2020, attributable to pandemic-driven supply-chain disruptions that strengthened the relative position of larger incumbents. Viewed across the full period, concentration ratios exhibit a mild downward trend toward the end of the sample, and no evidence of lasting monopolisation or oligopolisation is found in the sector.

Keywords: Market Concentration, HHI, Concentration Ratio, Motor Vehicles, ISO 500, Türkiye

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RESEARCHING THE USE OF MACHINE LEARNING AS A DECISION SUPPORT MECHANISM IN DIGITAL MARKETING

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Abstract

The exponential growth of data in the digital marketing ecosystem has rendered traditional and intuition-based decision-making processes insufficient, resulting in the inefficient management of advertising budgets. Building upon gaps identified in current literature, this study aimed to construct an intelligent AI-based Decision Support System designed to maximize campaign success and return on investment. The Random Forest algorithm was employed as the core methodology due to its proven efficacy in modeling complex and non-linear data structures. The model was trained and tested using synthetic datasets representing real-world campaign data from LinkedIn, Instagram, Facebook, YouTube, and Google Ads platforms. Analytical results determined that the “geographic region” variable possessed the highest explanatory power regarding campaign success. In terms of operational analysis, LinkedIn emerged as the leader in budget efficiency, demonstrating the highest return on investment and the lowest cost per acquisition. Conversely, Google Ads was found to rank lowest in the efficiency hierarchy despite achieving the highest overall reach and conversion volume. Furthermore, it was established that platform performance is directly correlated with target audience age segmentation, with each age group reaching its peak efficiency on different platforms. This study demonstrates that machine learning models rationalize strategic decision-making processes, prevent budget waste, and provide managers with a concrete financial roadmap. Consequently, it is confirmed that this model, grounded in regional and demographic segmentation, plays a critical role in optimizing digital marketing performance and provides a superior decision-support infrastructure compared to conventional methods.

Keywords: Digital Marketing, Consumer Behavior, Decision Support Systems, Machine Learning, Random Forest

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THE ROLE OF TRANSPORTATION AND LOGISTICS INFRASTRUCTURE IN THE DEVELOPMENT OF THE EXPORT- ORIENTED NON-OIL ECONOMIC SECTOR

Narmin Ehtibar HASANOVA¹⁷⁸

Abstract

In the modern global economic system, the expansion of countries' international trade relations and the increase in export potential are closely related to the level of development of transportation and logistics infrastructure. Efficient logistics systems enable the faster, safer, and lower-cost delivery of products to international markets, which significantly contributes to increasing the export competitiveness of countries. Modern transportation and logistics infrastructure is of significant strategic importance, especially for the development of the non-oil sector geared towards exports. This study examines the impact of transportation and logistics infrastructure on the export potential of the non-oil sector. The research analyzes the economic nature of logistics infrastructure, its role in the international trade system, and the impact of Azerbaijan's transit-logistics capabilities on the increase in non-oil exports. Existing problems are also identified, and various suggestions for improving the logistics system are presented. The research results show that the development of transportation and logistics infrastructure significantly contributes to the expansion of export opportunities in the non-oil sector, facilitating access to international markets, and diversifying the national economy.

Keywords: non-oil sector, export-oriented development, logistics infrastructure, international transport corridors, transit potential.

THE USE OF E-INVOICE APPLICATIONS AS A DIGITAL ACCOUNTING TOOL IN THE DIGITAL TRANSFORMATION PROCESS: A FIELD STUDY ON ACCOUNTING PROFESSIONALS

Mustafa YAZICI¹⁷⁹, İlyas TURĞAY¹⁸⁰

Abstract

The digitalization process has led to significant changes in the ways businesses conduct their operations, and this transformation has directly affected the accounting profession. In particular, the e-invoice application developed within the scope of e-document systems contributes to the execution of accounting processes in a faster, more systematic, and more auditable manner. Therefore, examining the attitudes and usage tendencies of accounting professionals toward the e-invoice application has gained importance. In this study, the factors affecting the use of the e-invoice application are addressed within the frameworks of the Technology Acceptance Model, the Theory of Planned Behavior, and the Diffusion of Innovations Theory. The survey method was employed as the data collection tool, and the data obtained from 447 accounting professionals operating in Istanbul were analyzed and evaluated. The findings indicate that accounting professionals' intentions to use the e-invoice application are largely influenced by perceived usefulness, perceived ease of use, and social influence. In addition, it has been determined that the general perspective toward digital transformation and the level of trust also play a significant role in shaping usage intention. However, some variables were found not to have the expected level of impact on usage intention, which may be attributed to experience-related and system-related factors. The results of the study reveal that the widespread adoption of the e-invoice application cannot be explained solely by technical infrastructure; rather, individual attitudes, environmental factors, and user experience should be evaluated collectively. In this context, raising user awareness and maintaining continuous system improvements can be considered essential for enhancing the effectiveness of the application.

Keywords: E-Invoice, Digital Transformation, Technology Acceptance Model, Theory of Planned Behavior, Diffusion of Innovations

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ANALYSIS OF INTERNAL CONTROL SYSTEMS IN PUBLIC UNIVERSITIES: A STRUCTURAL EQUATION MODEL BASED ON THE COSO FRAMEWORK

Serhat GÖLLÜ¹⁸¹, İlyas TURÇAY¹⁸²

Abstract

This study has two goals. The first is to analyse the convergence of unemployment rates in a sample of Turkey's 26 NUTS II regions for the period 2004–2024. To this end, the Phillips-Sul (2007, 2009) and Tomal (2024) club convergence tests were used to analyse the convergence of unemployment rates. Unlike traditional convergence tests, club convergence tests examine whether unemployment rates converge to multiple equilibrium. The log-t test identifies constant convergence clubs, whereas the Tomal (2024) method models dynamic shifts in club memberships over time. According to the results of the log t-test, there is no absolute convergence in unemployment rates for the 26 NUTS II regions, and unemployment rates converge to three distinct equilibrium points. The club merging test results, however, indicate that three clubs have merged into a single club, and the TR61, TR82, and TRB2 regions have diverged from the panel. According to the results of the Tomal (2024) test, no clusters formed during the first two years of the analysis period, and all regions in the sample were dispersed. During the remainder of the analysis period, cluster formation exhibited a dynamic structure, with the number of clusters varying between one and four. Second, the goal is to analyse the driving forces behind club formation using a dynamic ordered panel logit model. The dynamic ordered panel logit results indicate that the spatial lag and time lag of club membership play a significant role in determining club formation in addition to the economic and demographic factors.

Keywords: Unemployment Rate, Club Convergence, Ordered Panel Logit, NUTS II

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ENERGY CONSUMPTION AND ECONOMIC GROWTH IN G7 ECONOMIES: A CROSS-SECTIONAL DEPENDENCE AND PANEL CAUSALITY APPROACH

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Abstract

The relationship between economic growth and energy consumption is a crucial aspect of economic development for countries; however, it remains a heavily debated issue without a clear consensus in the economic literature. Due to the carbon emission restrictions imposed on countries following the Paris and Kyoto agreements, the causal relationship between economic growth and energy consumption has gained significant importance. This study investigates the causal impact of economic growth on energy consumption in G7 countries for the period 1990-2023. In the empirical analysis, real GDP and per capita energy use variables are utilized to represent economic growth and energy consumption, respectively, with annual data for these series obtained from the World Bank database. The analytical method employs a panel causality test based on the PANICCA approach developed by Nazlıoğlu and Karul (2024), which accounts for cross-sectional dependence, heterogeneity, and a common factor structure. The prerequisites of the model were tested using cross-sectional dependence and PANICCA-based unit root tests. The methodology prevents information loss by conducting the analysis using level values, regardless of the integration order of the variables. The empirical findings indicate a strong causality running from economic growth to energy consumption across the G7 panel overall. This finding confirms the Conservation Hypothesis for the G7 countries in general. However, country-specific findings exhibit a heterogeneous structure. In France, Germany, and Italy, no causality was detected, thereby validating the Neutrality Hypothesis. Canada completely diverges from the rest of the panel by exhibiting a bidirectional causality—both from energy consumption to economic growth and vice versa—supporting the Feedback Hypothesis. For Japan, the UK, and the USA, a unidirectional causality from economic growth to energy consumption was found, confirming the Conservation Hypothesis in line with the overall panel. The results of the study indicate that, with the exception of Canada, energy conservation and restriction policies aimed at achieving carbon emission targets in G7 countries can be implemented without compromising economic growth. Nevertheless, country-level divergences necessitate the development of country-specific energy strategies and policies rather than uniform environmental policies.

Keywords: Economic Growth, Energy Consumption, Panel Causality, Cross-Sectional Dependence, G7





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